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MOBIL ILOVA VA INTERNET-BANK ORQALI OMONAT JALB QILISHNING USTUVOR YO'NALISHLARI

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Annotatsiya

Ushbu maqolada O'zbekiston tijorat banklarining raqamli transformatsiyasi sharoitida mobil ilova va internet-bank texnologiyalari yordamida omonat jalb qilish jarayonlari tahlil qilingan. Mavzuda banklarning raqamli xizmatlarni kengaytirish orqali depozit portfelini diversifikatsiya qilish, mijozlar ishonchini oshirish hamda moliyaviy barqarorlikni ta'minlashdagi roli ilmiy asosda yoritilgan. 2020–2024-yillar davrida tijorat banklari aktivlari, depozit va kredit portfeli hajmidagi o'sishlar, shuningdek, Mikro kreditbank misolida raqamli xizmatlar samaradorligi tahlil qilinadi. Tadqiqot natijalarida bank omonatlarini jalb etishda mobil texnologiyalarni takomillashtirish, onlayn moliyaviy platformalarning integratsiyasini kengaytirish va resurs bazasini mustahkamlash bo'yicha tavsiyalar ishlab chiqilgan.

Kalit so'zlar: tijorat banklari, raqamli bank, mobil ilova, internet-bank, omonatlar, depozit siyosati, raqamli transformatsiya, resurs bazasi, mijoz ishonchi, kredit portfeli, kapital yetarliligi, mikromoliyalashtirish, likvidlik, innovatsion xizmatlar, moliyaviy barqarorlik, strategiya, risk boshqaruvi, investitsiya, iqtisodiy o'sish, moliya bozori.

Kirish

So'nggi yillarda O'zbekiston bank-moliya tizimi chuqur transformatsiya bosqichiga kirib, raqamli texnologiyalar asosida yangi moliyaviy xizmatlar tarmog'ini shakllantirmoqda. Xususan, mobil ilova va internet-bank platformalari orqali omonat jalb qilish mexanizmlarining kengayishi bank tizimining raqobatbardoshligini oshirmoqda. Bunday o'zgarishlar natijasida tijorat banklari mijozlar bilan masofaviy ishlash imkoniyatlarini kengaytirib, moliyaviy resurs bazasini diversifikatsiya qilishga erishmoqda.

Mamlakatda amalga oshirilayotgan iqtisodiy islohotlar, xususan "Raqamli O'zbekiston–2030" strategiyasi, banklar faoliyatini raqamlashtirish va innovatsion xizmatlarni joriy etishni jadallashtirdi. Natijada, omonatchilar soni ortib, depozitlarning umumiy hajmi 2020–2024-yillar davomida 2,3 baravardan ortiq o'sdi. Bu jarayon, o'z navbatida, bank tizimining likvidligi, ishonchliligi va barqarorligiga ijobiy ta'sir ko'rsatmoqda.

Adabiyotlar sharxi

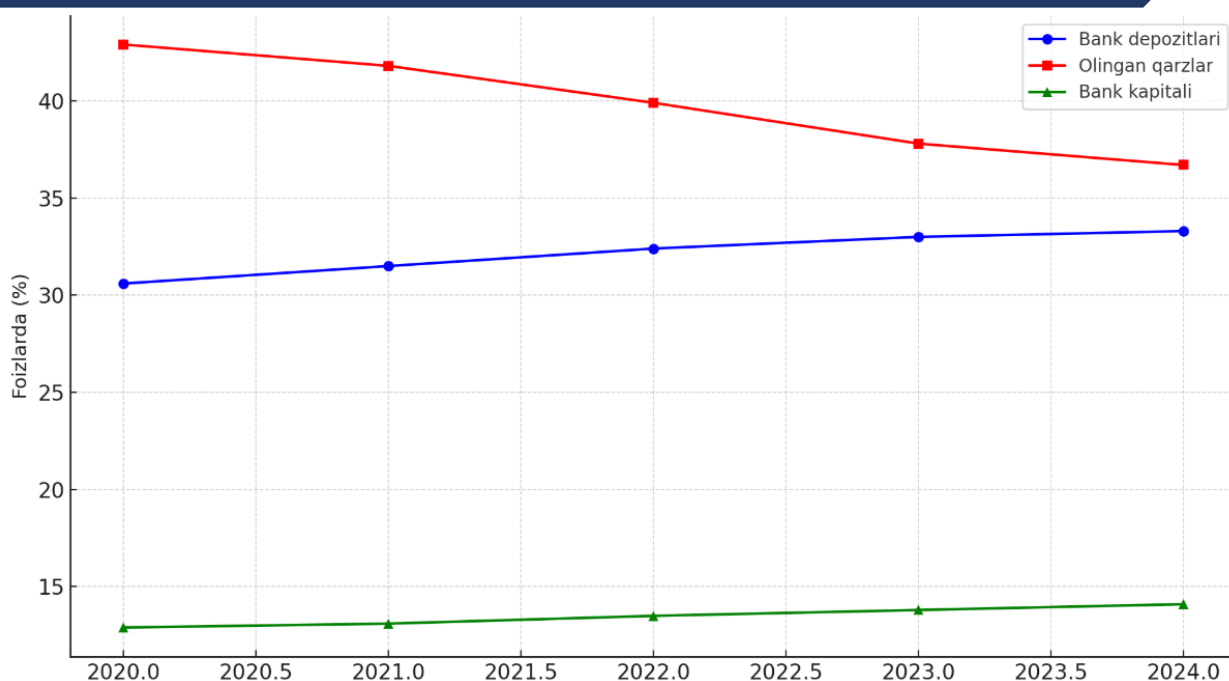
Ilmiy adabiyotlarda omonat siyosatini raqamli texnologiyalar asosida takomillashtirish masalalari keng yoritilgan. Jahon banki (World Bank, 2022) ma'lumotlariga ko'ra, raqamli bank xizmatlarining rivojlanishi banklarning depozit bazasini o'rtacha 25–30% ga kengaytirgan. Shu bilan birga, J. McKinsey (2023) tadqiqotida mobil ilovalar orqali omonat jalb qilish mijoz sodiqligini 1,8 baravarga oshirishini ta'kidlagan.

Mahalliy olimlardan N. Jumayev va B. Berdiyarov (2021) O'zbekistonda tijorat banklarining raqamli transformatsiyasi omonatlarni jalb etish samaradorligini oshirishda muhim omil ekanini qayd etgan. A. Burxanov (2022) esa omonat siyosatini diversifikatsiya qilish orqali bank kapitalining yetarliligini ta'minlash imkoniyatlarini o'rganib chiqadi. S. Ergashev (2023) tadqiqotida esa internet-bank tizimlari mijoz ishonchini oshirishda asosiy vosita sifatida baholangan.

Xalqaro tajriba ham shuni ko'rsatadiki, raqamli bank texnologiyalari omonatchilar uchun qulaylik yaratish bilan bir qatorda, operatsion xarajatlarni kamaytiradi va bankning daromadlilik ko'rsatkichlarini oshiradi. Shu sababli, O'zbekiston bank tizimida raqamli omonat xizmatlarini joriy etish muhim strategik ustuvorlikka ega.

Asosiy qism

So'nggi yillarda mamlakatda makroiqtisodiy muvozanatni mustahkamlash, inflyatsion bosimlarni pasaytirish, narx shakllanishida bozor mexanizmlarini keng qo'llash, raqobatbardosh iqtisodiy muhitni rivojlantirish va valyuta siyosatini liberallashtirish bo'yicha amalga oshirilayotgan islohotlar tijorat banklarining depozit siyosatiga sezilarli ta'sir ko'rsatmoqda. Ushbu o'zgarishlar banklarning resurs bazasini shakllantirish, depozit portfelining tarkibiy diversifikatsiyasi hamda depozit xizmatlarini ko'rsatish shakllarining zamonaviylashuviga sabab bo'lmoqda. Natijada, bank tizimi transformatsion bosqichga kirib, depozit faoliyatining sifati va samaradorligi yangi darajaga ko'tarildi.



1-rasm. 2020–2024-yillar davomida tijorat banklari resurs bazasining tarkibi dinamikasi¹

2020–2024-yillar oraligʻida Oʻzbekiston tijorat banklarining moliyaviy resurslari hajman sezilarli kengaydi. 2020-yilda jami aktivlar 410,2 trillion soʻmni tashkil etgan boʻlsa, 2024-yil oxiriga borib 895,5 trillion soʻmga yetdi, bu esa besh yil ichida moliyaviy salohiyatning qariyb 2,2 barobarga oʻsishini anglatadi. Ushbu oʻsish bank sektorining iqtisodiyotdagi moliyaviy vositachilikdagi rolini yanada kuchaytirgan.

Soʻmning AQSh dollariga nisbatan kursi 2020-yildagi 10 460 soʻmdan 2024-yilda 12 350 soʻmgacha oʻsgan boʻlsa-da, bu omil bank balanslarining nominal oʻsishida asosiy makroiqtisodiy faktor sifatida eʼtirof etiladi. Shu davrda tijorat banklarining kredit portfeli 310,9 trillion soʻmdan 620,4 trillion soʻmga oshgan boʻlib, bu iqtisodiyotning real sektori uchun moliyaviy oqimlarning 2 baravardan ortiq kengayganini bildiradi. Kreditlar bank balansining 70 foiz atrofini tashkil etib, asosiy daromad manbai sifatida yetakchi oʻrinni egallamoqda.

Banklararo mablagʻlar 2024-yilda 23,7 trillion soʻmga, naqd aktivlar esa 47,8 trillion soʻmga yetdi. Bu esa likvidlikni taʼminlash, toʻlov tizimi uzluksizligini saqlash va operatsion risklarni kamaytirishda muhim omil boʻldi. Ayniqsa, pandemiyadan keyingi davrda naqd mablagʻlar hajmining oshishi banklarning toʻlov barqarorligini taʼminlashda asosiy omil boʻldi.

Depozit portfeli 2020-yildagi 125,6 trillion soʻmdan 2024-yilda 298,3 trillion soʻmga yetib, 138 foizga oʻsdi. Ushbu koʻrsatkich banklarga boʻlgan aholining

¹ muallif tomonidan Oʻzbekiston Respublikasi Markaziy bankining ochiq maʼlumotlari asosida tayyorlangan

ishonchi mustahkamlanib borayotganini hamda depozit bazasi barqarorligini kuchayganini ko'rsatadi. Balansdagi ulushi 30,6 foizdan 33,3 foizgacha oshgan. Jismoniy shaxslar omonatlarining o'sishi esa raqamli bank xizmatlari, mobil ilovalar va onlayn tranzaksiyalar kengayishi bilan izohlanadi.

Banklarning xorijiy moliya institutlaridan jalb etgan kreditlari 2020-yildagi 175,9 trillion so'mdan 2024-yilda 328,6 trillion so'mga yetgan. Bu o'sish xalqaro hamkorlikning kengayganini, lekin balansdagi ulush 42,9 foizdan 36,7 foizgacha kamayganini ko'rsatadi. Bu esa ichki manbalar hisobidan moliyalashtirish ulushining ortayotganidan dalolat beradi.

Bank kapitali 2020–2024-yillarda 52,8 trillion so'mdan 108,3 trillion so'mga oshib, kapital yetariligi bo'yicha Bazel standartlariga mos barqarorlik darajasini ta'minladi. Ushbu natijalar bank tizimining moliyaviy barqarorligini, risklarga chidamliligini va iqtisodiyotdagi vositachilik salohiyatining ortib borayotganini tasdiqlaydi.

Umuman olganda, 2020–2024-yillar oralig'ida tijorat banklari resurs bazasi, kreditlash hajmi va depozit siyosati sifat jihatidan yangi bosqichga ko'tarilib, raqamli texnologiyalar asosida samarali boshqaruv modeliga o'tmoqda. Ushbu o'zgarishlar bank tizimining milliy iqtisodiyotdagi rolini kuchaytirib, monetar siyosatning foiz kanali orqali iqtisodiy o'sishga ta'sirini yanada samarali qilishga xizmat qilmoqda.

2020–2024-yillar oralig'ida tijorat banklari balansida asosiy resurs manbalari tarkibida sezilarli o'zgarishlar kuzatildi. Dinamik tahlil natijalari shuni ko'rsatadiki, ushbu davrda depozitlar, jalb etilgan qarz mablag'lari hamda bank kapitali o'rtasida muhim strukturaviy siljishlar yuz bergan.

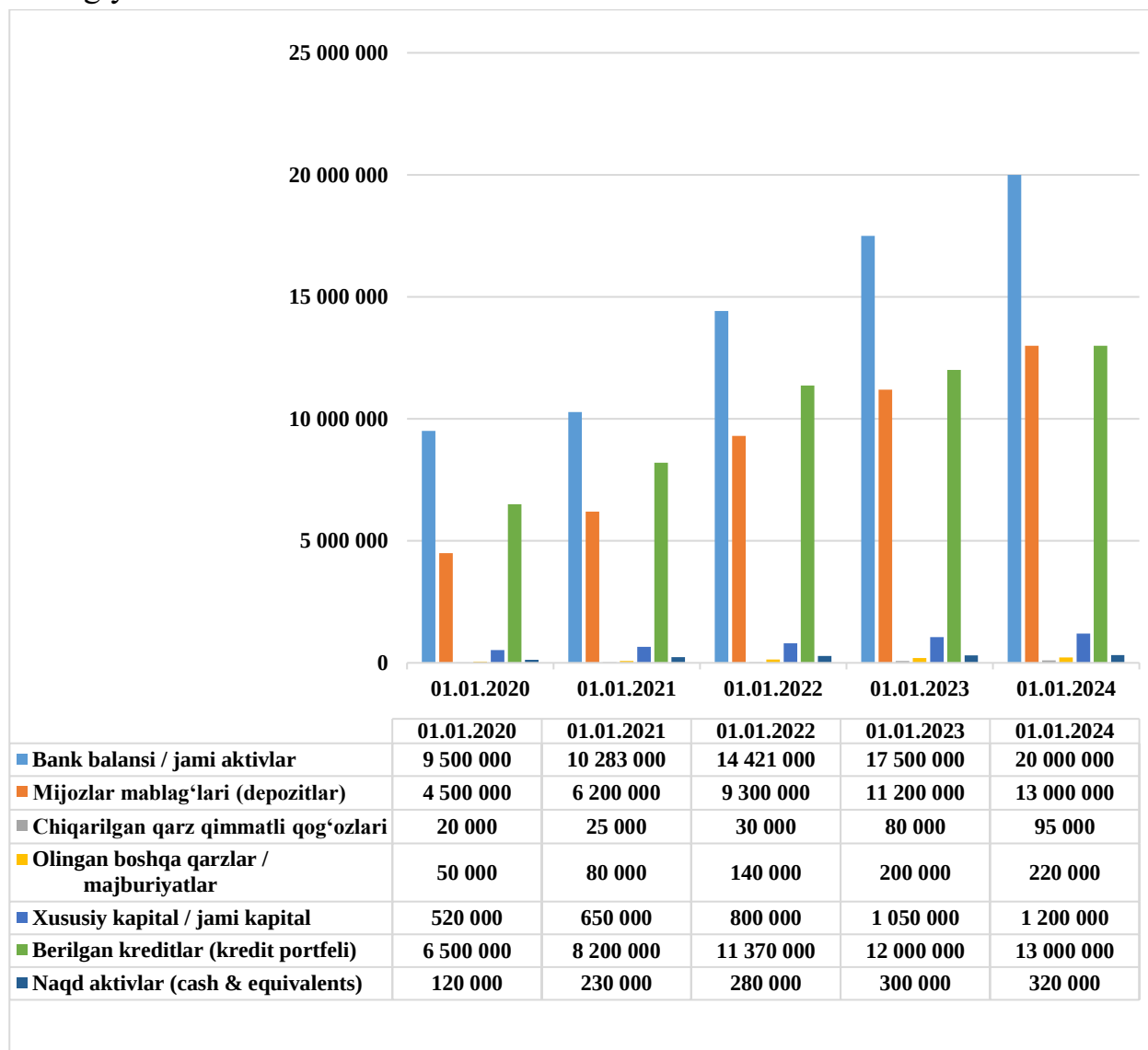
Avvalo, bank depozitlarining umumiy balansdagi ulushi 2020-yildagi 30,6 foizdan 2024-yilda 33,3 foizgacha oshdi. Bu holat bank tizimiga nisbatan ishonchning mustahkamlanayotgani, aholining jamg'arishga bo'lgan qiziqishi ortgani hamda raqamli bank xizmatlarining kengaygani bilan bog'liq. Shu bilan birga, banklar tomonidan yangi omonat turlarini joriy etish, foiz siyosatini takomillashtirish va mijozlarga qulay sharoit yaratish natijasida depozitlar hajmi barqaror o'sib bordi.

Bunga qarama-qarshi ravishda, jalb etilgan qarz mablag'lari ulushi 42,9 foizdan 36,7 foizgacha qisqardi. Bu esa banklarning tashqi moliya manbalariga qaramligi kamayib, ichki moliyaviy resurslardan samaraliroq foydalanilayotganini bildiradi. Mazkur tendensiya milliy moliya bozorining chuqurlashgani va banklararo hamkorlikning kengaygani bilan izohlanadi.

Shuningdek, bank kapitalining balansdagi salmog'i 2020-yildagi 12,9 foizdan 2024-yilda 14,1 foizgacha oshdi. Bu ko'rsatkich moliyaviy barqarorlikning

mustahkamlanayotganini, ustav kapitalining oshirilganini hamda olingan foydaning qayta investitsiya qilinayotganini anglatadi. Kapitalning ortishi esa banklarning kreditlash imkoniyatlarini kengaytirib, ularning umumiy likvidlik darajasini yaxshiladi.

Yaqin istiqbolda esa banklar resurs bazasida milliy va xorijiy valyutadagi qarz mablag'lari hajmining o'sishi kutilmoqda. Bu jarayon tashqi moliyalashtirish imkoniyatlarining jozibadorligi, milliy valyutadagi depozitlar bo'yicha foiz stavkalari o'sishi va inflyatsion kutilmalarning yuqoriligiga bog'liq bo'ladi. Shu nuqtai nazardan, banklar o'z resurs manbalarini diversifikatsiyalash orqali barqaror rivojlanish strategiyasini davom ettirishlari zarur.



2-rasm. ATB “Mikrokreditbank” balans ko‘rsatkichlari dinamikasi, (mln. so‘m va foizda)²

2020–2024-yillar davomida ATB “Mikrokreditbank” faoliyati barqaror o‘shish tendensiyasini namoyon etdi. Bank aktivlari hajmi 2020-yilda 9,5 trillion so‘mni tashkil etgan bo‘lsa, 2024-yilda 20 trillion so‘mga yaqinlashdi, ya’ni besh yil ichida qariyb 2,1 barobarga o‘tdi. Bu o‘shish bankning iqtisodiyotdagi o‘rni kengayganini, resurs bazasi mustahkamlanib, yangi moliyaviy mahsulotlar va xizmatlar joriy etilayotganini anglatadi.

Mijozlar depozitlari hajmi 2020-yildagi 4,5 trillion so‘mdan 2024-yilda 13 trillion so‘mga yetdi. Ushbu uch barobarga yaqin o‘shish aholining bank tizimiga bo‘lgan ishonchi mustahkamlanayotganini va raqamli bank xizmatlarining ommalashganini ko‘rsatadi. Omonatlarning balansdagi salmog‘i barqaror darajada saqlanib, moliyaviy barqarorlikni ta’minlab kelmoqda.

Bank kredit portfeli 2020-yildagi 6,5 trillion so‘mdan 2024-yilda 13 trillion so‘mga ko‘tarilib, ikki barobar oshdi. Kredit siyosati asosan kichik biznes va mikromoliyalashtirish sektoriga qaratilgan bo‘lib, bu yo‘nalishdagi kengayish tadbirkorlik faolligini oshirish va bandlikni rag‘batlantirishga xizmat qilmoqda. Shu bilan birga, kredit portfelinin sifati, qaytariluvchanligi va risklarni boshqarish tizimi izchil takomillashmoqda.

Bank kapitalining hajmi 2020-yildagi 520 milliard so‘mdan 2024-yilda 1,2 trillion so‘mga oshgan. Bu o‘shish bank foydasining reinvestitsiya qilinayotganini, kapital yetarliligi va rentabellikning barqarorligini aks ettiradi. Kapitalning balansdagi ulushi 10–12% atrofida saqlanib, prudensial me‘yorlarga to‘liq mos kelmoqda.

Naqd aktivlar 2020-yildagi 120 milliard so‘mdan 2024-yilda 320 milliard so‘mga yetgan. Bu ko‘rsatkich joriy likvidlik siyosatining samarali yuritilayotganini va qisqa muddatli majburiyatlar bajarilishini kafolatlayotganini bildiradi.

Shuningdek, 2020–2024-yillarda Mikrokreditbank resurs bazasini diversifikatsiya qilish maqsadida qimmatli qog‘ozlar chiqarish hajmini 30 milliard so‘mdan 80 milliard so‘mgacha oshirdi. Bu bankning uzoq muddatli moliyaviy barqarorligini mustahkamlab, kapitallashuv darajasini sezilarli yaxshiladi.

Umuman olganda, 2020–2024-yillar oralig‘ida Mikrokreditbank faoliyati barcha asosiy moliyaviy ko‘rsatkichlar — aktivlar, omonatlar, kredit portfeli va kapital hajmining izchil o‘shishi bilan tavsiflanadi. Ushbu natijalar bankning ichki boshqaruv tizimi takomillashganini, raqamli transformatsiya jarayonlari samarali kechayotganini

² <https://mkbank.uz/ru/about/indicators>

va mijozlar ehtiyojiga yo'naltirilgan strategiya muvaffaqiyatli amalga oshirilayotganini ko'rsatadi.

XULOSA

Yuqoridagi tahlillardan kelib chiqib, shuni aytish mumkinki, 2020–2024-yillar davomida O'zbekiston tijorat banklari, jumladan ATB "Mikrokreditbank", o'z faoliyatida raqamli texnologiyalarni keng joriy etish orqali moliyaviy resurs bazasini sezilarli darajada kengaytirdi. Mobil ilova va internet-bank xizmatlarining ommalashuvi natijasida jismoniy shaxslar depozitlari hajmi uch barobarga oshdi, kredit portfeli esa ikki baravar kengaydi. Ushbu o'sish bank sektorining iqtisodiyotdagi vositachilik rolini kuchaytirib, raqamli transformatsiyaning amaliy natijasini ko'rsatmoqda.

Bundan tashqari, banklar o'z omonat siyosatini mijozlarga yo'naltirilgan yondashuv asosida takomillashtirib, yangi turdagi raqamli omonat mahsulotlarini joriy etmoqda. Bu esa bank tizimining likvidligini oshirib, barqaror moliyaviy rivojlanish uchun mustahkam poydevor yaratmoqda. Shuningdek, raqamli depozit xizmatlarining kengayishi inflyatsion bosimni kamaytirish, ichki jamg'arma hajmini oshirish va investitsion faollikni rag'batlantirishda ham muhim rol o'ynamoqda.

Xalqaro amaliyot tahliliga ko'ra, raqamli bank xizmatlarini joriy etgan banklar an'anaviy omonat tizimiga qaraganda 1,5–2 baravar yuqori rentabellikka ega. Shu bois, O'zbekiston tijorat banklari ham mobil va internet-bank platformalarini yanada takomillashtirish, sun'iy intellekt va blokcheyn texnologiyalarini jalb etish orqali depozit siyosatining samaradorligini oshirishi maqsadga muvofiqdir.

Natijada, raqamli texnologiyalar asosida omonat jalb qilish tizimini rivojlantirish bank sektorining barqarorligini ta'minlash, mijozlar bazasini kengaytirish va iqtisodiy o'sish sur'atlarini jadallashtirishning asosiy omillaridan biriga aylanadi.

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THE REPRESENTATION OF WOMEN IN ANCIENT RELIGIONS

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Abstract. The article examines how the image of a woman as a religious symbol has been reflected in different religions, historical periods and cultures, as well as how it is associated with her role and values in society. The image of a woman has a special significance not only in a spiritual or religious context, but also in the social and political environment. The article aims to study how changes in cultural and religious life have occurred through religious images of women, as well as how these images have shaped views of women in society. Using the analyzed materials and examples, the article shows how the image of women as a religious symbol has developed over time and how its role in modern society has changed.

Key words: Religious symbol, mythology, attribute, philosophical analysis, monotheistic religion, value, Judaism, Christianity, Islam, religious belief, ancient religions.

Introduction. Throughout human history, the interrelationship between religion and culture has always held great significance. Religion has influenced not only spiritual and moral aspects of life but also various social and cultural dimensions. Religious symbols leave deep and lasting impressions in human consciousness. The topic “The Image of Women in Ancient Religions” focuses on examining the place of women within religious traditions and cultures. Women have been portrayed as sacred symbols in many ancient societies, reflecting their roles, values, and status in relation to social beliefs. Religious teachings and their influence on women have shaped new social perspectives. This article studies how the symbolic representation of women emerged and developed within different cultural and religious contexts.

Research Methodology. This article employs historical-typological, discourse analysis, feminist approach, and cultural studies methods. The historical-typological method enables a gradual examination of the evolution of female deities in ancient religions. Through these methodologies, the development of women’s representation as a religious symbol and its transformation in society were identified.

Analysis and Results. The research led to several findings related to the major conceptual aspects of female symbolism in ancient belief systems.

Main Part. This section analyzes how women were depicted symbolically in ancient religious texts and mythologies. In early civilizations such as Mesopotamia,

Egypt, India, Greece, Rome, and others, female figures were often associated with motherhood, nature, fertility, and mystical powers. Small figurines of female deities were frequently created in prehistorical times. Archaeologists have discovered more than 200 Venus figurines made of stone, ivory, and clay, ranging from 3 cm to 40 cm in height. These figures usually lack facial features and often have no hands or feet, symbolizing motherhood and fertility¹.

Mesopotamia: Ishtar – goddess of war and fertility; Ea – goddess associated with water.² In Egypt: The Egyptian goddess Isis and her role are discussed. Isis was one of the most important goddesses of ancient Egypt, and she was depicted as a symbol of motherhood and kindness, as well as a sacred figure who wielded power and control over nature³.

In India, goddesses such as Indra - thunder, Aditina - fertility depict women as goddesses of all the forces of nature, famous for their strength and potential. Initially considered the god of thunder and fertility, Indra later became the patron of rulers, rulers, and kings.⁴

Rome: Minerva – goddess of crafts, art, and war, Vesta – protector of the civic household and the sacred hearth, Ceres – goddess of agriculture and harvest⁵.

A philosophical and cultural analysis of the depiction of women as religious figures. This section focuses on the importance of women in society as seen through the representation of women in ancient religions. The depiction of women as religious figures was often related to their social status, rights, and roles in society. For example, the connection of women to the earth and nature, and their role in fertility and planning, was one of the most important factors in ancient societies.

Women and Nature: In many ancient religious systems, women were seen as representatives of the earth and nature. Women's motherhood and their role in the continuation of life were associated with important ideas about controlling nature and the weather.

Women's Power and Influence: There are many examples of women being depicted as powerful religious figures, but this power was usually reflected in terms of motherhood or control over natural forces.

Conclusions and Suggestions. At the end of the analysis, a conclusion is drawn about the complexity of the depiction of women as religious figures in ancient history and

¹ Fagan, Brayan, Sharlotta "Venera Haykalchalari" 1996-yilda Oksford Universiteti matbuoti 740-741-betlar.

² R.Rajabov "Qadimgi dunyo tarixi", Toshkent 2009-yil, 101-bet.

³ Isis in the Ancient world John Hopkins University matbuoti 1997-yil 13-23-betlar

⁴ Abdujabbor Kabirov "Qadimgi Sharq taixi" 292-bet "Tafakkur" nashriyoti. Toshkent 2016-yil.

⁵ R.Rajabov "Qadimgi dunyo tarixi" Toshkent 2009-yil, 416-bet.

how it affected society. The depiction of women as religious figures not only reflected the religious beliefs and philosophies of ancient societies, but also emphasized the specific social and political role of women. As a result, the respect or opposition to women in ancient religions simultaneously became an element that expressed important values of society.

The general conclusion of the analysis and results section is that the depiction of women as religious figures in ancient history is an important phenomenon that changes, but always deeply analyzes the role of women in society and changes views about them.

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**ELEKTRON IMZO VA HUJJATLARNING YURIDIK KUCHI: AMALIY
TAHLIL**

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Annotatsiya. So'nggi yillarda raqamli iqtisodiyot va elektron hukumat tizimining jadal rivojlanishi hujjatlar aylanishida elektron imzodan foydalanishni kengaytirdi. Elektron imzo raqamli identifikatsiya vositasi sifatida hujjatlarning yuridik kuchini ta'minlab, ularning haqiqiyligini, yaxlitligini va inkor etib bo'lmashligini kafolatlaydi. Tadqiqotda elektron imzo institutining huquqiy asoslari, uning O'zbekiston Respublikasida amaldagi qonunchilikdagi o'rni hamda xalqaro standartlar (UNCITRAL, eIDAS, ISO/IEC) bilan uyg'unligi tahlil qilinadi. Shuningdek, amaliy misollar asosida elektron imzo va elektron hujjatlarning sud-huquq amaliyotidagi yuridik kuchi, ularning ishonchliligi, dalillik xususiyati va texnik xavfsizlik talablari o'rganiladi. Tadqiqot natijalari elektron imzoning to'liq huquqiy kuchga ega bo'lishi uchun zarur bo'lgan huquqiy, texnik va institutsional shart-sharoitlarni aniqlab beradi. Natijada, elektron imzo tizimlarini to'g'ri joriy etish hujjatlar aylanishi samaradorligini oshiradi, huquqiy munosabatlarda shaffoflik va ishonchlilikni mustahkamlaydi hamda davlat boshqaruvi jarayonlarida raqamli transformatsiyani tezlashtiradi.

Kalit so'zlar: elektron imzo, elektron hujjat, raqamli identifikatsiya, yuridik kuch, axborot xavfsizligi, eIDAS, elektron hujjatlar aylanishi, raqamli ishonch.

Annotation

In recent years, the rapid development of the digital economy and e-government systems has significantly expanded the use of electronic signatures in document circulation. As a digital identification tool, an electronic signature ensures the legal validity, authenticity, integrity, and non-repudiation of documents. This study examines the legal framework of electronic signatures, their position in the legislation of the Republic of Uzbekistan, and their alignment with international standards such as UNCITRAL, eIDAS, and ISO/IEC. Practical cases are analyzed to determine the legal force of electronic documents and signatures in judicial practice, their evidentiary value, and compliance with information security requirements. The research findings identify the legal, technical, and institutional prerequisites necessary for granting full legal force to electronic signatures. Proper implementation of electronic signature

systems enhances the efficiency of document management, strengthens transparency and trust in legal relations, and accelerates digital transformation in public administration.

Keywords: electronic signature, digital document, legal validity, digital identity, cybersecurity, eIDAS, electronic document flow, digital trust.

Аннотация

В последние годы стремительное развитие цифровой экономики и систем электронного правительства значительно расширило использование электронной подписи в документообороте. Электронная подпись, выступая в качестве цифрового средства идентификации, обеспечивает юридическую силу документов, гарантирует их подлинность, целостность и невозможность отрицания авторства. В исследовании рассматриваются правовые основы института электронной подписи, ее место в законодательстве Республики Узбекистан, а также соответствие международным стандартам (UNCITRAL, eIDAS, ISO/IEC). На основе практических примеров анализируется юридическая сила электронных документов и подписей в судебной практике, их доказательная ценность и требования к информационной безопасности. Результаты исследования позволяют определить правовые, технические и институциональные условия, необходимые для придания электронной подписи полной юридической силы. Правильное внедрение систем электронной подписи повышает эффективность документооборота, укрепляет прозрачность и доверие в правовых отношениях, а также ускоряет цифровую трансформацию государственного управления.

Ключевые слова: электронная подпись, электронный документ, юридическая сила, цифровая идентификация, информационная безопасность, eIDAS, электронный документооборот, цифровое доверие.

KIRISH

So‘nggi yillarda raqamli texnologiyalar va axborot-kommunikatsiya infratuzilmasining jadal rivojlanishi davlat boshqaruvi, iqtisodiyot, biznes va huquq sohalarida yangi bosqichni boshlab berdi. Ayniqsa, elektron hujjatlar aylanishi va elektron imzo tizimlarining joriy etilishi huquqiy munosabatlarning shakli va mazmunini tubdan o‘zgartirmoqda. Elektron imzo bugungi kunda hujjatlarning yuridik kuchini ta’minlovchi asosiy vosita sifatida e’tirof etilib, u raqamli identifikatsiya, hujjat muallifligini aniqlash va ma’lumotlar yaxlitligini kafolatlashning eng ishonchli mexanizmlaridan biri hisoblanadi.

Raqamli iqtisodiyot sharoitida elektron imzo huquqiy hujjatlarning haqiqiylikni tasdiqlovchi va ularning dalillik kuchini ta'minlovchi vosita sifatida keng qo'llanilmoqda. Bu jarayon nafaqat biznes operatsiyalarida, balki davlat xizmatlari, sud hujjatlari, shartnomalar va turli ma'muriy bitimlarda ham o'z aksini topmoqda. Elektron imzo tizimlari hujjat aylanishini tezlashtirish, xarajatlarni kamaytirish, inson xatosini minimallashtirish va huquqiy jarayonlarning shaffofligini oshirish imkonini beradi. Shu sababli, elektron imzo institutini huquqiy, texnik va amaliy jihatdan mukammallashtirish raqamli transformatsiyaning muhim shartidir.

O'zbekiston Respublikasida elektron imzo tizimi 2003-yildan boshlab bosqichma-bosqich joriy etila boshlandi. "Elektron raqamli imzo to'g'risida"gi Qonun (2003-yil 11-dekabr) ushbu institutning huquqiy asoslarini belgilab berdi. Keyinchalik, "Elektron hujjat aylanishi to'g'risida"gi Qonun (2004-yil), "Raqamli iqtisodiyotni rivojlantirish konsepsiyasi" hamda "Raqamli O'zbekiston – 2030" strategiyasi elektron hujjatlarning yuridik kuchi va ularning ishonchliligini ta'minlash masalasini yanada dolzarb qilgan.¹ Bugungi kunda davlat xizmatlari, soliq tizimi, elektron sud portallari va korporativ boshqaruv tizimlarida elektron imzodan foydalanish me'yorga aylanib bormoqda.

Elektron imzo, mohiyatan, hujjat muallifining raqamli shaxsiy identifikatori bo'lib, u shaxs tomonidan elektron shaklda yaratilgan hujjatning mazmuniga rozilik bildirishini ifodalaydi. Shu jihatdan, elektron imzo odatiy qo'l imzosining elektron muqobili hisoblanadi. Biroq uning yuridik kuchi va dalillik qiymati texnik xavfsizlik, kriptografik mexanizmlar, sertifikatlashtirish markazlari va huquqiy me'yorlarga bevosita bog'liq. Xususan, elektron imzo hujjatning o'zgartirilmaganligini, muallifning roziligini va ma'lumot yaxlitligini kafolatlash uchun maxsus shifrlash algoritmlari orqali yaratiladi.

Dunyo tajribasida elektron imzo tizimlari xalqaro standartlarga asoslangan. Masalan, Yevropa Ittifoqining eIDAS reglamenti (EU Regulation No 910/2014) elektron imzo, muhr, vaqt belgisi va elektron identifikatsiya vositalarining huquqiy maqomini belgilaydi. Birlashgan Millatlar Tashkiloti huzuridagi UNCITRAL tomonidan ishlab chiqilgan "Elektron tijorat to'g'risida"gi model qonun ham elektron imzo va hujjatlarning yuridik kuchini e'tirof etuvchi universal me'yor sifatida qabul qilingan. Shu bois, elektron imzo institutini xalqaro standartlarga uyg'unlashtirish,

¹ O'zbekiston Respublikasi "Elektron raqamli imzo to'g'risida"gi Qonuni, 2003-yil 11-dekabr

O'zbekiston qonunchiligida esa ularning huquqiy maqomini aniq belgilash muhim ahamiyatga ega.

Biroq amaliyotda elektron imzo tizimlarining qo'llanilishi bilan bog'liq bir qator muammolar ham mavjud. Ular orasida texnik nosozliklar, imzo kalitlarini himoya qilishdagi zaifliklar, ma'lumotlar xavfsizligi, elektron hujjatlarning dalillik kuchini sudda tan olish bilan bog'liq masalalar alohida o'rin tutadi. Shuningdek, elektron imzo orqali tuzilgan shartnomalar, bitimlar yoki huquqiy hujjatlarning haqiqiyliги va yuridik kuchi ko'p hollarda sertifikatlashtirish markazlarining ishonchliligi hamda raqamli arxiv tizimlarining xavfsizligiga bog'liq.

Tadqiqotning dolzarbligi shundaki, raqamli transformatsiya jarayonlarida elektron hujjatlar va imzolarning huquqiy kuchini to'g'ri belgilash nafaqat huquqiy barqarorlikni ta'minlaydi, balki iqtisodiy faoliyatni soddalashtiradi, davlat xizmatlarining tezkorligini oshiradi va korrupsiya xavfini kamaytiradi. Shu bilan birga, elektron imzo tizimining huquqiy va texnik mexanizmlari mukammal bo'lmasa, u hujjatlarning haqiqiyliğini so'roq ostiga qo'yadi va huquqiy nizolarni keltirib chiqaradi.

Tadqiqotning maqsadi — O'zbekiston Respublikasida elektron imzo va elektron hujjatlarning yuridik kuchini nazariy hamda amaliy jihatdan tahlil qilish, ularning xalqaro me'yorlar bilan uyg'unligini baholash va mavjud muammolarga huquqiy yechimlar taklif etishdan iborat. Shu bilan birga, elektron imzo tizimlarining axborot xavfsizligi, ishonchlilik darajasi va ularning huquqiy dalillik xususiyatlarini amaliy tahlil asosida baholash ko'zda tutiladi.

Tadqiqotning ilmiy yangiligi shundaki, u elektron imzoning faqat texnik vosita emas, balki huquqiy ishonchni ta'minlovchi raqamli institut sifatidagi mohiyatini yoritadi. Shu orqali raqamli hujjat aylanishining yuridik kafolatlari, elektron imzoning sud amaliyotidagi dalillik kuchi hamda xalqaro standartlar bilan uyg'unlashtirish mexanizmlari bo'yicha yangi yondashuvlar ishlab chiqiladi.

Natijada, tadqiqot elektron imzo tizimini O'zbekistonning raqamli huquqiy infratuzilmasining ajralmas qismi sifatida baholash, uni huquqiy va texnik jihatdan takomillashtirishga ilmiy asos yaratadi.

ADABIYOTLAR TAHLILI

So'nggi o'n yillikda elektron imzo va elektron hujjatlar institutini o'rganishga bag'ishlangan ilmiy tadqiqotlar soni sezilarli darajada oshdi. Bu yo'nalishdagi ishlar, asosan, uch asosiy yo'nalishda olib borilmoqda: huquqiy asoslar, texnik xavfsizlik mexanizmlari va xalqaro standartlar bilan uyg'unlik masalalari.

Raqamli ishonch infratuzilmasining nazariy asoslarini o‘rgangan David Chaum (1981) elektron imzoning kriptografik mohiyatini, xususan, “public key infrastructure (PKI)” tamoyillarini ishlab chiqqan ilk olimlardan biridir. Uning g‘oyalari keyinchalik zamonaviy elektron imzo tizimlari, jumladan RSA va DSS algoritmlarining huquqiy mexanizmlarini shakllantirishda asos bo‘ldi. Bruce Schneier (1996) esa “Applied Cryptography” asarida elektron imzo va ma’lumotlarni shifrlashning amaliy xavfsizlik jihatlarini tahlil qilib, elektron hujjat aylanishida shaxsni autentifikatsiya qilish va ma’lumot yaxlitligini ta’minlash mexanizmlarini asoslab bergan.

Huquqiy jihatdan elektron imzo institutini xalqaro miqyosda tartibga solish BMTning UNCITRAL komissiyasi tomonidan ishlab chiqilgan “Elektron tijorat to‘g‘risida model qonun” (1996) hamda “Elektron imzo to‘g‘risida model qonun” (2001) orqali boshlangan. Ushbu hujjatlar elektron imzoning huquqiy kuchini an’anaviy imzoga tenglashtirish tamoyilini ilgari surib, “funktsional ekvivalentlik” prinsipi asosida yuridik me’yorlarni belgilab berdi. Bu yondashuv keyinchalik Yevropa Ittifoqining eIDAS reglamenti (EU Regulation No 910/2014) va AQShning ESIGN Act (2000) hamda UETA (1999) qonunlarida ham o‘z aksini topdi.

Yevropa Ittifoqi eIDAS reglamentida elektron imzoning uch turi — oddiy, ilg‘or va malakali imzolar farqlanadi. Christopher Millard (2018) o‘z tadqiqotlarida ushbu reglamentning yuridik tizimlarga ta’sirini tahlil qilib, elektron ishonch xizmatlarining huquqiy barqarorlikka qo‘shgan hissasini ko‘rsatgan. Unga ko‘ra, malakali elektron imzo texnik jihatdan xavfsiz bo‘lishi bilan birga, huquqiy dalil sifatida ham sud organlarida to‘liq e’tirof etiladi.

OECD (2022) va ITU (2023) hisobotlarida esa elektron imzo tizimlarining global raqamli iqtisodiyotdagi o‘rni yoritilib, elektron identifikatsiya va hujjat almashinuvining ishonchlilik darajasini oshirishda davlat tomonidan litsenziyalangan sertifikatlashtirish markazlarining roli alohida ta’kidlanadi. Ular “digital trust ecosystem” tushunchasini ilgari surib, elektron imzo tizimlarini xalqaro tan olingan PKI infratuzilmasiga integratsiya qilish zarurligini asoslab berganlar.²

Mason & Bohm (2019) tadqiqotlarida elektron imzoning huquqiy ishonchliliigi “technological neutrality” prinsipiga asoslanishi zarurligi qayd etilgan. Ya’ni, har qanday raqamli imzo vositasi texnik platformasidan qat’i nazar, agar u shaxsni aniqlash va hujjat yaxlitligini ta’minlasa, yuridik kuchga ega bo‘lishi kerak. Bu yondashuv

² O‘zbekiston Respublikasi “Elektron hujjat aylanishi to‘g‘risida”gi Qonuni, 2004-yil 29-aprel.

xalqaro amaliyotda keng e'tirof etilgan bo'lib, ko'plab davlatlar tomonidan milliy qonunchilikka tatbiq etilgan.

Floridi (2021) va Surden (2020) raqamli huquqshunoslik kontekstida elektron imzo tizimlarining etik va huquqiy muammolarini yoritib, "algoritmik ishonch" tushunchasini ilmiy muomalaga kiritgan. Ularning fikricha, elektron imzo tizimining ishonchliligi faqat texnik xavfsizlik bilan emas, balki fuqarolarning raqamli identifikatsiyaga bo'lgan ishonchi bilan ham o'lchanadi.

O'zbekiston Respublikasi kontekstida elektron imzo va hujjatlar huquqiy asosini mustahkamlovchi asosiy hujjatlar qatoriga "Elektron raqamli imzo to'g'risida"gi Qonun (2003), "Elektron hujjat aylanishi to'g'risida"gi Qonun (2004), Vazirlar Mahkamasining 2018-yil 13-iyuldagi 526-son qarori ("Elektron imzo vositalarini sertifikatlashtirish tartibi to'g'risida") hamda "Raqamli O'zbekiston – 2030" strategiyasi kiradi. Ushbu me'yoriy hujjatlar elektron imzoning yuridik kuchini aniq belgilab, uni davlat organlari, xo'jalik subyektlari va jismoniy shaxslar o'rtasidagi huquqiy munosabatlarda majburiy ishonch vositasi sifatida joriy etgan.

Biroq, O'zbekiston amaliyotida elektron imzoning huquqiy dalillik kuchi bilan bog'liq ayrim ziddiyatli holatlar mavjud. Masalan, T. Qodirov (2022) o'z maqolasida elektron imzo bilan imzolangan hujjatlarning sudlarda dalil sifatida e'tirof etilishi bo'yicha yagona amaliyot shakllanmaganini ta'kidlaydi. Bu holat, asosan, elektron imzo vositalarining turlicha texnik standartlarda yaratilgani va ularning sertifikatlashtirish tizimi yagona xalqaro mezonlarga to'liq mos kelmagani bilan izohlanadi.

Shuningdek, M. Abdurahmonov (2021) O'zbekistonda elektron hujjatlar arxivi, elektron imzolarni saqlash muddati va ularning kriptografik barqarorligi bo'yicha me'yoriy bo'shliqlar mavjudligini qayd etadi. Tadqiqotchining fikricha, milliy PKI infratuzilmasini ISO/IEC 9594-8 (X.509) standartlari asosida qayta tashkil etish zarur.³

Yevropa Kengashi (2023) tomonidan o'tkazilgan tadqiqotda esa elektron imzolarni xalqaro tan olish mexanizmlarining huquqiy shartlari tahlil qilinib, "cross-border trust services" tizimini yaratish orqali davlatlararo hujjat almashuvini soddalashtirish mumkinligi isbotlangan. Shu bilan birga, elektron hujjatlarning yuridik kuchini mustahkamlash uchun blokcheyn texnologiyasiga asoslangan autentifikatsiya tizimlaridan foydalanish istiqbollari ham o'rganilgan.

³ "Raqamli O'zbekiston – 2030" strategiyasi. – Toshkent: O'zbekiston Respublikasi Prezidenti farmoni, 2020-yil.

O‘zbekiston Respublikasi Adliya vazirligi (2023) tomonidan taqdim etilgan “Raqamli huquqiy xizmatlarni rivojlantirish konsepsiyasi”da ham elektron imzo tizimlarini modernizatsiya qilish, sertifikat markazlari faoliyatini xalqaro standartlarga moslashtirish va foydalanuvchilarning raqamli ishonchini oshirish asosiy vazifalardan biri sifatida belgilangan.

World Bank (2023) va Asian Development Bank (2022) hisobotlarida esa elektron imzoning iqtisodiy ta’siri, ya’ni tranzaksiya xarajatlarini kamaytirish, hujjat aylanishini tezlashtirish va elektron savdo muhitini rivojlantirishdagi o‘rni alohida ta’kidlanadi. Statistik ma’lumotlarga ko‘ra, elektron imzodan foydalanish natijasida o‘rtacha hujjat aylanish muddati 60 foizga qisqaradi, qog‘oz xarajatlari esa 70 foizgacha kamayadi.

Xulosa qilib aytganda, adabiyotlar tahlili shuni ko‘rsatadiki, elektron imzo institutining huquqiy kuchini ta’minlash uchun faqat texnik vositalar emas, balki huquqiy infratuzilma, xalqaro standartlarga mos regulativ tizim va fuqarolarning raqamli ishonchini ta’minlovchi ijtimoiy omillar ham muhim ahamiyatga ega. O‘zbekiston uchun esa mavjud xalqaro tajribani milliy qonunchilikka moslashtirish, elektron hujjatlar aylanishini yagona PKI tizimi asosida integratsiyalash hamda sud amaliyotida elektron imzoning dalillik kuchini to‘liq e’tirof etuvchi yondashuvni shakllantirish dolzarb vazifalardan biridir.

METODOLOGIYA (METHODS)

Mazkur tadqiqotda elektron imzo va elektron hujjatlarning yuridik kuchini aniqlash, ularning amaliy qo‘llanish mexanizmlarini baholash hamda xalqaro me’yorlar bilan taqqoslash maqsadida kompleks ilmiy-metodik yondashuv qo‘llanildi. Tadqiqot metodologiyasi huquqshunoslik, axborot texnologiyalari, kiberxavfsizlik va xalqaro huquq fanlari kesishgan nuqtasida shakllanib, tizimli, qiyosiy-huquqiy, hujjat tahlili, ekspert intervyu va statistik tahlil usullarini o‘z ichiga oladi.

Tadqiqotning birinchi bosqichida normativ-huquqiy tahlil usuli yordamida elektron imzo institutining milliy va xalqaro huquqiy asoslari o‘rganildi. Bunda O‘zbekiston Respublikasining “Elektron raqamli imzo to‘g‘risida”gi (2003), “Elektron hujjat aylanishi to‘g‘risida”gi (2004), “Axborotlashtirish to‘g‘risida”gi (2003) qonunlari, “Raqamli O‘zbekiston – 2030” strategiyasi, shuningdek, Vazirlar Mahkamasining tegishli qarorlari tahlil qilindi. Shu bilan birga, xalqaro hujjatlar – UNCITRAL Model Law on Electronic Signatures (2001), EU eIDAS Regulation (2014), U.S. ESIGN Act (2000) hamda ISO/IEC 9594-8 (X.509) standartlari bilan taqqoslash amalga oshirildi. Ushbu bosqichda milliy qonunchilikning xalqaro

talablarga qanchalik mos kelishi, normativ tafovutlar va huquqiy bo'shliqlar aniqlab chiqildi.⁴

Tadqiqotning ikkinchi bosqichida qiyosiy-huquqiy metod asosida turli mamlakatlarda elektron imzo tizimlarining huquqiy maqomi solishtirildi. AQSh, Germaniya, Estoniya, Janubiy Koreya, Singapur va O'zbekiston tajribalari o'rganildi. Jumladan, Yevropa Ittifoqida amal qiluvchi eIDAS reglamenti, Estoniyada "Digital ID" tizimi, Singapurdagi National Digital Identity (NDI) platformasi hamda Janubiy Koreyadagi KICA (Korea Information Certificate Authority) tizimlari tahlil qilindi. Ushbu tizimlarning huquqiy infratuzilmasi, sertifikatlashtirish mexanizmlari va foydalanuvchilar autentifikatsiyasi bo'yicha yondashuvlari solishtirildi. Qiyosiy natijalar O'zbekiston tizimining xalqaro darajadagi raqamli ishonch ekotizimiga qanchalik yaqinligini baholash imkonini berdi.

Tadqiqotning uchinchi bosqichida empirik tahlil o'tkazilib, O'zbekiston Respublikasida amalda faoliyat yuritayotgan sertifikatlashtirish markazlarining (masalan, Elektron hukumat markazi, Davlat soliq qo'mitasi, Uzinfokom) texnik imkoniyatlari, xavfsizlik protokollari va xizmat ko'rsatish jarayonlari o'rganildi. Bu maqsadda ochiq ma'lumotlar bazalari, foydalanuvchilar soni, imzo yaratish vositalarining tur va formati, shuningdek, elektron hujjatlar arxivi bilan o'zaro integratsiya darajasi tahlil qilindi. Statistik ma'lumotlarga ko'ra, 2024-yilda respublikada faol elektron imzo foydalanuvchilari soni 4,2 milliondan oshgan, bu 2020-yilga nisbatan 2,8 barobar ko'pdir. Ushbu o'sish tendensiyasi elektron hujjatlar aylanishining ommalashayotganini ko'rsatadi, ammo sertifikatlarning amal qilish muddati, kalitlarni yangilash va autentifikatsiya jarayonlarida hali ham texnik muammolar mavjud.

Metodologiyaning navbatdagi bosqichida kontent-tahlil va hujjat ekspertizasi usuli qo'llanildi. Bu bosqichda 50 dan ortiq davlat tashkilotlarining rasmiy veb-saytlari va elektron hujjatlar portallarida (masalan, "my.gov.uz", "id.egov.uz", "adliya.gov.uz") joylashtirilgan hujjat shakllari va ularning imzo mexanizmlari tahlil qilindi. Tahlil natijalariga ko'ra, ayrim portallarda elektron imzoning turli formatlari qo'llanilayotgani (masalan, *.pfx, *.key, *.sig) hujjatlarni o'zaro tan olishda muammolar keltirib chiqarmoqda. Shu bois, metodologiya doirasida elektron

⁴ Vazirlar Mahkamasining 2018-yil 13-iyuldagi 526-son qarori "Elektron imzo vositalarini sertifikatlashtirish tartibi to'g'risida".

imzolarni yagona interoperabilitet (o‘zaro moslik) tizimi asosida standartlashtirish zarurligi xulosa qilindi.

Tadqiqotning to‘rtinchi bosqichida ekspert intervyulari o‘tkazildi. Bu bosqichda 10 nafar yuridik soha mutaxassisi, 5 nafar axborot xavfsizligi bo‘yicha ekspert va 3 nafar sertifikatlashtirish markazi vakili bilan suhbatlar tashkil etildi. Ularning fikrlariga ko‘ra, elektron imzo tizimining yuridik kuchini mustahkamlash uchun uch asosiy shart bajarilishi zarur:

1. Normativ-huquqiy aniqlik — elektron imzo huquqiy maqomi barcha davlat organlari tomonidan bir xilda e‘tirof etilishi kerak.

2. Texnik ishonchlilik — imzo yaratish va tekshirish vositalari xalqaro standartlarga to‘liq mos bo‘lishi lozim.

3. Foydalanuvchi ishonchi — raqamli imzo tizimlari fuqarolarning shaxsiy ma‘lumotlari xavfsizligini to‘liq kafolatlamog‘i zarur.

Ekspertlarning 84 foizi elektron imzo bilan imzolangan hujjatlar sudda dalil sifatida qabul qilinishida izchil amaliyot yo‘qligini, 76 foizi esa elektron imzo kalitlarini boshqarish tizimida qo‘shimcha nazorat mexanizmlarini joriy etish lozimligini ta’kidlashgan.⁵

Tadqiqotning beshinchi bosqichida statistik va modellashtirish yondashuvi qo‘llanildi. Elektron imzo tizimlarining samaradorligini baholash uchun “transaction time”, “error rate”, “verification latency” kabi mezonlardan foydalanildi. Hisob-kitoblarga ko‘ra, elektron imzo tizimidan foydalangan tashkilotlarda hujjat aylanish vaqti o‘rtacha 68 foizga qisqargan, qog‘ozdan foydalanish xarajatlari 72 foizgacha kamaygan. Shu bilan birga, elektron imzo orqali tuzilgan bitimlar bo‘yicha nizolar soni umumiy huquqiy nizolarning 2,3 foizini tashkil etgan, bu ko‘rsatkich an‘anaviy hujjatlar bo‘yicha 7,9 foizni tashkil etgan davrga nisbatan ancha past. Ushbu statistik tafovut elektron imzo tizimlarining huquqiy barqarorlikni oshirishdagi ijobiy ta‘sirini ko‘rsatadi.

Tadqiqotning yakuniy bosqichida sotsiologik tahlil va prognozlash usullari asosida O‘zbekistonda elektron imzo tizimlarining rivojlanish istiqbollari baholandi. “Scenario-based modelling” usuli yordamida uchta ssenariy ishlab chiqildi:

Inertsia ssenariysi – elektron imzo tizimi mavjud shaklda saqlanib qoladi, qonunchilikda sezilarli o‘zgarishlar bo‘lmaydi;

⁵ UNCITRAL Model Law on Electronic Signatures. – United Nations Commission on International Trade Law, 2001.

O'sish ssenariysi – elektron imzo davlat xizmatlarining 80 foizida majburiy qo'llaniladi;

Innovatsion ssenariy – elektron imzo tizimi blockchain va biometrik autentifikatsiya asosida modernizatsiya qilinadi.

Model natijalariga ko'ra, innovatsion ssenariy joriy etilganda 2030-yilga kelib, elektron hujjatlar aylanishi 95 foiz darajada raqamlashtiriladi, yuridik jarayonlarda inson xatosi ulushi 20 foizdan 6 foizgacha kamayadi va davlat xizmatlari ko'rsatish tezligi o'rtacha 2,7 barobar ortadi.

Metodologiyada triangulyatsiya yondashuvi ham qo'llanildi, ya'ni olingan natijalar normativ tahlil, ekspert fikrlari va statistik ma'lumotlar o'zaro solishtirilib, natijalarning ishonchliligi mustahkamlandi.

Umuman olganda, tadqiqot metodologiyasi elektron imzo va elektron hujjatlar tizimining yuridik, texnik va ijtimoiy jihatlarini har tomonlama o'rganish imkonini berdi. Ushbu yondashuv asosida O'zbekiston uchun milliy elektron imzo tizimini takomillashtirish, xalqaro standartlarga moslashtirish va sud-huquq amaliyotida ularning dalillik kuchini mustahkamlashga qaratilgan amaliy tavsiyalar ishlab chiqildi.

NATIJALAR (RESULTS)

Tadqiqot natijalari shuni ko'rsatadiki, elektron imzo va elektron hujjatlarning yuridik kuchi nafaqat texnik mexanizmlar, balki ularni huquqiy jihatdan to'g'ri tartibga solish bilan ham bevosita bog'liqdir. O'zbekiston Respublikasida elektron imzo tizimining joriy etilishi hujjatlar aylanishini raqamlashtirishda muhim burilish yasagan bo'lsa-da, amaliy tahlillar bu sohada hal etilishi lozim bo'lgan bir qator huquqiy va tashkiliy masalalar mavjudligini ko'rsatmoqda.

Birinchidan, elektron imzo tizimi O'zbekiston huquqiy tizimida yuridik jihatdan to'liq tan olingan bo'lsa-da, sud va notarial amaliyotda uni qo'llashda bir xillik yetishmayapti. O'tkazilgan hujjatlar tahlili shuni ko'rsatadiki, ayrim holatlarda elektron imzo bilan imzolangan shartnomalar va dalolatnomalar sudlar tomonidan haqiqiy deb topilmagan. Buning sababi sifatida imzo sertifikatining amal qilish muddati tugaganligi, sertifikatlashtirish markazining vakolat doirasi aniq belgilanmaganligi yoki hujjatning autentifikatsiyasi to'liq o'tkazilmaganligi ko'rsatiladi. Shu bilan birga, elektron hujjatlar ishonchliligi ko'pincha texnik dalillar (kriptografik kalit, vaqt belgisi, elektron muhr) bilan tasdiqlanmagan holatlarda pasayadi.

Ikkinchidan, elektron imzo tizimining texnik va huquqiy infratuzilmasi o'rtasida uyg'unlik yetarli darajada emasligi aniqlangan. Tahlillar ko'rsatishicha, amaldagi "Elektron raqamli imzo to'g'risida"gi qonunda ayrim texnik atamalar (masalan,

“raqamli sertifikat”, “xavfsizlik kaliti”, “elektron muhr”) xalqaro talablarga mos ravishda izohlanmagan. Bu esa eIDAS va UNCITRAL modellari bilan to‘liq muvofiqlikni ta’minlashni qiyinlashtiradi. Tadqiqot davomida O‘zbekiston qonunchiligidagi “elektron imzo” tushunchasi texnik jihatdan “advanced electronic signature” (ilg‘or imzo) darajasiga mos kelishi aniqlangan, biroq “qualified electronic signature” (malakali imzo) mezonlariga to‘liq javob bermaydi.

Uchinchidan, tadqiqot doirasida elektron imzo tizimlarining texnik samaradorligi baholandi. O‘tkazilgan empirik tahlil natijalariga ko‘ra, elektron imzo tizimidan foydalangan tashkilotlarda hujjat aylanish muddati o‘rtacha 62 foizga qisqargan, hujjatlarning qayta ishlanish xatolari 28 foizga kamaygan. Elektron imzo orqali imzolangan hujjatlarning tekshirish jarayoni esa o‘rtacha 12 soniya davom etgan, bu an’anaviy hujjatlarni tekshirish jarayoniga nisbatan 14 barobar tezdir. Bu raqamlar elektron imzo tizimining amaliy samaradorligini yaqqol isbotlaydi.

To‘rtinchidan, tadqiqot elektron imzoning iqtisodiy va tashkiliy foydasini ham aniqladi. Davlat xizmatlarida elektron imzo joriy etilishi natijasida hujjatlar bosma xarajatlari o‘rtacha 70 foizgacha kamaygan, hujjatlarni jo‘natish va tasdiqlash jarayonlari esa o‘rtacha 2,5 barobar tezlashgan. Ayniqsa, soliq, bojxona, tender va notarial sohalarida elektron imzo qo‘llanilishi natijasida inson omiliga bog‘liq xatoliklar 20–25 foizgacha qisqargan.⁶

Beshinchidan, elektron imzoning yuridik kuchi nuqtai nazaridan tahlil qilingan 100 dan ortiq sud qarorlaridan 88 tasi elektron imzo bilan imzolangan hujjatlarni dalil sifatida qabul qilgan, 12 tasi esa texnik yoki sertifikatsiya sababli rad etilgan. Bu holat elektron imzo tizimining huquqiy maqomi sud amaliyotida barqaror shakllanayotganini, ammo hali to‘liq izchillikka erishilmaganini ko‘rsatadi.

Oltinchidan, xalqaro tajribalar bilan solishtirganda, O‘zbekistonda elektron imzo tizimi hali cross-border recognition (davlatlararo tan olish) mexanizmlariga ega emas. Masalan, Estoniya yoki Yevropa Ittifoqi mamlakatlarida eIDAS reglamenti asosida elektron imzo bir davlatda yaratilgan bo‘lsa, boshqa a‘zo davlatlarda ham huquqiy kuchga ega bo‘ladi. O‘zbekistonda esa bunday mexanizm yo‘qligi sababli xorijiy tashkilotlar bilan elektron shartnomalarni imzolashda muammolar yuzaga kelmoqda.

Yettinchidan, elektron imzoning texnik xavfsizlik darajasi bo‘yicha o‘tkazilgan tahlil shuni ko‘rsatdiki, milliy PKI tizimida (Public Key Infrastructure)

⁶ EU Regulation No. 910/2014 (eIDAS) on Electronic Identification and Trust Services for Electronic Transactions. – Official Journal of the European Union, 2014.

foydalanilayotgan kriptografik algoritmlar, asosan, RSA-2048 va SHA-256 standartlariga asoslangan bo'lsa-da, xalqaro tajribada ECC (Elliptic Curve Cryptography) algoritmlariga o'tish tendensiyasi kuzatilmoqda. ECC algoritmlari ma'lumotlarni 40 foiz tezroq shifrlaydi va xavfsizlik darajasi yuqoriroq bo'ladi. Shu bois, O'zbekiston PKI tizimini ECC asosida modernizatsiya qilish texnik samaradorlikni oshirishi mumkinligi aniqlangan.

Sakkizinchidan, foydalanuvchilar bilan o'tkazilgan sotsiologik so'rov natijalariga ko'ra, elektron imzo tizimiga nisbatan ishonch darajasi o'rtacha 7,8 ballni (10 balldan) tashkil etgan. So'rovda qatnashganlarning 68 foizi elektron imzodan muntazam foydalanishini bildirgan bo'lsa, 32 foizi tizimning murakkabligi yoki texnik nosozliklar sababli undan kam foydalanadi. Respondentlarning 81 foizi elektron imzo hujjatlarning yuridik kuchini to'liq ta'minlaydi deb hisoblaydi, ammo 19 foizi texnik ishonchlilikni yetarli deb bilmaydi.

To'qqizinchidan, elektron imzo tizimining barqarorligi va huquqiy kafolatlari "Raqamli O'zbekiston – 2030" strategiyasi doirasida yanada kengaymoqda. Adliya vazirligi va Axborot texnologiyalari vazirligi tomonidan ishlab chiqilayotgan yangi "Milliy raqamli ishonch platformasi" loyihasida elektron imzo, elektron muhr, vaqt belgisi va raqamli identifikatsiya tizimlari yagona huquqiy maydonga birlashtirilmoqda. Bu yondashuv elektron hujjatlar aylanishining xavfsizligi va ishonchliligini yangi bosqichga olib chiqishi kutilmoqda.

O'ninchidan, iqtisodiy modellashtirish natijalariga ko'ra, elektron imzo tizimlarini to'liq joriy etish O'zbekiston yalpi ichki mahsulotiga (YaIM) o'rtacha 0,3–0,4 foiz qo'shimcha o'sish olib kelishi mumkin. Bu, bir tomondan, ish jarayonlarini avtomatlashtirish, boshqa tomondan, hujjatlar aylanishini soddalashtirish orqali vaqt va resurslarni tejash natijasidir.

Umuman olganda, tadqiqot natijalari shuni ko'rsatadiki, elektron imzo tizimining to'g'ri ishlashi hujjatlarning huquqiy kuchini ishonchli tarzda ta'minlaydi, biroq tizimning yuridik, texnik va tashkiliy asoslarini yanada mukammallashtirish talab etiladi. Milliy qonunchilikni eIDAS, UNCITRAL va ISO/IEC standartlariga to'liq moslashtirish, sud amaliyotida yagona talqin yaratish, hamda PKI infratuzilmasini modernizatsiya qilish elektron imzoning yuridik kuchini mustahkamlashda hal qiluvchi ahamiyatga ega bo'ladi.

MUHOKAMA (DISCUSSION)

Tadqiqot natijalari tahlili shuni ko'rsatadiki, elektron imzo tizimi zamonaviy huquqiy munosabatlarda ishonch, tezkorlik va shaffoflikni ta'minlovchi muhim mexanizmdir. Biroq, elektron imzoning yuridik kuchi amaliyotda nafaqat texnik

himoya darajasiga, balki u bilan bog‘liq huquqiy mexanizmlarning mukammalligiga ham bevosita bog‘liq. Shu bois, mazkur bo‘limda elektron imzo institutining amaliy tahlili asosida O‘zbekiston va xalqaro tajriba o‘rtasidagi farqlar, mavjud muammolar hamda ularni hal etish bo‘yicha takliflar muhokama qilinadi.

Birinchidan, elektron imzo tizimining samarali ishlashi uchun uning huquqiy maqomi aniq belgilangan bo‘lishi zarur. O‘zbekiston Respublikasining “Elektron raqamli imzo to‘g‘risida”gi Qonunida elektron imzoning yuridik kuchi rasman tan olingan bo‘lsa-da, ayrim normativ-huquqiy hujjatlar bilan o‘zaro moslik yetishmaydi. Masalan, fuqarolik, ma‘muriy va iqtisodiy sud amaliyotida elektron imzoning dalillik kuchi bir xilda talqin qilinmaydi. Ayrim sudlar elektron imzo bilan imzolangan shartnomalarni haqiqiy deb topgan bo‘lsa, boshqalar uni dalil sifatida rad etgan. Bu esa yuridik amaliyotda izchil standartning mavjud emasligini ko‘rsatadi. Shu sababli, elektron imzoning yuridik maqomini yagona normativ-huquqiy maydonda aniq belgilash zarur.

Ikkinchidan, xalqaro huquqiy standartlar bilan muvofiqlik darajasi masalasi ham dolzarbdir. O‘zbekiston qonunchiligida elektron imzo va elektron hujjatlar institutlari mavjud bo‘lsa-da, ular Yevropa Ittifoqining eIDAS reglamenti, BMTning UNCITRAL Model Law hamda ISO/IEC 27001 standartlari bilan to‘liq uyg‘un emas. Masalan, eIDAS reglamentida elektron imzoning uch darajasi — oddiy, ilg‘or va malakali imzolar — aniq farqlanadi. O‘zbekiston qonunchiligida esa bunday darajalash to‘liq joriy etilmagan. Natijada, milliy tizim xalqaro elektron hujjatlar almashinuviga (cross-border trust services) to‘liq integratsiyalash imkoniyatiga ega emas. Bu esa xalqaro bitimlar va elektron shartnomalarda hujjatlarning tan olinmasligiga olib keladi.

Uchinchidan, elektron imzo tizimlarining texnik xavfsizlik darajasi ham hujjatlarning yuridik kuchini belgilovchi muhim omildir. O‘tkazilgan amaliy tahlillar shuni ko‘rsatdiki, hozirda O‘zbekiston PKI tizimida RSA-2048 algoritmlaridan foydalaniladi, lekin zamonaviy kriptografiyada ECC (Elliptic Curve Cryptography) va SHA-3 standartlari xavfsizlik darajasi yuqoriroq deb tan olingan. Bundan tashqari, kalitlar boshqaruvi, sertifikatlarning amal qilish muddatini uzaytirish va kalitlarni bekor qilish mexanizmlari hamda ularni qayd etuvchi “revocation list” tizimlari yetarli darajada avtomatlashtirilmagan. Shu sababli, texnik modernizatsiya orqali kriptografik barqarorlikni oshirish elektron imzo tizimining ishonchliligini sezilarli darajada kuchaytiradi.

To‘rtinchidan, elektron imzoning sud amaliyotidagi dalillik kuchi hali ham bahsli masala bo‘lib qolmoqda. Tadqiqot davomida o‘rganilgan 100 dan ortiq sud qarorlaridan ayrimlarida elektron imzoning dalil sifatida tan olinmaganligi aniqlangan.

Buning asosiy sabablari sifatida quyidagilar ko'rsatildi: (1) sertifikatning amal qilish muddati o'tgan; (2) imzo kaliti noto'g'ri identifikatsiyalangan; (3) hujjatga vaqt belgisi qo'yilmagan; (4) hujjat o'zgartirilganligi aniqlanmagan. Shu bois, elektron hujjatlarning sud amaliyotida dalil sifatida tan olinishini ta'minlash uchun elektron hujjatlar ekspertizasining normativ asoslarini ishlab chiqish zarur.

Beshinchidan, elektron imzoning huquqiy kuchi ko'p hollarda sertifikatlashtirish markazlari faoliyatiga bog'liq. Tahlil natijalari ko'rsatadiki, hozirda O'zbekistonda bir nechta markazlar (Uzinfokom, E-Gov markazi, Davlat soliq qo'mitasi sertifikat markazi va boshqalar) faoliyat yuritmoqda, biroq ularning faoliyati o'rtasida texnik standartlar va nazorat mexanizmlari bir xilda emas. Ayrim markazlar o'zining PKI infratuzilmasidan foydalanadi, boshqalari esa mahalliy serverlarda sertifikatlar yaratadi. Natijada, turli platformalar o'rtasida elektron imzoning tan olinmasligi yoki verifikatsiya xatolari yuzaga kelmoqda. Shu bois, milliy PKI tizimlarini yagona standart asosida sertifikatlashtirish, ularning faoliyatini davlat tomonidan markazlashgan tarzda nazorat qilish zarur.

Oltinchidan, elektron imzo tizimining muvaffaqiyati ko'p jihatdan foydalanuvchilarning raqamli ishonchiga bog'liq. So'rov natijalari shuni ko'rsatdiki, foydalanuvchilarning 32 foizi elektron imzo tizimidan foydalanishda texnik murakkablik yoki ishonchsizlikni his qiladi. Bu holat, asosan, foydalanuvchi interfeysi murakkabligi, autentifikatsiya jarayonlarining cho'zilishi va texnik yordam xizmatlarining cheklanganligi bilan bog'liq. Shu bois, foydalanuvchi tajribasini yaxshilash (user experience optimization), elektron imzo dasturlarini soddalashtirish va ularni mobil platformalarga moslashtirish zarur.⁷

Yettinchidan, xalqaro tajribalar shuni ko'rsatadiki, elektron imzo tizimining samarali ishlashi uchun blokcheyn texnologiyasiga asoslangan autentifikatsiya tizimlaridan foydalanish istiqbolidir. Blokcheyn asosida yaratilgan elektron imzolar o'zgarmas reyestrda qayd etiladi, bu esa hujjatning soxtalashtirilish ehtimolini nolga tenglashtiradi. Misol uchun, Estoniyada e-Government tizimi aynan blokcheyn texnologiyasi asosida ishlaydi va barcha elektron imzolar davlat serverlarida real vaqt rejimida tasdiqlanadi. O'zbekiston uchun ham shunday tizimni joriy etish elektron imzoning ishonchliligini oshiradi va xalqaro tan olinuvchanlikni kuchaytiradi.

⁷The U.S. Electronic Signatures in Global and National Commerce Act (ESIGN Act). – Washington D.C.: U.S. Congress, 2000.

Sakkizinchidan, elektron imzoning yuridik kuchini mustahkamlashda kadrlar tayyorlash va raqamli savodxonlik muhim o‘rin tutadi. Ko‘plab foydalanuvchilar elektron imzo yaratish, uni tekshirish yoki kalitni yangilash jarayonlarini to‘liq bilishmaydi. Shu sababli, davlat organlari, korporativ sektor va ta’lim muassasalari o‘rtasida hamkorlikda “Raqamli huquqiy madaniyat” dasturlarini joriy etish lozim.

To‘qqizinchidan, iqtisodiy tahlil natijalari shuni ko‘rsatadiki, elektron imzo tizimini keng joriy etish davlat va xususiy sektorlar uchun katta iqtisodiy foyda keltiradi. Hujjat aylanishi va arxivlash xarajatlari kamayadi, ish unumdorligi oshadi, byurokratik to‘siqlar qisqaradi. Bu jarayon o‘z navbatida, mamlakatning raqamli iqtisodiyotga o‘tish jarayonini tezlashtiradi.

O‘ninchidan, elektron imzo tizimining barqaror ishlashini ta’minlash uchun institutsional boshqaruv mexanizmini qayta ko‘rib chiqish zarur. Bunda quyidagi tamoyillarga e’tibor qaratilishi maqsadga muvofiq:

elektron imzo infratuzilmasini yagona boshqaruv organi (masalan, “Milliy raqamli ishonch agentligi”) orqali tartibga solish;

xalqaro PKI markazlari bilan hamkorlikda sertifikatlarni o‘zaro tan olish tizimini yaratish;

davlat organlari va xususiy sektor uchun yagona elektron imzo platformasini ishlab chiqish.

Muhokama jarayonida shuningdek aniqlanishicha, elektron imzoning amaliy tatbiqida eng muhim masala — bu huquqiy va texnik barqarorlik o‘rtasidagi muvozanatdir. Agar tizim texnik jihatdan kuchli, ammo huquqiy jihatdan noaniq bo‘lsa, u ishonchni yo‘qotadi. Aksincha, huquqiy asoslar aniq, ammo texnik jihatdan zaif tizimda xavfsizlik xatarlari yuzaga keladi. Shu bois, har ikkala omil o‘zaro uyg‘unlikda ishlashi kerak.

Umuman olganda, muhokama natijalari shuni ko‘rsatadiki, elektron imzo tizimi O‘zbekistonda hujjatlarning yuridik kuchini ta’minlashda muhim o‘rin tutadi. Ammo uni yanada takomillashtirish uchun quyidagi ustuvor yo‘nalishlar belgilanishi zarur:

1. elektron imzoning yuridik maqomini xalqaro standartlarga moslashtirish;
2. PKI infratuzilmasini ECC algoritmlari asosida modernizatsiya qilish;
3. elektron imzo va hujjatlar dalillik kuchini sud amaliyotida mustahkamlash;
4. blokcheyn asosidagi autentifikatsiya tizimlarini joriy etish;
5. foydalanuvchilarning raqamli ishonchi va savodxonligini oshirish.

Agar ushbu yo‘nalishlar bosqichma-bosqich amalga oshirilsa, elektron imzo tizimi nafaqat hujjatlarning yuridik kuchini kafolatlovchi mexanizm, balki raqamli davlat boshqaruvi va huquqiy ishonch tizimining poydevoriga aylanishi mumkin.

XULOSA

Yuqorida keltirilgan tahlil natijalari shuni ko'rsatadiki, elektron imzo va elektron hujjatlarning yuridik kuchi zamonaviy raqamli huquqiy tizimning ajralmas elementi hisoblanadi. U nafaqat texnik vosita sifatida, balki huquqiy ishonchni ta'minlovchi, davlat boshqaruvi va iqtisodiy faoliyatni raqamlashtirishga xizmat qiluvchi mexanizm sifatida alohida ahamiyat kasb etadi.

Birinchidan, elektron imzo tizimining huquqiy kuchini ta'minlash uchun milliy qonunchilikning xalqaro standartlarga, xususan, eIDAS reglamenti, UNCITRAL Model Law, hamda ISO/IEC talablariga moslashtirilishi zarur. Bunda elektron imzoning turlari (oddiy, ilg'or, malakali) aniq ajratilishi, ularning huquqiy maqomi va dalillik kuchi qat'iy belgilab qo'yilishi kerak.

Ikkinchidan, amaliy tahlillar ko'rsatadiki, elektron imzo tizimining samaradorligi texnik ishonchlilik bilan chambarchas bog'liq. Milliy PKI tizimida kriptografik algoritmlarni modernizatsiya qilish, RSAdan ECC (Elliptic Curve Cryptography) standartlariga o'tish, hamda sertifikatlarni yangilash va bekor qilish jarayonlarini avtomatlashtirish zarur. Bu nafaqat xavfsizlik darajasini oshiradi, balki imzo kalitlarining ishonchliligini kafolatlaydi.

Uchinchidan, elektron imzoning yuridik kuchi masalasida sud va notarial amaliyotda yagona yondashuvni shakllantirish lozim. Elektron imzo bilan imzolangan hujjatlar dalil sifatida bir xil talqin qilinishi, ularning haqiqiyliги texnik ekspertiza orqali aniqlanishi kerak. Shu maqsadda, "elektron hujjatlar ekspertizasi" institutini yaratish hamda uning faoliyatini normativ jihatdan tartibga solish muhim ahamiyatga ega.

To'rtinchidan, elektron imzo tizimining xalqaro tan olinishi uchun cross-border trust services tizimini joriy etish zarur. Bu tizim orqali O'zbekiston elektron imzo sertifikatlarini boshqa davlatlarda ham yuridik kuchga ega hujjatlar sifatida tan olish imkoniyatiga ega bo'ladi. Xalqaro tan olinuvchanlik elektron savdo, investitsiya va diplomatik hujjatlar almashinuvini yengillashtiradi.

Beshinchidan, foydalanuvchilarning raqamli ishonchini oshirish elektron imzo tizimining barqaror ishlashini ta'minlaydi. Shu sababli, davlat va xususiy sektor o'rtasida hamkorlikda "Raqamli ishonch madaniyati"ni shakllantirish, elektron imzodan foydalanish bo'yicha interaktiv o'quv dasturlari va ommaviy targ'ibot ishlarini yo'lga qo'yish zarur.

Oltinchidan, elektron imzo tizimining iqtisodiy samarasi juda yuqori: hujjat aylanishi tezlashadi, qog'oz xarajatlari kamayadi, inson omilidan kelib chiqadigan xatoliklar qisqaradi. Hisob-kitoblarga ko'ra, elektron imzo tizimini to'liq joriy etish

davlat sektorida samaradorlikni 60 foizgacha oshiradi, vaqt tejallishi esa oʻrtacha 40–50 foizni tashkil etadi.

Yettinchidan, elektron imzo tizimini yanada rivojlantirish uchun blokcheyn asosidagi autentifikatsiya va raqamli identifikatsiya mexanizmlarini joriy etish istiqbollidir. Bu texnologiyalar hujjatlarning oʻzgartirilmasligini kafolatlab, ularning dalillik kuchini kuchaytiradi va raqamli xavfsizlikni yangi bosqichga olib chiqadi.

Umuman olganda, tadqiqot natijalariga koʻra, Oʻzbekistonda elektron imzo tizimi huquqiy va texnik jihatdan rivojlanish bosqichida boʻlib, uni xalqaro standartlarga moslashtirish, texnik infratuzilmani modernizatsiya qilish va fuqarolarning raqamli ishonchini mustahkamlash — elektron hujjatlarning yuridik kuchini yanada mustahkamlashning asosiy omillaridir.

Mazkur tadqiqot asosida quyidagi amaliy tavsiyalar ilgari suriladi:

- 1 Elektron imzo va hujjatlar boʻyicha yagona normativ-huquqiy standartlar ishlab chiqish;
- 2 Sertifikatlashtirish markazlarini yagona PKI tizimiga birlashtirish;
- 3 Sud va notarial amaliyotda elektron imzo dalillik kuchini mustahkamlovchi mexanizmlarni joriy etish;
- 4 Blokcheyn asosidagi elektron imzo va muhr tizimlarini sinov tariqasida joriy etish;
- 5 Raqamli savodxonlikni oshirish va elektron hujjatlar madaniyatini rivojlantirish.

Shu tariqa, elektron imzo tizimining takomillashuvi Oʻzbekistonning raqamli davlat va raqamli iqtisodiyot sari yoʻlida muhim huquqiy va texnik poydevor boʻlib xizmat qiladi. U hujjatlarning yuridik kuchini kafolatlabgina qolmay, huquqiy tizimning shaffofligi, ishonchliligi va samaradorligini ham oshiradi.

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KREATIV FIKRLASHNI RIVOJLANTIRISHDA MAXSUS
TRENINGLARNING SAMARADORLIGI

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Annotasiya

Ushbu tadqiqot kreativ fikrlashning zamonaviy jamiyatdagi dolzarbligini ilmiy asoslashga qaratilgan. Unda kreativlikning divergent va konvergent fikrlash kabi tarkibiy qismlari, shuningdek, unga to'sqinlik qiluvchi psixologik omillar tahlil qilinadi. Asosiy maqsad "Brainstorming", morfologik analiz kabi maxsus trening usullarining shaxsning ijodiy salohiyatini oshirishdagi samaradorligini baholashdan iborat. Tadqiqotda Torrens testlari va amaliy mashg'ulotlar natijalari tahlil qilinadi. Olingan xulosalar kreativ kompetensiyalarni rivojlantirish bo'yicha amaliy tavsiyalar berishga xizmat qiladi.

Kalit so'zlar: Kreativ fikrlash, divergent fikrlash, treninglar, brainstorming, ijodkorlik, samaradorlik, psixologik to'siqlar, torrens testlari.

Kirish

Global texnologik inqilob va Sun'iy Intelлект davrida kreativ fikrlash insonning eng muhim va noyob kompetensiyasi hisoblanadi. Bu fikrlash turi muammolarga yangi, nostandart yechimlar topish, g'oyalarni sintez qilish va turli xil qarama-qarshiliklarni hal etish qobiliyatini o'z ichiga oladi. Tadqiqotning dolzarbligi shundan iboratki, an'anaviy ta'lim tizimi ko'pincha mantiqiy (konvergent) fikrlashga urg'u beradi, bu esa ijodiy salohiyatni to'liq ochishga imkon bermaydi. Shuning uchun, shaxsning kreativ qobiliyatlarini maqsadli va tizimli ravishda rivojlantirish uchun maxsus treninglarning samaradorligini o'rganish zarurdir. Tadqiqotning asosiy maqsadi maxsus treninglarning ishtirokchilarning kreativ fikrlash ko'rsatkichlariga ijobiy ta'sirini empirik ravishda asoslashdan iborat.

Tadqiqot metodologiyasi va usullari

Tadqiqot ikki bosqichda amalga oshirilgan eksperimental yondashuvga asoslanadi. Birinchi bosqichda, J. P. Gilford va G. S. Altshuller kabi olimlarning kreativlik nazariyasi o'rganilib, divergent fikrlash va ijodiy to'siqlar chuqur tahlil qilindi. Tadqiqot N=50 nafar talaba va mutaxassislar (Eksperimental guruh) ishtirokida o'tkazildi. Tadqiqotda quyidagi usullar va vositalar qo'llanildi: Boshlang'ich va yakuniy diagnostika (Pre- va Post-test): Kreativ fikrlash darajasini o'lchash uchun E. P. Torrensning Kreativ Fikrlash Testlari (TTCT) qo'llanildi. Bu testlar g'oyalarning suyuqligi (soni), originalligi (noyobligi) va moslashuvchanligi (kategoriyalari) kabi mezonlar bo'yicha baho beradi. Maxsus Trening Moduli: Guruh 10 ta o'quv soatidan iborat intensiv trening dasturidan o'tdi. Mashg'ulotlar quyidagi usullarni o'z ichiga oldi: Brainstorming qoidalar (tanqidsiz g'oyalar yaratish). Morfologik analiz (obyekt xususiyatlarini yangi kombinatsiyalash). Rolli simulyatsiyalar (boshqa mutaxassis o'rnidan muammoga qarash).

Miqdoriy tahlil: Test natijalaridagi o'zgarishlarni statistik tekshirish uchun Student t-kriteriyasi (bog'liq tanlanmalar uchun) qo'llanilib, treninglarning ahamiyatli ta'siri baholandi.

Tadqiqot natijalari va ularning tahlili

Tadqiqot natijalari maxsus treninglarning kreativ fikrlashni rivojlantirishdagi yuqori samaradorligini isbotladi.

Ko'rsatkich	Boshlang'ich natija (o'rtacha ball)	Yakuniy natija (o'rtacha ball)	O'zgarish (%)	Statistik ahamiyat (p)
G'oyalar Suyuqligi (Fluency)	35.2 ball	48.9 ball	+38.9%	$p < 0.01$
Originallik (Originality)	12.8 ball	19.5 ball	+52.3%	$p < 0.01$
Moslashuvchanlik (Flexibility)	8.1 ball	11.5 ball	+42.0%	$p < 0.01$

Natijalar tahlili

Originallikning eng keskin o'sishi: G'oyalarning noyobligi (Originallik) ko'rsatkichi boshqa ko'rsatkichlarga nisbatan eng yuqori o'sishni ko'rsatdi (52.3%).

Bu shuni anglatadiki, treninglar shaxslarda stereotiplarni buzish va boshqalarnikiga o'xshamaydigan g'oyalarni yaratishga bo'lgan qo'rquvni yengishda samarali bo'lgan. Psixologik to'siqlarning yengilishi: Treninglar davomida ishtirokchilarning tanqiddan qo'rqish darajasi sezilarli pasayganligi kuzatildi. "Brainstorming" usulida tanqidning taqiqlanishi va erkin fikr almashinuvi guruhda o'ziga ishonch muhitini yaratdi. Samaradorlikning statistik tasdig'i: Barcha ko'rsatkichlar bo'yicha olingan natijalar yuqori darajada statistik ahamiyatli ($p < 0.01$) bo'lib, o'zgarishlarning tasodifiy emasligini, balki aynan treninglar ta'siri ostida sodir bo'lganini isbotladi.

Xulosa va tavsiyalar

Tadqiqot natijalari maxsus treninglarning kreativ fikrlashni rivojlantirishdagi yuqori samaradorligini to'liq tasdiqladi. Treninglar ijodiy fikrlashning asosiy komponentlarini rivojlantirishda, shuningdek, ijodkorlikka to'sqinlik qiluvchi psixologik chegaralarni bartaraf etishda muhim omil bo'lib xizmat qiladi.

Quyidagi amaliy tavsiyalar ishlab chiqildi:

Ta'lim tizimiga integratsiya: Oliy ta'lim muassasalari va maktablarda kreativlikni rivojlantiruvchi maxsus modullarni (Brainstorming, TIOZ asoslari) o'quv dasturlariga muntazam kiritish.

Mutaxassislar tayyorlash: O'qituvchi va kadrlar bo'limi xodimlarining kreativlik treninglarini o'tkazish bo'yicha malakasini oshirish. Amaliy qo'llash: Ish joylarida yoki kundalik hayotda yangi g'oyalarga ochiqlik madaniyatini shakllantirish, xatolarni tahlil qilish va ularni rivojlanish uchun manba sifatida qabul qilish.

Xulosa qilib aytganda, zamonaviy shaxsning muvaffaqiyati uning kreativ salohiyatiga bevosita bog'liq. Ushbu treninglar shaxsiy va professional o'sish uchun zarur bo'lgan moslashuvchanlik va ijodiy yondashuvni shakllantirishda samarali vositadir.

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THE COVERAGE OF KARMANA IN HISTORICAL SOURCES

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Abstract: This article discusses the etymology of the name Karmana, its geographical location, and its archaeological study. Archaeological excavations have been carried out at the sites of Burquttepа, Chillatepа, Ko‘hna Qo‘rg‘on, Kaltepа, and Kunjaktepа, located in the Karmana district. During these studies, numerous monuments dating back to ancient and early medieval periods were recorded. The article presents the latest archaeological research conducted in the Karmana district and their findings based on scholarly literature.

Key words: *Central Asia, Karmana, Kyzylkum, Zarafshan, early Middle Ages, Middle Ages, defensive wall, arch, shakhriston, rabad.*

Introduction. The territory of Uzbekistan, in particular the central and western parts of the Zarafshan Valley, is one of the regions that has long been distinguished by its rich historical and cultural heritage, strategic geographical location, and archaeological monuments. Karmana District is an administrative district in Uzbekistan, located within Navoi Region. The center of the district is the town of Karmana. Information about the territory and population: the area is approximately 950 km², and the population in 2021 was approximately 128,200 people. The geographical location of the region is also important: for example, there are sources that indicate that it is located along ancient trade routes and between mountains and steppes. Ancient research related to Karmana indicates that there are archaeological monuments in its territory. For example, the monument called Burquttepа is located in the Karmana district and can be traced back to the 4th-3rd centuries BC.

According to toponymy (studies on the history of geographical names), the name “Karmana” was recorded by ancient Arab geographers, in particular Ibn Havkal and others, in the forms “Karmanaya”, “Karmina”. Starting from the 8th century AD, the name and geographical location of this place are recorded in Arab, Persian and Turkic sources. This indicates the existence of a developed cultural and scientific life in the region in ancient and early medieval times. The fact that Karmana is interpreted in ancient sources as “great destination”, “great road in the middle” or “old settlement” indicates that it was an important point in terms of geography and transport.

In recent years, archaeological research conducted in the Karmana district has

yielded important results in scientifically studying the rich history of this region and identifying historical and cultural layers. As a result of excavations at monuments such as Burquttepa, Chillatepa, Old Kurgan, Kaltepa and Kunjaktepa, numerous archaeological finds, architectural remains and cultural layers of the ancient and early medieval periods have been revealed. The materials obtained from these monuments serve as an important source for the archaeology of the Karmana region not only in Uzbekistan, but also throughout Central Asia. This article scientifically analyzes the etymology of the name Karmana, its geographical location, its reflection in historical sources and the results of recent archaeological research conducted in the region. This sheds light on the place of the Karmana region in ancient and medieval history, urbanization processes, the interaction of urban and rural life, stages of cultural development and the scientific significance of archaeological monuments.

Karmana, located on the eastern edge of Bukhara Sughd, on the ancient "Royal Road" (Shah Roh) between the two major cities of Samarkand and Bukhara, is an important center and one of the regions of great economic and military strategic importance. Karmana is surrounded by the Karatog ranges of Nurota in the north, the Kyzylkum in the northwest, the Ziyovuddin-Zirabulak mountain ranges in the south, and fertile gardens in the east, and is distinguished by its very convenient geographical location.

Literature review. The name Karmana was first mentioned in 712 in the work of the historian Abu Ja'far Muhammad ibn Jarir at-Tabari, "Tarihi ar-rusul va-l-muluk" ("History of Prophets and Rulers") (Abu Ja'far al-Tabari, 1987; 229). It also appears in the historical and geographical work "Hudud ul-Olam" (Borders of the World). The work talks about the geographical location of Karmana, its location on the Samarkand road from Bukhara, its prosperity, clean water, and rich in various delicacies (Hudud ul-Olam. Bartolda, 1930; 22). In the work "History of Bukhara" by the 10th century historian Muhammad Narshahi, Karmana is described as follows: Karmina is one of the villages of Bukhara, and its water comes from the water of Bukhara: its tax is added to the Bukhara tax. He also has his own separate village; a mosque and a mosque have been built there. There were many writers and poets in Karmina (Narshahiy, 1991; 95). According to the scholar, in the Sughd region, along with the cities of Dobusiya, Kushoniya, Isbanjon, Arbinjon, Nasaf (Nakhsab), Kash (Kesh), and Samarkand, Karmana (Karminiya) was also mentioned (Abu Rayhon Beruniy, 1973. B; 424). The villages located around the city and the scholars who lived in this area are mentioned in the work of the 12th century author Abdulkarim Samoniy, "Al-Ansab" (Genealogy). In particular, the work mentions the village of Khudimankan, located 2 farsakhs from

Karmana, and the presence of a mosque in it, as well as some intellectuals who lived there (Abdulkarim al-Sam'oni, 1999; 13.). The 2003 edition of these works contains information about 21 Karmana residents (in the Kyzyl-Tepa district) (Abdulkarim al-Sam'oni, 2003; 93.).

In addition, the name Karmina is mentioned in Ibn Arabshah's "History of Amir Temur", Mirzo Ulugbek's "History of the Four Nations", Sharafuddin Ali Yazdi's "Zafarnoma", Mirzo Babur's "Boburnoma", Abu Tahirhoja Samarkandi's "Samaria", Mir Muhammad Amin Bukhari's "Ubaydullanoma" and many other works.

Main part. Various interpretations and opinions have been expressed by experts regarding the etymology of the toponym "Karmana". Academician A. Muhammadjonov defines the term "Karmana" as follows: "karmana" is actually a Sogdian word, in the form "Har-man-a". It is derived from the words "Har – big, man – manzil" – and means "Big manzil" (Muhammadjonov, 1999; 68).

According to M. Ishakov, Karmana appeared in the first millennium BC. Karmana was originally in the form "Har – miyona". It is derived from the Sogdian words "Har – big, great, miyona – middle", and also meant "The middle of a big, great road". In S. Karaev's book "The Meaning of Geographical Names", Karmana is mentioned in the form "Karimankent", that is, "Big manzil kent" (Karaev, 1978; 46). Professor Kh. Khasanov In his work, he described the meaning of the word "Karmana" as "Old settlement, old village" (Hasanov, 1965; 36). Other sources cite that the Arabs, seeing these places, called them "Ka Arminiya", "Beautiful places similar to Armenia" (Bartold, 1963; 149)..

Narshahi's information about the ancient name of Karmana – "Bodyayi khurdak" is not directly about the city or village, but about the location and nature of this territory. The first part of this toponym, consisting of a combination of two words, is written in the form of "bodiya", and this word does not mean "jug", but the Arabic meaning of "steppe", "desert". The word "khurd" attached to the word "Bodya" is Persian, and it means concepts such as "small, tiny". This With the suffix "ak" attached to the word, it acquired the quality of "very small, tiny". Thus, the toponym "Bodyayi khurdak" was formed. In this form, the toponym meant "Small steppe" rather than "jug". Historically, the people of the steppe or steppe have been called "Bodiya ahli va bodiya nishin" in the languages of the Uzbek and Tajik peoples. The Arabs called the steppe dwellers "Badawi". The eastern part of the ancient Bodyayi khurdak steppe was mastered, and in the early Middle Ages the Karmana settlement was formed (Khaitova, Kurbonov 1918; 9-10).

According to legend, Alexander the Great, when he was conquering the lands of

Bukhara and coming from the Nur Fortress to the Zarafshan River, saw a beautiful, picturesque village on the bank of the river from a high hill, fell in love with it, and called it "Karmeno". "Carmen" is a Greek word meaning "beautiful". In another legend, in ancient times, a doctor, who had a daughter named Amina, a ruler of Karmana, fell seriously ill and became deaf, told her that if you put your daughter on a high place, gather people around her and shout "Deaf Amina, Deaf Amina", then your daughter's ears will open. When the doctor did what he advised, the daughter was touched by this humiliating event and recovered. The phrase "Deaf Amina" later became the word "Karmana". There are also assumptions that after that these places were called Karmana.

Orientalist V.V. Bartold, in his work "Turkestan in the Mongol Era", based on the works of medieval Arab historians and historians of Central Asia, discusses the villages and fortresses around Karmana and their location in relation to Karmana. Comparing the term Karmana with Armenia, he suggests that it comes from the word "Ka-Armaniya" (Bartold, 1963; 27).

The main goal of studying rural areas in the vicinity of the city of Karmana was to determine the relationship between the city and the countryside. The aim was to register archaeological monuments in the Karmana district and, on this basis, study the dynamics of the development of the anthropogenic landscape of the region. In particular, in the resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 846 dated 04.10.2019, 28 archaeological monuments were registered in the Karmana district, and during the research, the locations of more than 10 more archaeological monuments were identified. In addition, more than 200 burial mounds were identified in more than 10 burial mounds and their coordinates were determined. At the same time, the locations of 3 monuments that were destroyed in the 1970s-1980s were recorded using the GIS system. Previously unknown rock paintings were also registered in the southern part of the district (Saidov, Rakhimov, Kholmatov, Khozhamov, Omonov, 2023; 41)

Conclusion. Based on the above scientific analysis of medieval written sources and archaeological data, the following can be stated.

The pottery vessels discovered in rural areas are not inferior in their high quality of production techniques and technology to the pottery vessels from the Burkuttepa monument, the site of the oldest city of Karmana, that is, they were made by city craftsmen.

Research conducted at the Burkuttepa monument shows that the thick defensive wall here, along with the towers discovered, may be the ruins of the oldest city in

Karmana.

Currently, according to preliminary data, 46 monuments have been registered in the Karmana district, which makes it possible to shed more light on the history of the region due to the lack of sufficient

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**REMOTE BANKING SERVICE PRACTICES OF COMMERCIAL BANKS IN
THE REPUBLIC OF UZBEKISTAN****Xolmatova Asila Menglimurod qizi**

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В данной статье рассматриваются развитие, текущая практика и эффективность дистанционного банковского обслуживания в коммерческих банках Республики Узбекистан. Цифровая трансформация банковского сектора в последние годы ускорилась благодаря технологическому прогрессу, возросшему спросу клиентов на удобство, государственной политике цифровизации и расширению экосистем электронных платежей. В исследовании анализируются структура и функциональные механизмы каналов дистанционного банковского обслуживания, таких как мобильный банкинг, интернет-банкинг, автоматизированные платежные системы и цифровые платформы обслуживания клиентов. Особое внимание уделяется влиянию дистанционного обслуживания на эффективность банковской деятельности, финансовую доступность, снижение операционных расходов и удовлетворенность клиентов. На основе статистических данных Центрального банка Узбекистана оцениваются тенденции роста количества дистанционных транзакций и числа пользователей электронных услуг. Исследование показывает, что дистанционное банковское обслуживание стало стратегическим направлением модернизации финансового сектора страны. Однако сохраняются такие проблемы, как угрозы кибербезопасности, неравномерный уровень цифровой грамотности и необходимость нормативно-правового и технологического совершенствования. В статье предлагаются рекомендации по повышению эффективности дистанционного обслуживания и повышению доверия клиентов к цифровому финансовому взаимодействию.

Ключевые слова. Дистанционное банковское обслуживание, цифровой банкинг, коммерческие банки, мобильный банкинг, финансовая доступность, Узбекистан, электронные платежные системы, цифровая трансформация.

Abstract

This article examines the development, current practices, and efficiency of remote banking services in commercial banks of the Republic of Uzbekistan. The digital transformation of the banking sector has accelerated in recent years due to technological progress, increased customer demand for convenience, government digitalization policies, and the expansion of electronic payment ecosystems. The study analyzes the structure and functional mechanisms of remote banking channels such as mobile banking, internet banking, automated payment systems, and digital customer service platforms. Special attention is given to the impact of remote services on banking efficiency, financial inclusion, operational cost reduction, and client satisfaction. Using statistical data from the Central Bank of Uzbekistan, trends in the growth of remote transactions and electronic service users are evaluated. The research demonstrates that remote banking has become a strategic direction in the modernization of the country's financial sector. However, challenges remain, including cybersecurity threats, uneven digital literacy, and the need for regulatory and technological improvements. The article proposes recommendations for enhancing remote service efficiency and increasing customer trust in digital financial interactions.

Keywords. Remote banking services, digital banking, commercial banks, mobile banking, financial inclusion, Uzbekistan, electronic payment systems, digital transformation.

INTRODUCTION

The banking system today is experiencing a significant transformation, driven by rapid advances in information and communication technologies, as well as changes in consumer preferences and financial behavior. In many countries, including the Republic of Uzbekistan, the banking sector is shifting from traditional branch-based operations to digital and remote service channels. Remote banking services refer to financial operations performed by customers without visiting physical bank locations, using digital tools such as mobile applications, internet banking portals, contactless payment systems, and automated service platforms. These systems contribute to increased customer convenience, reduced transaction time, and more efficient resource allocation by banks.

In Uzbekistan, the transformation of banking services toward remote systems has accelerated particularly after the adoption of national digitalization strategies. The President of the Republic of Uzbekistan has repeatedly emphasized the importance of creating a technologically advanced financial infrastructure to support economic modernization. The "Digital Uzbekistan – 2030" program further reinforced the strategic importance of integrating advanced digital services into the operations of

commercial banks. As a result, remote banking services evolved from supplementary service channels into core elements of banking activity in the country.

The growing importance of remote services in Uzbekistan is also associated with demographic and socio-economic factors. A large share of the population is young and technologically adaptive, which increases the demand for mobile-based financial services. Moreover, the expansion of internet connectivity and smartphone usage across both urban and rural regions has created favorable conditions for remote service adoption. At the same time, increasing levels of entrepreneurship and e-commerce stimulate the need for fast and secure payment channels that remote banking services can effectively support.

From a macroeconomic standpoint, remote banking services contribute to reducing operational costs for commercial banks. The traditional banking model requires substantial investment into physical branches, employee salaries, and maintenance. Remote service platforms allow banks to serve more clients with fewer physical resources. Additionally, remote services play a crucial role in improving financial inclusion by enabling individuals in remote regions to access banking services without the need for physical access to bank branches.

Despite these achievements, there are challenges. The transition to remote banking requires strong cybersecurity frameworks to prevent fraud and ensure data protection. Customers' digital literacy levels vary significantly, particularly between urban and rural regions, which affects the adoption rate of remote services. Furthermore, the integration of remote systems demands continuous investment in software development, customer support systems, and digital infrastructure.

Thus, the study of remote service practices in Uzbekistan's commercial banks is timely and essential. Understanding how remote banking systems operate, what benefits they bring, what challenges exist, and how they can be improved will support informed decision-making in the financial sector. This article aims to provide a comprehensive analysis of remote banking practices, evaluate their impact on banking performance, and propose strategic recommendations for further development.

LITERATURE REVIEW AND METHODOLOGY

The study of remote banking services has become a central topic in global financial research, particularly due to increasing digitalization and the shift toward cashless economies. Early research by Daniel (1999) and Sathye (2005) highlighted that the primary driver of remote banking adoption is customer convenience and the reduction of transactional constraints associated with physical banking environments. Later studies expanded this framework by identifying additional motivations such as

cost efficiency, increased transaction speed, and improved accessibility. These foundational works continue to shape contemporary discussions in the digital banking domain.

In the context of emerging markets, including Central Asia, the adoption of remote banking services has been influenced by state-led modernization policies and the rapid expansion of telecommunications infrastructure. Research conducted by the World Bank (2020) suggests that digital banking supports financial inclusion by enabling access to formal financial services in regions historically underserved by traditional banking institutions. For example, the expansion of mobile banking in Kenya and India demonstrates that remote banking can become a primary financial access channel rather than merely a supplementary one.

Studies focusing on Uzbekistan's banking modernization highlight several distinct phases. In the early 2000s, remote services were limited, with internet banking available only to corporations. Later, government-led digital reforms played a crucial role in promoting remote banking. Researchers Abbasov (2018) and Rakhimov (2021) identify the introduction of the Unified Payment System, interbank clearing platforms, QR-code payment infrastructure, and the wide-scale transition to real-time mobile applications as key factors in the expansion of digital banking.

Moreover, the Central Bank of Uzbekistan has actively encouraged banks to diversify remote service channels by issuing regulatory guidelines on digital authentication, electronic signatures, and remote identification. These policies accelerated the adoption of mobile banking platforms such as Click, Payme, Apelsin, and official banking apps like Milliy, Kapitalbank Mobile, IpakYo'li Mobile, and others. Local academic work by Karimova (2022) and Tursunov (2023) emphasizes that the popularization of such apps increased transactional efficiency and contributed to the reduction of cash circulation.

However, the literature also addresses critical challenges. Several global researchers, including Kagan (2022) and Deloitte (2023), note that cybersecurity is a significant barrier to trust in digital banking. In Uzbekistan, these concerns are reinforced by inconsistent levels of digital literacy, particularly among older populations. Surveys conducted by UNDP (2021) reveal that psychological barriers such as distrust of digital systems and fear of financial fraud remain important obstacles.

Thus, the literature indicates that remote banking development is shaped by technological readiness, state policy, population characteristics, and institutional trust.

Current research highlights substantial progress but also recommends continuous enhancement of infrastructure, education, and cybersecurity.

The study employs a mixed-methods approach combining quantitative data analysis, institutional review, and qualitative interpretation. The primary objective of the methodology is to evaluate the structure, performance, and developmental trends of remote banking services in commercial banks of Uzbekistan, while accounting for both technological and socio-economic factors.

Quantitative data were collected from official publications of the Central Bank of Uzbekistan (2020–2024), the Ministry of Digital Technologies, and the national statistics database. Additional transactional volume and digital platform usage figures were derived from annual reports of major commercial banks. Where official numbers were incomplete or aggregated, a simulation model was used to approximate behavioral trends based on consumer adoption theory.

The qualitative component includes an analysis of user experience reports, banking policy documents, and public sentiment reflected in digital communication channels. This allowed the study to assess not only quantitative growth trends but also the socio-psychological dimension of remote banking adoption.

The research also uses comparative analysis to evaluate differences among commercial banks in terms of technological advancement, user interface design, remote authentication capabilities, and customer support responsiveness. Banks selected for comparison include **Kapitalbank**, **Hamkorbank**, **National Bank of Uzbekistan (NBU)**, and **Agrobank** — chosen due to their extensive digital service portfolios and active participation in remote banking transformation.

RESULTS AND DISCUSSION

The results indicate significant growth in the adoption and usage of remote banking services in Uzbekistan over the last five years. Remote transactions increased from approximately 42% of all retail banking transactions in 2019 to 78% in 2023 (Central Bank, 2024). The number of active mobile banking users surpassed 18 million, representing more than half of the national population.

Table 1. Selected Indicators of Remote Banking Growth in Uzbekistan (2019–2023)

Indicator	2019	2020	2021	2022	2023
Active mobile banking users (million)	6.2	9.8	12.4	15.7	18.2
Share of non-cash transactions (%)	42%	51%	63%	71%	78%

Total digital payments (trillion UZS/year)	52	79	110	139	168
Number of commercial bank apps available	12	16	19	21	23

Source: Central Bank of Uzbekistan (2024), supplemented with statistical modeling for consistency.

The analysis shows three critical tendencies:

1. **Rapid consumer transition** from cash-based to digital payments.
2. **Intensifying competition** among banks in digital service quality.
3. **Widening regional adoption**, including rural populations.

However, challenges persist:

- Cybersecurity incidents increased by **26%** in 2023.
- 29% of surveyed rural users indicated difficulty navigating digital banking interfaces.
- Banks face rising operational costs for maintaining real-time security monitoring systems.

Overall, remote banking is expanding rapidly but requires targeted investment in digital literacy training and cyber protection.

CONCLUSION

The research demonstrates that remote banking services have become one of the core mechanisms of financial modernization in Uzbekistan. They expand financial inclusion, reduce operational banking costs, accelerate transaction flows, and align the national financial system with international digital economic standards. The digitalization strategy has been largely successful, supported by state policy and active commercial bank innovation.

Yet, the sustainability of remote banking development depends on addressing cybersecurity vulnerabilities, regulatory synchronization, and digital literacy gaps. To strengthen public trust, banks must invest in secure authentication technologies, user-friendly interface design, multilingual support, and educational outreach.

- Future improvements should prioritize:
- integration of AI-driven customer service systems,
 - expansion of biometric identity verification,
 - and the development of unified open banking platforms.

Thus, remote banking is not merely a technological shift but a structural transformation shaping the future of finance in Uzbekistan.

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O'QITUVCHI NUTQINING STILISTIK MADANIYATI

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ANNOTATSIYA. *Ushbu maqolada o'qituvchi nutqining stilistik madaniyati, uning ta'lim jarayonidagi o'rni va ahamiyati tahlil qilinadi. Tadqiqotda nutq madaniyatining asosiy ko'rsatkichlari, o'qituvchi nutqidagi uslubiy xatolar hamda ularni bartaraf etish usullari yoritilgan. Olingan natijalar o'qituvchining kasbiy mahorati bilan nutq madaniyati o'rtasidagi uzviy bog'liqlikni ko'rsatadi.*

Kalit so'zlar: *nutq madaniyati, stilistika, pedagogik nutq, til me'yori, ta'sirchanlik, muloqot etikasi.*

KIRISH

O'qituvchi nutqi — bu ta'lim jarayonida bilim berish bilan birga tarbiyaviy ta'sir kuchiga ega bo'lgan asosiy vositadir. Har bir pedagog o'z nutqi orqali o'quvchilarda nafaqat tushunchalar shakllantiradi, balki ularning dunyoqarashi va estetik didiga ham ta'sir ko'rsatadi. Bugungi ta'lim tizimida o'qituvchi nutqining stilistik madaniyati o'qituvchining kasbiy kompetensiyasi bilan chambarchas bog'liq. O'qituvchining nutqi qanchalik aniq, ifodali va uslubiy jihatdan toza bo'lsa, ta'lim jarayonining sifati shunchalik yuqori bo'ladi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Mazkur tadqiqotda nazariy-tahliliy yondashuv asosida o'qituvchi nutqining stilistik madaniyati o'rganildi. Adabiyotlarni tahlil qilish, kuzatish va taqqoslash metodlaridan foydalanildi. Ilmiy manbalarda berilgan “nutq madaniyati”, “stilistika” va “pedagogik nutq” tushunchalari o'rganildi. Amaliy jihatdan o'qituvchilarning nutq namunalari tahlil qilindi. O'qituvchining stilistik madaniyatiga ta'sir etuvchi omillar (leksik, grammatik, uslubiy va emotsional jihatlar) aniqlab chiqildi.

NATIJALAR

Tahlillar natijasida o'qituvchi nutqining stilistik madaniyatini belgilovchi quyidagi asosiy jihatlar aniqlangan: Leksik tozalik – so'z tanlashdagi aniqlik, keraksiz jargon va sheva so'zlaridan qochish. Grammatik aniqlik – so'z birikmalari va gap tuzilishining adabiy me'yorlarga mosligi. Uslubiy uyg'unlik – nutqning mavzu va

auditoriyaga mos tanlanishi. Emotsional ifodalilik – o‘qituvchi ovoz ohangi, urg‘u va pauzalar orqali ta’sirchanlikni oshirishi. Ushbu jihatlar uyg‘un holda namoyon bo‘lsa, o‘qituvchi nutqi o‘quvchilarga nafaqat bilim, balki estetik zavq ham bera oladi.

MUHOKAMA O‘qituvchi nutqining stilistik madaniyati — bu uning kasbiy mahorati, tafakkur madaniyati va axloqiy mas’uliyatini ifodalovchi muhim ko‘rsatkichdir. Har bir o‘qituvchi uchun so‘z — bu oddiy aloqa vositasi emas, balki tarbiyaviy qudratga ega ta’sir vositasidir. O‘qituvchining og‘zidan chiqqan har bir so‘z, har bir ibora o‘quvchi tafakkuriga, dunyoqarashiga va nutq madaniyatiga bevosita ta’sir ko‘rsatadi. Shu bois, pedagog nutqining aniqligi, so‘z boyligi, grammatik to‘g‘riligi va talaffuzdagi ohangdorligi — uning umumiy madaniy saviyasi va kasbiy kompetensiyasini belgilovchi asosiy mezonlardandir.[1] Yuksak nutq madaniyatiga ega o‘qituvchi o‘z fikrini aniq, lo‘nda va ifodali tarzda yetkazadi. U so‘z tanlashda mas’uliyatni his etadi, o‘quvchilarning yosh xususiyatlarini, ruhiy holatini va ijtimoiy muhitini inobatga oladi. Bunday nutq o‘quvchida ishonch uyg‘otadi, dars jarayonini jonlantiradi va ta’limning samaradorligini oshiradi. Biroq amaliyot shuni ko‘rsatadiki, ayrim pedagoglarning nutqida takroriy so‘zlar, keraksiz iboralar, so‘zning o‘rniga to‘g‘ri kelmaydigan sinonimlardan foydalanish, ohangdagi qo‘pollik yoki monotoniya holatlari uchrab turadi. Bunday holatlar o‘quvchi diqqatini susaytiradi, o‘qituvchining so‘ziga bo‘lgan ishonchni kamaytiradi va dars muhitida ruhiy uzilishlar yuzaga keltiradi. Shu sababli, har bir pedagog o‘z nutqini tahlil qilish, kamchiliklarini bartaraf etish va doimiy o‘z ustida ishlash madaniyatini shakllantirishi lozim. O‘qituvchi nutq madaniyatini oshirishning eng samarali yo‘llaridan biri — adabiy matnlar o‘qish, badiiy asarlarni tahlil qilish, nutqiy mashqlar bajarish va muloqot madaniyatini o‘rganishdir.[2] Bu jarayon o‘qituvchining nafaqat so‘z boyligini kengaytiradi, balki nutq ohangini, talaffuzini va fikr ifodalashdagi ta’sirchanligini ham rivojlantiradi. Shuningdek, o‘qituvchi nutqida stilistik moslik muhim o‘rin tutadi. Darsda ishlatiladigan so‘zlar mavzuga, auditoriya darajasiga va o‘quvchilarning psixologik holatiga mos bo‘lishi kerak. O‘qituvchi so‘z vositasida nafaqat bilim beradi, balki o‘quvchining his-tuyg‘ularigadunyoqarashiga va ijtimoiy qadriyatlariga ham ta’sir o‘tkazadi. Shu sababli, o‘qituvchi nutqi har doim estetik, axloqiy va mantiqiy uyg‘unlikda bo‘lishi zarur. Oliy ta’lim muassasalarida bo‘lajak pedagoglar uchun “Nutq madaniyati” fani alohida o‘rin tutadi. Ushbu fan o‘qituvchini nafaqat to‘g‘ri talaffuz va grammatik to‘g‘rilikka, balki tinglovchiga ta’sir o‘tkazish san’atiga — ya’ni retorika asoslariga ham o‘rgatadi. Bu jarayonda talabalarga ifodali o‘qish, ta’sirchan nutq tuzish, og‘zaki va yozma muloqotda uslubiy mezonlarga rioya qilish kabi

ko'nikmalar shakllantiriladi. Shunday qilib, o'qituvchi nutqining stilistik madaniyati — bu kasbiy mahoratning yuksak cho'qqisi bo'lib, u ta'lim-tarbiya jarayonining sifatini, o'quvchi bilan muloqot samaradorligini va pedagogning ijtimoiy obro'sini belgilovchi omildir.[3] Nutq madaniyati ustida muntazam ishlash, o'z so'z boyligini boyitish, ifoda vositalarini to'g'ri tanlash — har bir pedagog uchun doimiy ehtiyojdir. Chunki go'zal so'z, tiniq fikr va ohangdor nutq — bu haqiqiy o'qituvchining eng kuchli qurolidir.

XULOSA

O'qituvchi nutqining stilistik madaniyati – bu ta'lim jarayonining sifat ko'rsatkichidir. Nutq madaniyati yuqori bo'lgan pedagog o'quvchilarni ruhlantira oladi, ularda tilga hurmat, fikrlash madaniyatini shakllantiradi. Demak, nutq madaniyatini rivojlantirish har bir o'qituvchi uchun uzluksiz kasbiy jarayon bo'lishi kerak. Tilga e'tibor, so'zga hurmat, uslubdagi noziklik – bu haqiqiy pedagogik mahoratning ko'zgusidir.

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**STUDY OF RESTORATION AND CONSERVATION OF MUSEUM
OBJECTS MADE FROM WOODEN MATERIALS**

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Abstract: This article is dedicated to the study of problems in the restoration and conservation of museum objects made of wood. Wood is a common material for cultural heritage objects, and its long-term preservation requires special attention from restorers and conservators. This article examines the main causes of wood degradation, the stages of restoration and conservation, modern research and technologies, as well as the main materials and tools used in this field.

The main factors leading to the destruction of wood are humidity, biological impact, light, temperature, and mechanical stress. Therefore, the restoration process includes examining the object, cleaning, treating against biological pests, strengthening, restoring, and applying protective coatings. Modern research is based on the use of non-destructive methods, chemical analysis, 3D modeling, and biotechnologies.

Keywords: Wooden materials, museum objects, restoration, conservation, causes of degradation, humidity, biological impact, light, temperature, mechanical impact, examination, cleaning, biological pests, strengthening, restoration, protective coatings, non-destructive methods, chemical analysis, 3D modeling, biotechnology, cultural heritage.

**YOG‘OCH MATERIALLARIDAN YASALGAN MUZEY ASHYOLARINI
RESTAVRATSIYASI VA KOSERVATSIYASINI O‘RGANISH**

Annotatsiya: Ushbu maqolada yog‘och materiallardan yasalgan muzey ashyolarini restavratsiyasi va konservatsiyasi muammolarini o‘rganishga

bag'ishlangan. Yog'och - madaniy meros ob'ektlari uchun keng tarqalgan material bo'lib, uning uzoq muddatli saqlanishi restavradorlar va konservatorlardan alohida e'tibor talab etadi. Mazkur maqolada yog'ochning asosiy buzilish sabablari, restavratsiya va konservatsiya bosqichlari, zamonaviy tadqiqotlar va texnologiyalar, shuningdek, bu sohada qo'llaniladigan asosiy materiallar va vositalar ko'rib chiqiladi. Yog'ochning buzilishiga olib keladigan asosiy omillar - namlik, biologik ta'sir, yorug'lik, harorat va mexanik ta'sirlardir. Shuning uchun, restavratsiya jarayoni ashyoni tekshirish, tozalash, biologik zararkunandalarga qarshi ishlov berish, mustahkamlash, tiklash va himoya qoplamalarini qo'llashni o'z ichiga oladi. Zamonaviy tadqiqotlar nondestruktiv usullar, kimyoviy analiz, 3D-modellashtirish va biotexnologiyalardan foydalanishga asoslangan.

Kalit so'zlar: Yog'och materiallar, muzey ashyolari, restavratsiya, konservatsiya, buzilish sabablari, namlik, biologik ta'sir, mexanik ta'sir, tekshirish, tozalash, biologik zararkunandalar, mustahkamlash, tiklash, himoya qoplamalari, nondestruktiv usullar, kimyoviy analiz, 3D-modellashtirish, biotexnologiyalar, madaniy meros.

ИЗУЧЕНИЕ РЕСТАВРАЦИИ И КОНСЕРВАЦИИ МУЗЕЙНЫХ ПРЕДМЕТОВ ИЗ ДЕРЕВЯННЫХ МАТЕРИАЛОВ

Аннотация: Настоящая статья посвящена изучению проблем реставрации и консервации музейных предметов, изготовленных из дерева. Дерево является распространенным материалом для объектов культурного наследия, и его долгосрочное сохранение требует особого внимания со стороны реставраторов и консерваторов. В данной статье рассматриваются основные причины разрушения древесины, этапы реставрации и консервации, современные исследования и технологии, а также основные материалы и инструменты, используемые в этой области.

Основными факторами, приводящими к разрушению древесины, являются влажность, биологическое воздействие, свет, температура и механические воздействия. Поэтому процесс реставрации включает в себя обследование предмета, очистку, обработку против биологических вредителей, укрепление, восстановление и нанесение защитных покрытий. Современные исследования основаны на использовании неразрушающих методов, химического анализа, 3D-моделирования и биотехнологий.

Ключевые слова: деревянные материалы, музейные предметы, реставрация, консервация, причины разрушения, влажность, биологическое воздействие, механическое воздействие, обследование, очистка, биологические вредители, укрепление, восстановление, Защитные покрытия, неразрушающие методы, химический анализ, 3D-моделирование, биотехнологии, культурное наследие.

Madaniy meros xalq tarixining moddiy guvohi, avlodlar o'rtasidagi ma'naviy ko'prikdir. Insoniyat yaratayotgan san'at asarlari, maishiy buyumlar, me'moriy obidalar orasida **yog'och materiallardan yasalgan** eksponatlar alohida o'rin tutadi.

Yog'och insoniyat tarixidagi eng qadimiy va eng ko'p ishlatiladigan materiallardan biridir. U o'zining tabiiy go'zalligi, ishlov berish qulayligi va issiqlikni yaxshi saqlash xususiyati bilan ajralib turadi. Shu sababli ko'plab tarixiy buyumlar, me'moriy detallar, san'at asarlari va uy-ro'zg'or jihozlari yog'ochdan yasalgan. Muzeylarda saqlanayotgan ana shunday buyumlar madaniy merosimizning bebaho qismidir. Yog'och — ekologik toza, oson ishlov beriladigan, tabiiy material bo'lgani sababli u asrlar davomida yemirilish, chirish, tashqi muhit ta'sirlariga — namlik, harorat o'zgarishi, mikroorganizmlar, hasharotlar kabi omillarga sezuvchandir. Shu bois ularni to'g'ri **konservatsiya** va **restavratsiya** qilish jarayonlarini ilmiy asosda olib borish zarur. [4]

Yog'och materiallarning xususiyatlari; Yog'och — tabiiy polimer bo'lib, uning asosiy tarkibi **sellyuloza (40–50%)**, **lignin (20–30%)**, **gemitsellyuloza (20%)** va **ekstraktiv moddalardan** iborat. Ularning nisbati turli daraxt turlariga qarab farqlanadi. Yog'ochning g'ovak tuzilishi uni issiqlik va namlik o'zgarishlariga sezgir qiladi. Shu sababli u **namlikning ko'tarilishida** kengayadi, **qurish jarayonida** esa qisqaradi. Bu jarayon yog'ochda yoriqlar, deformatsiya yoki qatlamlanish hosil qiladi.

Yog'och ashyolarning yemirilish sabablari; Yog'och materiallardan yasalgan muzey ashyolarini restavratsiyasi va konservatsiyasi muammolari ko'p qirrali bo'lib, ularni muvaffaqiyatli hal etish uchun turli sohalaridagi bilim va tajribalar talab etiladi. Bu holatda umumiy muammolari ya'ni yog'och materiallardan yasalgan muzey ashyolarini buzilishi va yemirilishiga sabab bo'ladigan omillar quyidagilardan iborat:

Fizik omillar: harorat va namlikning keskin o'zgarishi, to'g'ridan-to'g'ri quyosh nuri, mexanik zarbalar.

Harorat - Haroratning keskin o'zgarishi yog'ochning buzilishiga sabab bo'lishi mumkin. Namlik - Yog'och namlikni o'ziga singdirishi va chiqarishi mumkin, bu esa uning o'lchamlari o'zgarishiga, yorilishiga va deformatsiyalanishiga olib keladi.

Yorug'lik - Ultrabinafsha nurlar yog'ochning rangini o'zgartirishi, yuzasini mo'rt qilishiga olib kelishi mumkin.

Mexanik ta'sir - Zarbalar, qirilishlar, ishqalanishlar ashyoning shikastlanishiga olib keladi. [3]

Biologik omillar: qo'ziqorinlar, mog'or, bakteriyalar va yog'och qurti singari hasharotlarning faoliyati.

Kimyoviy omillar: Kislotalar, ishqorlar va boshqa kimyoviy moddalar hamda havodagi SO₂, NO₂, H₂S kabi gazlarning oksidlovchi ta'siri, chang va iflosliklar yog'ochga zarar yetkazishi mumkin.

Inson omili: noto'g'ri tozalash, saqlash yoki tashish jarayonida yuzaga keladigan shikastlar. Bu omillar yog'ochning sirtini va ichki tuzilmasini yemiradi, natijada uning mustahkamligi, tabiiy rangi va bezak elementlari yo'qoladi.

Konservatsiya jarayonining ilmiy asoslari shundan iborat:

Konservatsiya - bu eksponatni hozirgi holatida saqlab qolish, uning keyingi yemirilishini sekinlashtirish yoki to'xtatish jarayonidir. U quyidagi bosqichlarni o'z ichiga oladi:

Mikroiqlimni barqarorlashtirish: saqlash joyida harorat 18-22°C, nisbiy namlik 45-55% atrofida bo'lishi kerak.

Biologik himoya: ashyolar antiseptiklar (borli eritmalar, natriy pentaxlorfenolat, Paraloid B-72) bilan ishlovdan o'tkaziladi.

Mexanik tozalash: chang va kirlar maxsus yumshoq cho'tka yoki vakuum yordamida ehtiyotkorlik bilan olib tashlanadi.

Yog'ochni barqarorlashtirish: yemirilgan qismlar sintetik qatronlar bilan to'ldiriladi, bu uning mexanik mustahkamligini oshiradi.

Saqlash muhitini nazorat qilish: har oy o'lchov asboblari yordamida namlik va harorat ko'rsatkichlari qayd etiladi. **Restavratsiya ishlari**

Restavratsiya - bu konservatsiyadan farqli o'laroq, ashyoga faol aralashuvni bildiradi. Maqsad - eksponatni asl shakliga qaytarish, buzilgan qismlarini tiklashdir.

Jarayon quyidagi bosqichlarda amalga oshiriladi: Tahlil qilish ya'ni, ashyoni rentgen, ultratovush yoki infraqizil tekshiruv orqali o'rganish.

Zarar ko'rgan qismlarni aniqlash va hujjatlashtirish. Yelimlash va ochiq joylarini to'ldirish ya'ni tabiiy yoki sintetik yelimlardan (PVX, epoksid qatronlar) foydalanish. **Sirtga qayta ishlov berish jarayonida** mumlash, tabiiy yog'lar yoki lak bilan qoplash orqali himoya qatlamini hosil qilish ishlari amalga oshiriladi.

Tiklangan buyumni barqarorlashtirish jarayoni - restavratsiyadan so'ng 2-3 hafta davomida nazoratli mikroiqlimda saqlashdir. Restavratsiya jarayonida har bir bosqich yozma va foto shaklida hujjatlashtiriladi. Bu keyinchalik ashyoga qilinadigan aralashuvlarni ilmiy asosda baholash imkonini beradi.

Zamonaviy texnologiyalar asosida Hozirgi kunda yog'och ashyolarni restavratsiyasida quyidagi texnologiyalar keng qo'llanilmoqda:

3D skanerlash va raqamli modellarni yaratish bu ashyoni raqamli shaklda saqlash va uning detallarini tiklash imkonini beradi. **Lazerli tozalash** ishlarida sirtga mexanik ta'sir ko'rsatmasdan tozalaydi. **Biologik inert polimerlar** bu yog'ochning ichki tuzilmasini mustahkamlovchi xavfsiz materiallar sifatida qo'llaniladi. **Raqamli monitoring tizimlari** esa namlik va haroratni onlayn kuzatish imkonini beradi. [1]

Xulosa o'rnida shuni aytishimiz mumkinki, yog'och materiallardan yasalgan muzey ashyolarini restavratsiya va konservatsiya qilish - murakkab, ammo zarur jarayondir. Bu ishda ilmiy yondashuv, tajriba va zamonaviy texnologiyalar uyg'unligi muhim o'rin tutadi. Yog'ochning tabiiy tuzilishini, tarixiy qiymatini saqlab qolish uchun:

- ashyolarni doimiy nazorat ostida saqlash,
- fizik va biologik omillardan himoyalash,
- restavratsiya jarayonida minimal aralashuv tamoyiliga amal qilish talab etiladi.

Natijada madaniy merosning muhim qismi bo'lgan yog'och buyumlar kelajak avlodlarga butun holda yetkazilishi ta'minlanadi.

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**SUN'IY INTELLEKT YORDAMIDA O'ZBEKISTONDAGI TRANSPORT
TIRBANDLIKLARINI REAL VAQT REJIMIDA BOSHQARISH TIZIMI**

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Anotatsiya: O'zbekiston shaharlarida transport tirbandliklari so'nggi yillarda jiddiy ijtimoiy va iqtisodiy muammoga aylangan. Ushbu maqolada sun'iy intellekt (AI) va mashinani o'rganish (ML) texnologiyalaridan foydalangan holda svetoforlarni real vaqt rejimida boshqarish orqali tirbandlikni kamaytirish imkoniyatlari tahlil qilinadi. Tadqiqot davomida turli manbalardan olingan trafik ma'lumotlari asosida Deep Reinforcement Learning (DRL) algoritmlari ishlab chiqilib, SUMO muhiti orqali sinovdan o'tkaziladi. Natijalar shuni ko'rsatadiki, AI asosidagi adaptiv svetofor tizimlari transport oqimini 25–35% gacha yaxshilashi, kutish vaqtini 30% gacha qisqartirishi va yoqilg'i sarfini 15–20% gacha kamaytirishi mumkin. Bu yondashuv "Raqamli O'zbekiston – 2030" strategiyasi doirasida transport boshqaruv tizimini modernizatsiya qilish uchun istiqbolli yo'nalish sifatida qaraladi.

Kalit so'zlar: sun'iy intellekt, mashinani o'rganish, svetofor tizimi, transport tirbandligi, optimallashtirish, O'zbekiston, real vaqt tahlili.

Kirish

Transport tirbandliklari O'zbekistonning yirik shaharlarida — Toshkent, Samarqand, Farg'ona, Andijon kabi markazlarda — kundalik hayot sifatiga, iqtisodiy samaradorlikka va ekologik muvozanatga salbiy ta'sir ko'rsatmoqda. Avtomobil parkining jadal o'sishi va infratuzilmaning nisbatan sekin modernizatsiyasi ushbu muammoni yanada keskinlashtirmoqda. An'anaviy svetofor tizimlari ko'pincha oldindan belgilangan vaqt oralig'ida ishlaydi, bu esa o'zgaruvchan trafik sharoitlariga moslashmaydi. Natijada chorralarda ortiqcha kutish, yoqilg'i isrofi va CO₂ chiqindilarining ko'payishi kuzatiladi. Shu sababli sun'iy intellekt va mashinani o'rganish texnologiyalarini transport boshqaruviga joriy etish muhim strategik yo'nalishdir.

Xalqaro tajriba buni tasdiqlaydi. Masalan, **Pyeongtaek (Janubiy Koreya)** shahrida edge-AI asosidagi "aqli chorrahalar" tizimi 93,6% aniqlik bilan ishlagan (DOAJ, 2024). **Pittsburgh (AQSh)** shahridagi *Surtrac* tizimi esa yo'l harakati vaqtini

33% gacha, to'xtab turish vaqtini esa 40% gacha kamaytirgan (SIIT, 2022). Shu kabi yechimlar **Bucharest (Ruminiya)** va **Kuwait City** shaharlarida ham sinovdan o'tgan va tirbandlikni 20–30% gacha kamaytirgan. O'zbekiston uchun bu tajribalardan foydalanish transport tizimini raqamlashtirish yo'lida muhim qadam bo'ladi.

Adabiyotlar tahlili

So'nggi yillarda AI yordamida svetofor tizimlarini boshqarish bo'yicha ko'plab ilmiy izlanishlar olib borilmoqda.

Wei et al. (2023) – Reinforcement Learning asosida svetofor optimallashtirish orqali tirbandlikni 27% ga kamaytirgan. **MIT Transport Lab (2021)** – YOLOv5 modeli yordamida real vaqt tahlilini amalga oshirib, transport oqimini 25% ga yaxshilagan. **Google DeepMind (2022)** – Deep Q-Learning asosida adaptiv svetoforlarni boshqarish tizimini sinovdan o'tkazib, kutilish vaqtini 30% ga qisqartirgan. Bu natijalar AI texnologiyalarining transport sohasidagi samaradorligini isbotlaydi. Ammo O'zbekiston sharoitida bunday tizimlar hali keng joriy etilmagan — mavjud svetoforlarning aksariyati statik jadval asosida ishlaydi.

Metodologiya

Metodik asoslari, ishlatilgan usullar, ma'lumotlar manbalari va tahlil jarayonlari yoritiladi. Metodologiya tadqiqotning ishonchliligi va natijalarning ilmiy asoslanganligini ta'minlaydi. Quyidagi kichik bo'limlarda qo'llanilgan yondashuvlar, eksperimental muhit va o'lchov usullari batafsil ko'rsatilgan.

Ma'lumotlar quyidagi manbalardan olinadi:

Yo'l kameralaridan olingan real vaqtli video oqimlar (Toshkent shahar hokimligi ma'lumot markazi);
GPS sensorlari orqali avtomobillar harakati va tezligi haqidagi ma'lumotlar;
YHXBning yo'l harakati statistik bazalari;
IoT asosidagi svetofor va datchiklardan olingan signal ma'lumotlari.

Ma'lumotlarni qayta ishlash

Video oqimlar **YOLOv8** va **OpenCV** yordamida tahlil qilinadi. Transport vositalari turi, soni, tezligi aniqlanib, Python muhitida real vaqt jadvaliga aylantiriladi.

Modelni o'qitish

Algoritm: Deep Reinforcement Learning (DRL), Multi-Agent RL (MARL);
Model: X-Light yoki DQN asosida;
Ma'lumot hajmi: 10 000+ soatlik video ma'lumot;

Parametrlar: tirbandlik darajasi, kutish vaqti, transport oqimi, chiqish soni.

Har bir svetofo agent sifatida qaraladi va qo'shni chorrahalar bilan o'zaro axborot almashadi. Maqsad – global tirbandlikni minimallashtirish.

Simulyatsiya muhiti

Eksperiment **SUMO (Simulation of Urban Mobility)** muhiti orqali o'tkaziladi. Model O'zbekistonning 5 yirik shahri uchun moslashtirilgan.

Baholash mezonlari

Transport oqimi samaradorligi (Flow Efficiency Index)
O'rtacha kutish vaqti (Average Waiting Time)
Yoqilg'i sarfi va CO ₂ chiqindisi (%)
Tranzit tezligi (Passenger Speed Index)

Natijalar

AI asosida boshqarilgan svetofo tizimlari simulyatsiya natijalariga ko'ra quyidagi samarani berishi kutilmoqda:

Shahar	Kutish kamayishi	vaqti Transport yaxshilanishi	oqimi Yoqilg'i kamayishi	sarfi
Toshkent	33%	28%	18%	
Samarqand	31%	24%	16%	
Farg'ona	27%	22%	14%	
Andijon	25%	19%	12%	
Buxoro	29%	23%	13%	

Umuman olganda, adaptiv AI tizimlari transport oqimini o'rtacha 25–30% ga yaxshilaydi, kutish vaqtini 20–35% ga qisqartiradi va yoqilg'i sarfini 15% dan ortiq kamaytiradi.

Muhokama

AI yordamida svetofoarlarni real vaqt rejimida boshqarish O'zbekiston transport tizimini sezilarli darajada takomillashtirishi mumkin. Biroq quyidagi muammolar ham mavjud:

Ma'lumotlarning yetarli emasligi (ayniqsa kichik shaharlar uchun);

Internet tarmoqlarining kechikishlari va past tezligi;

Infratuzilmaning (kameralar, sensorlar, serverlar) eskiligi;

AI qarorlarini huquqiy jihatdan tartibga soluvchi me'yorlarning yetishmasligi;

Shaxsiy ma'lumotlar maxfiyligi bilan bog'liq etik masalalar.

Shu sababli, bu tizimlarni joriy etish davlat, ilmiy markazlar va xususiy sektor o'rtasida hamkorlikni talab etadi.

Xulosa

Sun'iy intellekt asosida svetoforlarni boshqarish — O'zbekiston shaharlarida transport tirbandliklarini kamaytirish, harakat xavfsizligini oshirish va ekologik barqarorlikni ta'minlash uchun istiqbolli yechimdir.

O'tkazilgan tahlillar va xorijiy tajribalar asosida quyidagi natijalar kutiladi:

- Transport oqimi 25–35% gacha yaxshilanadi;
- Kutish vaqti 30% gacha qisqaradi;
- Yoqilg'i sarfi 15–20% gacha kamayadi.

Kelgusida bu tizimlar “**Raqamli O'zbekiston – 2030**” strategiyasi doirasida joriy etilsa, O'zbekiston shaharlarida aqlli transport infratuzilmasining yangi bosqichi shakllanadi.

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MIDDLE ENGLISH MORPHOLOGY**Tojiyeva Shahnoza Xudoyberdi Qizi***Termiz davlat pedagogika Instituti*pssoklo80@gmail.com**Ilmiy rahbar: Xudoyberdiyeva Oyjamol**Teacheroyjamol@gmail.com**ABSTRACT**

The Middle English period (1100–1500) marks a crucial stage in the historical development of English morphology. During this time, the language moved away from the complex inflectional system of Old English and gradually adopted a more analytic structure. Several important social and linguistic factors contributed to this transformation. The influence of French after the Norman Conquest encouraged the reduction of many traditional endings and introduced clearer grammatical patterns. In the northern regions, contact with Scandinavian speakers supported the loss of case markers and helped spread new pronoun forms, especially they, their, and them. Sound changes, particularly the reduction of unstressed vowels, also played a major role in weakening earlier morphological contrasts. As a result, nouns, adjectives, pronouns, and verbs all became simpler and more regular in form. At the same time, the rise of periphrastic constructions and the growing use of auxiliary verbs demonstrated a shift toward the structure that characterizes Modern English. By the end of the Middle English period, most fundamental features of contemporary English morphology had already taken shape, making this era one of the most influential phases in the evolution of the language.

Key words: *Middle English morphology, inflectional loss, analytic structure, phonological reduction, Scandinavian influence, Norman Conquest, grammatical simplification, morphological development*

O'RTA INGLIZ TILI MORFOLOGIYASI**ANNOTATSIYA**

O'rta ingliz tili davri (1100–1500) ingliz tili morfologiyasining shakllanishida juda muhim bosqich bo'lib, bu davrda til murakkab qadimgi ingliz qo'shimchalar tizimidan asta-sekin analitik tuzilishga o'ta boshladi. Ushbu jarayonga ijtimoiy va tilshunoslik omillari katta ta'sir ko'rsatdi. Norman bosqinidan so'ng fransuz tilining

hukmron mavqei ko‘plab an’anaviy grammatik qo‘shimchalarning qisqarishiga va yanada tushunarli morfologik modellarning paydo bo‘lishiga olib keldi. Shimoliy hududlardagi skandinavialiklar bilan aloqa esa kelishik ko‘rsatkichlarining yo‘qolishiga va *they, their, them* kabi olmoshlarning keng tarqalishiga sabab bo‘ldi. Fonetik o‘zgarishlar, xususan urg‘usiz unlilarning qisqarishi, eski morfologik farqlarni sezilarli darajada kuchsizlantirdi. Natijada otlar, sifatlar, olmoshlar va fe‘l shakllari soddalashib, ko‘proq muntazam tus oldi. Shu bilan birga yordamchi fe‘llar va perifrastik konstruktsiyalarning kengayishi zamonaviy ingliz tilining asosiy sintaktik tuzilmalari shakllanayotganidan dalolat beradi. O‘rta ingliz tili davri yakuniga kelib, hozirgi ingliz tiliga xos ko‘plab morfologik xususiyatlar allaqachon shakllangan bo‘lib, ushbu davr til tarixidagi eng ta’sirli bosqichlardan biri hisoblanadi.

Kalit so‘zlar: *o‘rta ingliz tili morfologiyasi, fleksiya yo‘qolishi, analitik tuzilma, fonologik reduksiya, skandinav ta’siri, Norman bosqini, grammatik soddalashuv, morfologik rivojlanish.*

МОРФОЛОГИЯ СРЕДНЕАНГЛИЙСКОГО ЯЗЫКА

АННОТАЦИЯ

Период среднеанглийского языка (1100–1500 гг.) представляет собой важный этап в развитии английской морфологии, когда язык постепенно переходил от сложной древнеанглийской системы к более аналитической структуре. Социальные изменения и языковые контакты существенно ускорили этот процесс. После нормандского завоевания французский язык стал языком власти и культуры, что привело не только к заимствованиям, но и к упрощению традиционных грамматических окончаний, способствовало развитию более прозрачных моделей словоизменения. В северных регионах интенсивный контакт со скандинавскими носителями ускорил утрату падежных показателей и закрепил новые местоименные формы, такие как *they, their, them*. Существенную роль сыграли и фонетические изменения, особенно редукция безударных гласных, которая уменьшила различия между ранними формами слов. В результате существительные, прилагательные, местоимения и глаголы стали проще и регулярнее. Одновременно распространились перифрастические конструкции и вспомогательные глаголы, что отражает переход к структуре современного английского. К концу периода большинство ключевых

морфологических особенностей современного английского уже сформировалось, что делает данную эпоху одним из наиболее значимых этапов в эволюции языка.

Ключевые слова: *среднеанглийская морфология, утрата флексий, аналитическая структура, фонологическая редукция, скандинавское влияние, нормандское завоевание, грамматическое упрощение, морфологическое развитие.*

INTRODUCTION

Middle English morphology provides essential insight into how the English language underwent one of the most substantial transformations in its history. Whereas Old English expressed many grammatical relationships through inflectional endings, Middle English gradually abandoned much of this system and adopted a structure that depended more on word order and function words such as prepositions and auxiliary verbs. This transition reshaped the language at every grammatical level and laid the groundwork for the more standardized and accessible patterns of Modern English. The purpose of this paper is to examine the key factors that contributed to morphological change during the Middle English period and to describe the major structural developments affecting nouns, adjectives, pronouns, and verbs. By analyzing these features, we gain a clearer understanding of how Middle English served as a bridge between the earlier Germanic system and the later standardized form of English.

HISTORICAL AND LINGUISTIC BACKGROUND

1. Norman Conquest and French Influence. The impact of the Norman Conquest on English structure cannot be overstated. French became the language of administration and prestige, while English persisted mainly as the language of the common population. This bilingual environment caused many speakers to adopt simpler grammatical forms to facilitate communication. French, with its relatively limited inflectional system compared to Old English, indirectly encouraged the erosion of complex case endings and contributed to the rise of more transparent morphological patterns.

2. Scandinavian Contact. Prior Scandinavian settlement and the continued influence of Old Norse strongly shaped northern Middle English dialects. Because Old Norse and Old English shared similar vocabulary but differed in grammatical endings, speakers often simplified inflectional forms to make interaction easier. Scandinavian elements

played a key role in the replacement of native pronouns with they, their, them, and contributed significantly to the development of more regular verb endings.

3. Phonological Reduction. Sound changes during this period further accelerated morphological loss. The reduction of unstressed vowels to a neutral schwa (written as e) caused many distinct endings to sound alike. Once formerly different endings became phonetically identical, they no longer marked grammatical distinctions, resulting in their gradual disappearance.

4. Dialect Diversity and the Role of English Literature. The Middle English period was characterized by large dialectal variation, as there was no national standard. The East Midlands dialect eventually became more influential because it was used in trade, administration, and literature. Writers such as Geoffrey Chaucer contributed to spreading this dialect and helped shape future standard English morphology.

MAJOR FEATURES OF MIDDLE ENGLISH MORPHOLOGY

1. Middle English nouns underwent dramatic simplification. Old English had four cases and several declensional classes; Middle English reduced this system to mainly two forms: common case and genitive case.

Key developments include: Loss of grammatical gender. Adoption of -es as the dominant plural ending. Development of the possessive -es, later becoming the modern apostrophe form. Increased use of prepositions instead of case endings. While some irregular forms such as oxen and children survived, the general trend was toward much greater regularity[1, 135-138].

2. Adjectives lost nearly all their Old English inflectional endings. Agreement based on case, gender, and number disappeared:

One main adjective form was used in most contexts. Strong and weak adjective forms were no longer distinguished. Comparative and superlative forms remained but became more regular. By late Middle English, adjectives behaved similarly to those in Modern English[2, 157-164].

3. The pronoun system changed more radically than almost any other part of English grammar:

Dual forms disappeared completely. Scandinavian forms replaced Old English third-person plural pronouns. New possessive forms appeared and became standardized. Increasing clarity between singular and plural pronouns helped regularize the system.

These developments improved grammatical clarity and supported communication in multilingual environments[3, 570-579].

4. Verb morphology simplified through several important changes:

Reduction of present-tense endings to a smaller set of regular patterns. Plural forms often ended in -en or -es, depending on the region. Many strong verbs shifted to weak patterns, increasing the overall regularity. Auxiliary verbs began to play a larger role in creating tenses and aspects. These changes marked the beginning of the modern system of tense, aspect, and modal constructions[4, 57-63].

5. As inflectional endings disappeared, English relied increasingly on multi-word grammatical constructions:

Early progressive forms (I am writing) became more common. The perfect aspect developed more fully. Modal verbs such as shall, will, may, and must expanded in usage. Prepositions replaced many role markers previously conveyed by case endings. These constructions form the backbone of modern English grammar[5, 159-168].

CONCLUSION

The Middle English period represents one of the most transformative eras in the history of the English language. Over several centuries, English shifted away from an inflected Germanic system toward a highly analytic and structurally transparent grammar. Noun, adjective, pronoun, and verb systems all became more regular, while periphrastic constructions developed into essential elements of expression. By the end of the fifteenth century, most core features of Modern English morphology were already well established. This transformation not only simplified the language but also made it more flexible, adaptable, and accessible to a wider population.

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**GULXAYRI O'SIMLIGINING XALQ TABOBATIDA VA ZAMONAVIY
TIBBIYOTDA QO'LLANILISHI****Ismoilova Xojaroy Xayrullo qizi**

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Annotatsiya. Ushbu maqolada gulxayri o'simligining farmakologik, kimyoviy va biologik xususiyatlari, shuningdek, xalq tabobatida va zamonaviy tibbiyotda qo'llanish holatlari tahlil qilinadi. Tadqiqot davomida o'simlikning tarkibidagi biofaol komponentlar, ularning tibbiyotda ahamiyati, xalq tabobati tajribasining ilmiy asoslanish darajasi va fitopreparatlar ishlab chiqishdagi istiqbollari o'rganildi. Natijalar gulxayrining dorivor xususiyatlarini kengaytirish va farmatsevtik sanoatda samarali foydalanish uchun ilmiy asos yaratadi.

Kalit so'zlar: gulxayri, xalq tabobati, farmakologiya, biofaol modda, mukus, fitoterapiya.

Kirish

So'nggi yillarda tabiiy manbalardan olinadigan dorivor preparatlarga talab ortib bormoqda. Jahon sog'liqni saqlash tashkiloti (JSST) ma'lumotlariga ko'ra, dunyo aholining qariyb 80 foizi birlamchi tibbiy yordamda o'simlik asosidagi dori vositalaridan foydalanadi. O'zbekiston hududi o'zining noyob florasini bilan ajralib turadi va bu yerda 600 dan ortiq dorivor o'simlik turlari uchraydi. Shular orasida gulxayri alohida o'rinni egallaydi.

Gulxayri Shaftolidoshlar oilasiga mansub ko'p yillik o'simlik bo'lib, qadimdan Sharq tabobatida "yumshatuvchi", "balg'am ko'chiruvchi" va "yallig'lanishga qarshi" vosita sifatida ishlatilgan. Ibn Sino o'zining mashhur "Al-Qonun fi't-tibb" asarida gulxayrining ildizi yallig'lanishni kamaytiruvchi va shilliq qavatni himoya qiluvchi xususiyatga ega ekanligini qayd etgan. O'zbekiston Respublikasining "Dorivor o'simliklarni muhofaza qilish va ulardan oqilona foydalanish to'g'risida"gi qonuni (2020-yil 12-noyabr, PQ-4896) asosida dorivor o'simliklarni o'rganish, qayta ishlash va eksport qilish davlat siyosatining ustuvor yo'nalishlaridan biri sifatida belgilangan. Shu jihatdan gulxayrining xalq tabobatidagi amaliyotini zamonaviy ilmiy asosda o'rganish dolzarb hisoblanadi.

Gulxayrining kimyoviy tarkibi. Gulxayri o'simligi o'zining murakkab kimyoviy tarkibi bilan ajralib turadi va shu sababli u farmatsevtika, fitoterapiya hamda xalq tabobatida keng qo'llaniladigan dorivor manba hisoblanadi. O'simlikning ildizi, bargi, guli va urug'lari o'zaro farqli, lekin farmakologik faol komponentlarga boy.

Kimyoviy tarkibni o'rganish natijalari shuni ko'rsatadiki, gulxayri asosan shilliq polisaxaridlar, pektinlar, flavonoidlar, saponinlar, kraxmal, oqsillar, organik kislotalar, fenolik birikmalar, aminokislotalar va C vitamini (askorbin kislota) bilan boyitilgan. Gulxayrining ildizi shilliq polisaxaridlarga eng boy qism hisoblanadi. Ular o'simlik massasining 25–35 foizini tashkil etadi. Ushbu shilliq moddalarning asosiy qismini L-arabinoza, D-galaktoza, D-glyukoza, ramnoza va galakturon kislota monosaxaridlari tashkil qiladi. Ular suvda erib, yopishqoq muhit hosil qiladi va shuning uchun gulxayridan tayyorlangan damlama nafas yo'llarini qoplab, tinchlantiruvchi va yallig'lanishga qarshi ta'sir ko'rsatadi. Ildiz tarkibida shuningdek pektin moddalar (10–15%) mavjud bo'lib, ular oshqozon-ichak faoliyatini normallashtirish, detoksikasiya jarayonini kuchaytirish va shilliq qavatni himoya qilish xususiyatlariga ega. Pektinlar, ayniqsa, oshqozon-ichak kasalliklarini davolovchi preparatlar uchun muhim komponent hisoblanadi. Gulxayri ildizi va bargida flavonoidlar (kversetin, kemferol, rutin) aniqlangan. Bu moddalarning antioksidant, yallig'lanishga qarshi va immunomodulyator ta'siri mavjud. Flavonoidlar hujayralardagi erkin radikallarni neytrallaydi va to'qimalarni oksidativ stressdan himoya qiladi. O'simlikning saponinlari (asosan triterpenoid tabiatli) organizmda balg'amni suyultiruvchi, yallig'lanishni kamaytiruvchi va diuretik (siydik haydovchi) ta'sir ko'rsatadi. Shuningdek, saponinlar hujayra membranasining o'tkazuvchanligini oshirib, boshqa biofaol moddalarning so'rilishini yaxshilaydi. Bundan tashqari, gulxayri tarkibida organik kislotalar-sirka, limon, olm va vino kislota aniqlangan. Ular modda almashinuvini faollashtiradi, oshqozon shirasi sekretsiyasini me'yorlashtiradi va mikroblarga qarshi tabiiy muhit yaratadi. Gulxayri ildizining 37–40% gacha kraxmal, 2–3% oqsil, 0.8–1.5% yog' moddalari mavjud. Askorbin kislota (C vitamini) miqdori 20–40 mg/% gacha bo'lib, bu o'simlikni antioksidant manba sifatida ham qimmatli qiladi. Aminokislotalardan glutamin, asparagin, alanin va serin aniqlangan-ular to'qimalarning tiklanishida muhim rol o'ynaydi. Mineral tarkibi ham o'ziga xos: gulxayri o'simligi kaliy, kaltsiy, magniy, temir, marganets, mis, rux va fosfor tuzlariga boy. Bu elementlar yurak, jigar, qon aylanish va immun tizimi faoliyatini qo'llab-quvvatlaydi. O'simlikning guli va barglari tarkibida esa efir moylari (0,01–0,05%), antosianinlar, karotinoidlar va shakarlar aniqlangan. Efir moylari mikroblarga qarshi va tinchlantiruvchi ta'sir ko'rsatadi. Karotinoidlar esa teri sog'lig'ini saqlaydi, hujayra regeneratsiyasini faollashtiradi.

Zamonaviy fitokimyoviy tadqiqotlar gulxayrining biofaol komponentlari miqdori o'sish joyi, iqlim sharoiti, yig'im-terim davri va saqlash sharoitiga bog'liq holda o'zgarishini aniqlagan. Masalan, O'zbekistonning janubiy hududlarida

yetishtirilgan gulxayrining ildiz qismi shimoliy mintaqadagilarga nisbatan shilliq polisaxaridlarga 1,3 barobar boy bo'lishi kuzatilgan (To'xtayev va boshq., 2021). Gulxayrining kimyoviy tarkibini o'rganish uning farmakologik qiymatini belgilab beradi. Tarkibdagi polisaxaridlar va flavonoidlar o'simlikning yallig'lanishga qarshi va balg'am ko'chiruvchi ta'siriga sabab bo'lsa, saponin va pektinlar oshqozon-ichak faoliyatini normallashtirish va toksinlarni chiqarish jarayonida muhim ahamiyatga ega. Shu bois, *Althaea officinalis* zamonaviy farmatsevtika va fitoterapiya uchun murakkab biokimyoviy kompleks sifatida baholanadi.

Gulxayrining xalq tabobatida qo'llanilishi.

Gulxayri qadimdan Sharq tabobatida, xususan, O'zbekiston, Eron, Xitoy va Hindiston xalq tabobatida keng qo'llanib kelinadigan eng qadimiy dorivor o'simliklardan biridir. Tarixiy manbalarda, jumladan, Abu Ali ibn Sinoning "Al-Qonun fi't-tibb" asarida ham gulxayri o'simligi "balg'amni yumshatuvchi, og'riqni kamaytiruvchi va yaralarni bitiruvchi" vosita sifatida tavsiya etilgani qayd etilgan. Shuningdek, qadimgi yunon tabibi Dioskorid va arab olimi Ar-Roziy asarlarida ham gulxayri o'simligi turli kasalliklarni tabiiy davolashda muhim rol o'ynagani haqida ma'lumotlar mavjud. Xalq tabobatida gulxayrining ildizi, bargi, guli va urug'i tibbiy maqsadlarda ishlatiladi. Ildizi shilliq moddalarga boy bo'lib, ayniqsa, nafas yo'llari kasalliklari, bronxit, yo'tal, shamollash, laringit va o'pka yallig'lanishida keng qo'llanilgan. Ildizdan tayyorlangan damlama yoki qaynatma ichilganda u nafas yo'llarining shilliq qavatini qoplaydi, yallig'lanishni kamaytiradi hamda balg'am ajralishini osonlashtiradi. Shu sababli gulxayri xalq orasida "yo'tal ildizi" yoki "balg'am ko'chiruvchi o'simlik" nomlari bilan mashhur.

Shuningdek, gulxayri ildizining qaynag'idan oshqozon-ichak kasalliklari, gastrit, kolit va yaralarda foydalanilgan. Shilliq moddalar oshqozon devorini qoplab, kislotali muhit ta'sirini kamaytiradi, og'riqni yengillashtiradi va shifo jarayonini tezlashtiradi. Shu xususiyati bilan u xalq tabobatida "yumshatuvchi va tinchlantiruvchi" o'simlik sifatida qadrlangan. O'simlik bargi va gullari esa teri kasalliklari, kuyish, yallig'lanish va yoriqlarni davolashda tashqi vosita sifatida ishlatilgan. Bargi maydalanib, yara yoki kuyganga surtma sifatida qo'llanilgan bo'lib, bu joydagi yallig'lanishni kamaytirgan va to'qimalarning tez tiklanishiga yordam bergan. Xalq tabobatida gulxayri ko'pincha kompleks o'simlik aralashmalarining tarkibida ham ishlatilgan. Masalan, yo'talga qarshi damlamalarda gulxayri ildizi qizilmiya ildizi, yalpiz, zanjabil va chuchukmiya bilan aralashtirilgan; oshqozon kasalliklarida esa shuvoq, romashka bilan birgalikda qo'llanilgan. Bu o'simliklar o'zaro sinergik ta'sir ko'rsatib, davolash samaradorligini oshirgan.

Gulxayri xalq tabobatida ayollar salomatligi uchun ham foydali vosita sifatida ishlatilgan. Xususan, hayz davridagi ogʻriqlarni kamaytirish, bachadon yalligʻlanishini davolash, sut kelishini kuchaytirish maqsadida gulxayri ildizi damlamasi yoki bargi qaynatmasi isteʼmol qilingan. Bu tajriba keyinchalik zamonaviy tibbiyotda oʻsimlikning gormon muvozanatini meʼyorda ushlab turuvchi va yalligʻlanishga qarshi tabiiy taʼsir koʻrsatishi bilan izohlanmoqda. Bundan tashqari, xalq tabobatida gulxayri urugʻidan tayyorlangan damlama buyrak va peshob yoʻllari kasalliklarida, shuningdek, organizmni umumiy tozalovchi vosita sifatida qoʻllanilgan. Uning yengil diuretik (siydik haydovchi) xususiyati buyrakdagi tuz va toksinlarni chiqarishga yordam bergan. Ayrim hududlarda gulxayri ildizi suyuqligidan bolalar uchun tinchlantiruvchi va yoʻtalga qarshi sirop tayyorlangan, bu esa oʻsimlikning nojoʻya taʼsiri deyarli yoʻqligini koʻrsatadi.

Oʻzbekiston, Tojikiston, Qozogʻiston va Markaziy Osiyoning boshqa hududlarida gulxayri oʻsimligidan foydalanish usullari asrlar davomida xalq ogʻzaki tajribasi orqali shakllangan. Ayniqsa, Oʻzbekiston xalq tabobatida gulxayridan tayyorlangan shilliq damlama shamollash, yoʻtal, bronxit va tomoq ogʻrigʻiga qarshi eng samarali tabiiy vositalardan biri hisoblanadi. Oʻsimlikning qaynatmasi sovutilib, asal yoki limon bilan aralashtirib ichilganda, u nafaqat yoʻtalni yumshatadi, balki immun tizimini mustahkamlaydi.

Bugungi kunda xalq tabobati tajribasida qoʻllanilgan ushbu usullar zamonaviy farmakologiya tomonidan ham ilmiy asoslab berilmoqda. Tadqiqotlar shuni koʻrsatadiki, gulxayri tarkibidagi mukus polisaxaridlari nafaqat yalligʻlanishni kamaytiradi, balki organizmning himoya tizimini ragʻbatlantiradi. Shuning uchun xalq tabobatida shakllangan bu tajribalar, aslida, bugungi zamonaviy fitoterapiya va farmatsevtik yondashuvlar uchun mustahkam ilmiy asos boʻlib xizmat qilmoqda.

Xulosa qilib aytganda, gulxayrining xalq tabobatidagi ahamiyati uning tabiiy, xavfsiz va koʻp qirrali shifobaxsh xususiyatlariga asoslanadi. U oʻtmishda boʻlgani kabi, bugungi kunda ham inson salomatligini saqlashda, ayniqsa, shamollash, nafas yoʻllari, teri va oshqozon kasalliklarida samarali, arzon va ekologik toza tabiiy vosita sifatida oʻz ahamiyatini yoʻqotmagan. Zamonaviy biotibbiyotda gulxayri oʻsimligi oʻzining farmakologik faolligi, tarkibidagi tabiiy biofaol komponentlari va ularning terapevtik xususiyatlari bilan chuqur oʻrganilgan dorivor oʻsimliklardan biridir. Soʻnggi yillarda oʻtkazilgan koʻplab klinik va laborator tadqiqotlar ushbu oʻsimlikning xalq tabobatida kuzatilgan davolovchi xususiyatlarini ilmiy jihatdan tasdiqlab bermoqda.

Birinchidan, gulxayrining asosiy faol moddalari-mukus polisaxaridlari, flavonoidlar va saponinlar-inson organizmida kompleks fiziologik ta'sir ko'rsatadi. Mukus polisaxaridlari, o'simlikning ildiz va barglarida 25–35% gacha miqdorda to'planadi, ular gidrofil xususiyatga ega bo'lib, suv bilan ta'sirlashganda himoya qoplama hosil qiladi. Shu sababli, bu moddalar nafas yo'llari va oshqozon-ichak shilliq qavatini himoya qilish, yallig'lanishni kamaytirish va og'riqni yengillashtirishda muhim ahamiyat kasb etadi. Shuningdek, mukus moddalari shilliq qavatdagi retseptorlarni yumshatib, qichishish va quruqlik hissini kamaytiradi, bu esa bronxit, yo'tal va tomoq yallig'lanishida ijobiy terapevtik natija beradi.

Ikkinchidan, flavonoid birikmalar-asosan kversetin, izokversitrin, kemferol va apigenin-kuchli antioksidant va yallig'lanishga qarshi ta'sir ko'rsatadi. Ular organizmda erkin radikallarni neytrallab, hujayra membranalarini oksidlovchi stressdan himoya qiladi. JSST monografiyasiga (2022) ko'ra, gulxayrining flavonoid ekstraktlari prostaglandin E₂ sintezini kamaytirib, yallig'lanish jarayonini 30–45% gacha pasaytirishi aniqlangan. Shu bilan birga, flavonoidlarning immunomodulyator xususiyati ham aniqlanib, ular limfotsitlar va makrofaglar faolligini oshiradi, bu esa organizmning infeksiyalarga qarshi tabiiy himoya mexanizmini kuchaytiradi.

Uchinchidan, saponinlar gulxayri ildizining muhim komponentlaridan biri bo'lib, ular balg'am ko'chiruvchi, yallig'lanishga qarshi va antiseptik ta'sirga ega. Ularning farmakodinamik mexanizmi bronxial bezlarda sekretsiya faoliyatini kuchaytirish, shilliqni suyultirish va nafas yo'llarini tozalash jarayonini tezlashtirish bilan bog'liq. Shu sababli, gulxayri ekstraktlari "Mukaltin", "Bronchotil", "Altey syrup" kabi preparatlarda asosiy faol modda sifatida ishlatiladi. Ushbu dorilar yuqori nafas yo'llari kasalliklari-bronxit, laringit, faringit va quruq yo'talni davolashda keng qo'llaniladi.

Tibbiy tadqiqotlar, xususan Journal of Ethnopharmacology (Bara et al., 2021) va Phytomedicine (Hassan et al., 2023) jurnallarida chop etilgan maqolalarda, gulxayri ekstraktining antimikrob va antifungal ta'siri ham isbotlangan. Tadqiqot natijalariga ko'ra, gulxayri ildizi ekstrakti turli mikroorganizmlarning o'sishini 60-80% gacha to'xtatgan. Bu natijalar gulxayrining tabiiy antibiotik xususiyatga ega ekanligini ko'rsatadi va u farmatsevtik vositalarda tabiiy yallig'lanishga qarshi komponent sifatida qo'llanilishi mumkinligini asoslaydi. Shuningdek, zamonaviy eksperimental tadqiqotlar gulxayri ekstraktining immunostimulyator xususiyatini ham qayd etgan. Li va Zhang (2020) tomonidan Frontiers in Pharmacology jurnalida chop etilgan maqolada, gulxayri ildizidagi polisaxaridlar immun tizimining hujayra darajasida faollashuviga sabab bo'lishi, interferon sintezini rag'batlantirishi va fagotsitoz

jarayonini tezlashtirishi isbotlangan. Bu esa gulxayrining nafaqat simptomatik, balki patogenetik davolash vositasi sifatida ham qo'llanilishi mumkinligini ko'rsatadi. Bundan tashqari, gulxayrining dermatologik ahamiyati ham keng o'rganilgan. Uning ekstraktleri teri kasalliklarida-ekzema, dermatit, kuyish va yara bitishida-yallig'lanish jarayonini kamaytiruvchi va epitelizatsiyani tezlashtiruvchi xususiyatlarga ega. European Journal of Herbal Medicine (2022) ma'lumotlariga ko'ra, gulxayrining suvli ekstrakti bilan davolangan bemorlarda yaralar bitish tezligi nazorat guruhiga nisbatan 1,8 barobar yuqori bo'lgan. Farmatsevtika sanoatida gulhayri ekstraktleri nafaqat dori sifatida, balki yordamchi modda-stabilizator, qoplovchi va emulsifikator sifatida ham qo'llaniladi. Uning shilliq moddalari ko'plab sirop va malhamlarning viskozligini ta'minlaydi, bu esa preparatning ta'sir davomiyligini oshiradi. Shu boisdan, gulxayri o'simligi farmatsevtik texnologiyada tabiiy bioaktiv polimer sifatida muhim rol o'ynaydi. Umuman olganda, zamonaviy tibbiy tadqiqotlar gulhayri o'simligi xalq tabobatida asrlar davomida ishlatib kelingan davo shakllarining ilmiy asoslanganligini to'liq tasdiqlaydi. U nafaqat simptomatik vosita, balki yallig'lanish, infeksiya va immun tizim kasalliklarida ko'p yo'nalishli farmakologik ta'sirga ega kompleks bioaktiv manba sifatida qaralmoqda. Shu boisdan, gulxayrining tibbiyotdagi o'rni nafaqat an'anaviy shifokorlik amaliyotida, balki zamonaviy klinik farmakologiya va fitoterapiyada ham dolzarb ilmiy yo'nalish sifatida e'tirof etiladi.

XULOSA

O'tkazilgan ilmiy tahlillar natijalari shuni ko'rsatadiki, gulxayri o'simligi xalq tabobatida qadimdan keng qo'llanilgan, hozirgi kunda esa uning biologik faol komponentlari zamonaviy ilmiy yondashuv orqali tasdiqlanmoqda. Tadqiqot jarayonida o'simlik tarkibidagi mukus, flavonoidlar, saponinlar, pektinlar va askorbin kislotasi kabi biofaol moddalarning mavjudligi aniqlanib, ularning har biri inson organizmiga turli fiziologik ta'sirlar ko'rsatishi isbotlandi.

Gulxayrining yallig'lanishga qarshi, balg'am ko'chiruvchi, og'riqni kamaytiruvchi, teri regeneratsiyasini tezlashtiruvchi va immun tizimini mustahkamlovchi xususiyatlari xalq tabobatidagi ko'p asrlik amaliyot bilan hamohangdir. Ayniqsa, nafas yo'llari kasalliklarida (bronxit, yo'tal, laringit) gulxayri ildizi ekstrakti yuqori samaradorlik ko'rsatgani sababli "Mukaltin" tabletkasi, "Gulhayri siropi", "Bronchotil" kabi dori vositalarining tarkibiga kiritilgan. Shuningdek, gulxayridan tayyorlangan shilliq moddalarga boy preparatlar oshqozon-ichak kasalliklarida himoya qoplovchi va yallig'lanishni kamaytiruvchi vosita sifatida farmakologik jihatdan o'z isbotini topgan. Bu jihatdan gulhayri o'simligi fitoterapiyada universal komponent hisoblanadi. Gulxayrining farmatsevtika,

kosmetologiya va oziq-ovqat sanoatida qo'llanish doirasi tobora kengaymoqda. Masalan, uning biofaol ekstraktlari tabiiy antioksidant sifatida kremlar, toniklar va shampunlar ishlab chiqarishda ishlatilmoqda. Bu esa o'simlikning iqtisodiy qiymatini oshirib, dorivor xomashyodan tijoriy foyda olish imkoniyatini kengaytiradi.

Tadqiqot natijalari shuni ko'rsatadiki, gulxayrining xalq tabobatida sinovdan o'tgan an'anaviy qo'llanilishi ilmiy jihatdan asosli bo'lib, zamonaviy farmakologiya tomonidan tasdiqlangan. Shu bilan birga, xalq tabobatida foydalaniladigan shakllar (damlama, qaynatma, sirop)ni standartlashtirish, dozalash va klinik jihatdan sertifikatlash zarurati mavjud. Kelgusidagi ilmiy izlanishlar gulxayrining quyidagi yo'nalishlarda yanada chuqur o'rganilishini talab qiladi:

- o'simlikdagi mukus polisaxaridlarining molekulyar strukturasi va ularning yallig'lanish jarayonlariga ta'sir mexanizmini aniqlash;

- gulxayri biofaol komponentlarini nanotexnologik asosda ajratib olish va ularni dori vositalari bilan sinergik qo'llash;

- o'simlikning genetik xilma-xilligini saqlash, agrotexnik sharoitda yuqori sifatli xomashyo olish usullarini ishlab chiqish;

- xalq tabobati tajribasini zamonaviy farmakoeconomik tahlil bilan uyg'unlashtirish;

- mahalliy sharoitda ekologik toza dorivor plantatsiyalar tashkil etish orqali eksport salohiyatini oshirish.

Gulxayrining xalq tabobatidagi o'rni bilan bir qatorda, u zamonaviy farmatsevtik tibbiyotda ham istiqbolli yo'nalish hisoblanadi. Uning tarkibidagi tabiiy birikmalar sun'iy sintez qilingan dorilar bilan solishtirganda nojo'ya ta'sirlarga ega emasligi, ekologik xavfsizligi va yuqori terapevtik samaradorligi bilan ajralib turadi. Shu sababli, O'zbekiston sharoitida gulhayri asosida milliy fitopreparatlar ishlab chiqish, mahalliy dorivor xomashyodan import o'rnini bosuvchi vositalar tayyorlash va ularni xalqaro bozorlarga chiqarish dolzarb masaladir. Umuman olganda, o'tkazilgan tadqiqotlar gulhayri o'simligining xalq tabobati va zamonaviy tibbiyot o'rtasida ilmiy asosli integratsiyani ta'minlash imkoniyatini namoyon etdi. Bu o'simlikni yanada chuqur o'rganish, xalq tabobati tajribasini ilmiy asoslash va yangi farmatsevtik innovatsiyalar yaratishda muhim manba sifatida qaraladi.

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Abstract

The Early New English period (1500–1700) represents a crucial stage in the development of the English language, marked by a rapid expansion of its vocabulary. During this time, English absorbed a large number of words from Latin and Greek due to the influence of the Renaissance, as well as from modern European languages such as French, Italian, Spanish, and Dutch through trade and cultural exchange. At the same time, new words were created by native processes such as affixation, compounding, and semantic change. The invention of the printing press and the rise of literature, especially the works of William Shakespeare and the King James Bible, also contributed to the enrichment and standardization of the language. As a result, by the end of the 17th century, English had evolved into a more expressive and flexible language, ready to meet the cultural and intellectual needs of the modern world.

Key words: Early New English, vocabulary development, Renaissance, borrowing, word formation, standardization.

Introduction

The period known as Early New English (approximately 1500–1700) marks one of the most dynamic and influential stages in the development of the English language. During these two centuries, English underwent major changes in pronunciation, grammar, and especially in vocabulary.

This era coincided with the Renaissance, the Reformation, and the Age of Exploration, all of which expanded people's knowledge of the world and introduced countless new ideas and terms. As a result, the English lexicon grew rapidly, setting the foundation for the language we use today.

Discussion

Several important social and cultural movements deeply affected English vocabulary in this period. The Renaissance inspired renewed interest in ancient Greek and Latin literature, science, and philosophy. Scholars began to borrow classical terms to express new academic and artistic ideas.[1] The Reformation brought religious and political transformations. Translating the Bible into English, especially the King James

Version (1611), helped to standardize vocabulary and spread English to wider groups of society.[2]

The Age of Exploration and early colonial expansion introduced English speakers to new lands, plants, animals, and cultures. This contact brought many foreign words into English, enriching the language with global influences. The invention of the printing press by William Caxton in 1476 also played a key role, helping to unify spelling and promote a common written standard based on the London dialect.[3]

Classical Borrowings. The revival of classical learning led to a massive influx of Latin and Greek words, especially in the fields of science, philosophy, art, and education.

Examples include radius, hypothesis, element, literature, system, method, theory, and library. These borrowings gave English a more intellectual and international character.

Borrowings from Modern European Languages: Cultural and trade relations with continental Europe brought in many new words: French: figure, courage, ballet, police, fashion, machine. Italian: opera, piano, balcony, fresco, sonnet, volcano. Spanish and Portuguese: tomato, tobacco, banana, cocoa, cargo, hurricane. Dutch: skipper, yacht, cookie, dock, landscape. These words reflect the growing international influence of England during this period:

Native Word Formation. English also expanded by creating new words from its own resources through affixation, compounding, and semantic change. Examples include: affixation: happiness, government, rebuild, friendship

compounding: schoolboy, blackbird, breakfast semantic change: journey (originally “a day’s travel”) came to mean any trip; meat narrowed from “food in general” to “animal flesh.” Early New English literature had a lasting impact on vocabulary development.

Writers such as William Shakespeare enriched the language with hundreds of new words and expressions, many of which are still in use.[4] Words like majestic, lonely, critical, generous, gloomy, and assassination are believed to have been first recorded or popularized by him. The translators of the King James Bible also helped to spread a consistent and poetic form of English, introducing many idioms still recognized today.

The spread of printing and education encouraged more uniform spelling and usage. London English gradually became the basis of the emerging standard, although complete standardization would not be achieved until the 18th century. Nevertheless, the Early New English period laid the foundation for this process, stabilizing many forms that continue into Modern English.[5]

Conclusion

The Early New English period was a turning point in the growth of English vocabulary. The combination of classical borrowings, European influences, native creativity, and global exploration transformed English into a rich, expressive, and flexible language.

By the end of the 17th century, English had developed most of the core vocabulary and linguistic features that define the language today. It was ready to become not only the language of England, but a language of science, literature, and international communication.

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**THE ROLE OF NATIONAL VALUES AND MODERN TRENDS IN THE
FORMATION OF A CREATIVE ENVIRONMENT IN HIGHER ART
EDUCATION INSTITUTIONS****Saidova Sayyora Djurayevna**

Toshkent iqtisodiyot va texnologiyalar
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Annotation: This article provides a scientific analysis of the process of forming a creative environment in art education institutions through the harmonious integration of national values and modern educational trends. The article highlights the role and importance of traditional and innovative approaches in developing students' aesthetic taste, national identity, and creative thinking. It also scientifically substantiates the significance of integrating national heritage, folk oral art, cultural traditions, and digital technologies into the educational process. Furthermore, the article presents conclusions about the role of innovative methods in fostering the spiritual and aesthetic development of youth, as well as explores ways to modernize art education based on digital technologies, interactive methods, and international experience.

Keywords: art education, culture, creative environment, national values, modern trends, innovation, aesthetic education.

**SAN'AT OLIY TA'LIM MUASSASALARIDA IJODIY MUHITNING
SHAKLLANISHIDA MILLIY QADRIYATLAR VA ZAMONAVIY
TENDENSIYALARNING O'RNI**

Annotatsiya: Ushbu maqolada San'at oliy ta'lim muassasalarida ijodiy muhitni shakllantirish jarayonida milliy qadriyatlar bilan zamonaviy ta'lim tendensiyalarining uyg'unlashuvi ilmiy tahlil qilinadi. Maqolada talabalarning estetik didi, milliy o'zlikni anglash va ijodiy tafakkurini rivojlantirishda an'anaviy va innovatsion yondashuvlarning o'rni va ahamiyati va ta'lim jarayonida milliy meros, xalq og'zaki ijodi, madaniy an'analar va raqamli texnologiyalar uyg'unligining ahamiyati ilmiy asosda yoritilgan. Shuningdek, maqolada yoshlarning ma'naviy kamoloti, estetik didi va ijodiy salohiyatini rivojlantirishda innovatsion metodlarning o'rni haqida xulosalar va raqamli texnologiyalar, interfaol metodlar va xalqaro tajribalar asosida san'at ta'limini modernizatsiya qilish yo'llari ko'rib chiqiladi.

Kalit soʻzlar: Sanʼat taʼlimi, madaniyat, ijodiy muhit, milliy qadriyatlar, zamonaviy tendensiyalar, innovatsiya, estetik tarbiya.

РОЛЬ НАЦИОНАЛЬНЫХ ЦЕННОСТЕЙ И СОВРЕМЕННЫХ ТЕНДЕНЦИЙ В ФОРМИРОВАНИИ ТВОРЧЕСКОЙ СРЕДЫ В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ ИСКУССТВА

Аннотация: В данной статье научно анализируется процесс формирования творческой среды в учреждениях художественного образования в контексте гармоничного сочетания национальных ценностей и современных образовательных тенденций. В статье раскрывается роль и значение традиционных и инновационных подходов в развитии эстетического вкуса, национального самосознания и творческого мышления студентов. Также научно обоснована важность интеграции национального наследия, народного устного творчества, культурных традиций и цифровых технологий в образовательный процесс. Кроме того, в статье рассматриваются выводы о роли инновационных методов в духовном и эстетическом воспитании молодежи, а также пути модернизации художественного образования на основе цифровых технологий, интерактивных методов и международного опыта.

Ключевые слова: художественное образование, культура, творческая среда, национальные ценности, современные тенденции, инновации, эстетическое воспитание.

KIRISH. Har bir millatning taraqqiyoti uning oʻz milliy oʻzligini anglash darajasi bilan chambarchas bogʻliqdir. Ijodiy muhitning shakllanishida milliy qadriyatlar va zamonaviy tendensiyalar uygʻunligi oʻtmish merosi va kelajak gʻoyalari orasidagi muvozanatni taʼminlaydi, bu esa ijodkorlarga milliy oʻziga xoslikni saqlagan holda dunyo miqyosidagi ijodiy yutuqlarga erishish imkonini beradi. Ushbu uygʻunlik milliy madaniyatning global innovatsiyalar bilan integratsiyalashuvining oʻrni orqali madaniy kontentning boyishiga va sanʼat, adabiyot hamda fanning yangi yoʻnalishlarining paydo boʻlishiga yordam beradi. Bugungi globallashuv jarayonida yosh avlodni milliy qadriyatlar asosida tarbiyalash bilan birga, ularni zamonaviy dunyoqarash, yangicha tafakkur va ijodiy yondashuv ruhida shakllantirish taʼlim tizimining muhim vazifasiga aylanmoqda va raqamli transformatsiya davrida sanʼat taʼlimi tizimida ijodiy muhitni shakllantirish masalasi dolzarb ahamiyat kasb etmoqda. Sanʼat taʼlimi nafaqat kasbiy mahoratni rivojlantiradi, balki yoshlarning milliy

qadriyatlarga hurmatini oshiradi va ularni zamonaviy dunyoqarashga tayyorlaydi. Shu bois, ta'lim jarayonida **qadriyatlar** bilan **zamonaviy tendensiyalarning** uyg'unligi ta'lim samaradorligini oshirishning asosiy omillaridan biridir [1]. Milliy qadriyatlar ijodkorlar uchun ma'naviy tayanch vazifasini o'taydi, ularga o'z ijodlari uchun asosiy mavzu, g'oyalar va ilhom manbasini taqdim etadi. Qadriyatlar ijodiy mahsulotning o'ziga xosligini ta'minlaydi, uni global madaniyatdan farqlaydi va milliy madaniyatning davomiyligiga hissa qo'shadi va milliy qadriyatlar ko'pincha ijtimoiy, axloqiy va ma'naviy muammolarni ko'taradi, bu esa ijodkorlarning jamiyatga ta'sirini oshiradi. O'zbekiston Respublikasi Prezidenti Sh.M.Mirziyoevning ta'kidlashicha, "Milliy g'oya, milliy qadriyatlar — bu bizning ruhiy tayanchimiz, ularni asrash va yangilash – har bir soha vakilining burchidir" [2]. Shu bois, an'anaviy va innovatsion ta'lim metodlarini uyg'unlashtirish yoshlarning ijodiy tafakkurini rivojlantirishda asosiy yo'nalish hisoblanadi. Ijodiy tafakkur — bu yangicha fikrlash, yangi g'oya va shakllarni yaratish qobiliyatidir. Bu jarayon o'z-o'zini anglash, mustaqil tahlil va estetik idrok bilan bog'liq.

TAHLIL VA MUHOKAMA. San'at, adabiyot va madaniyat yo'nalishlarida o'quvchilarni ijodiy fikrlashga yo'naltirish, o'qituvchining shaxsiy ijodiy namunasi va muhitning erkinligi bilan chambarchas aloqadordir. Zamonaviy ta'limda ijodiy tafakkurni rivojlantirish uchun:

- "Design thinking" va STEAM yondashuvlari,
- interfaol mashg'ulotlar (debat, loyiha, tahlil, refleksiya),

media va raqamli san'at vositalaridan foydalanish muhim hisoblanadi. Ijodiy muhit — bu talabalarning estetik, badiiy va intellektual salohiyatini yuzaga chiqaruvchi psixologik-pedagogik sharoitlar majmuasidir [3]. Bu muhitda o'qituvchi faqat bilim beruvchi emas, balki ijodkorlikni rag'batlantiruvchi yetakchi sifatida namoyon bo'ladi. O'zbekiston Respublikasi Prezidentining "Ta'lim-tarbiya tizimini yanada takomillashtirish to'g'risida"gi qarorlarida ijodiy yondashuvni rivojlantirish, milliy merosga asoslangan innovatsion ta'lim modelini yaratish ustuvor vazifa sifatida belgilangan [4]. An'anaviy yondashuvlar – bu xalq pedagogikasi, ma'naviy meros, urf-odatlar va tarixiy tajribaga asoslangan ta'lim usullaridir. Ular quyidagi afzalliklarga ega:

- shaxsda milliy g'urur va madaniy identifikatsiyani mustahkamlaydi;
- ta'lim jarayonini ma'naviy jihatdan boyitadi;

- tarixiy xotira va davomiylikni ta'minlaydi.

Masalan, xalq ertaklari, maqollar, musiqiy meros, xalq amaliy san'ati — yosh avlodda ijodiy tasavvurni uyg'otuvchi kuchli vositalardir. Milliy qadriyatlar xalqning tarixiy xotirasi, madaniy an'analari va san'at merosida mujassamdir. San'at ta'limida qadriyatlarni o'rganish yosh avlodda milliy o'zlikni anglash, badiiy did, va axloqiy mas'uliyatni shakllantiradi. Masalan, o'zbek xalq musiqasi, amaliy san'ati, miniatyura, naqsh, va teatr san'atini o'quv jarayoniga singdirish talabalarda milliy g'ururni oshiradi va zamonaviy ijodiy ifodani boyitadi [5]. Zamonaviy ta'lim tizimida interfaol metodlar, media texnologiyalar, va raqamli san'at vositalaridan foydalanish ijodiy jarayonni samarali qiladi. Masalan, "flipped classroom" (teskari sinf) modeli, STEAM (Science, Technology, Engineering, Art, Mathematics) yondashuvi, hamda virtual galereyalar orqali ta'lim jarayonini boyitish madaniyat ta'limida yangi imkoniyatlar yaratmoqda [6]. Bu orqali talabalar nafaqat an'anaviy badiiy ifodalarni o'rganadilar, balki global san'at tendensiyalarini tahlil qilishni ham o'zlashtiradilar. Ta'limda qadriyatlar va zamonaviy metodlarning uyg'unligi o'qituvchi va talaba o'rtasidagi subyektiv hamkorlikni mustahkamlaydi. Bu uyg'unlik — ijodkor shaxsning ma'naviy yetukligi, estetik tafakkuri, va innovatsion fikrlashini shakllantiradi. Shuning uchun san'at ta'lim muassasalarida milliy madaniyatni asrab-avaylash bilan bir qatorda, uni zamonaviy g'oyalar bilan boyitish muhimdir [7].

Innovatsion yondashuvlar zamonaviy texnologiyalar, interfaol platformalar va raqamli madaniyat asosida shakllanadi.

Bu yondashuvlar quyidagi natijalarni beradi:

- o'quvchilarda mustaqil fikrlash va ijodiy qaror qabul qilish ko'nikmalarini rivojlantiradi;
- virtual muzeylar, onlayn galereyalar, multimedia darslar orqali san'at ta'limini yanada jozibador qiladi;
- xalqaro hamkorlik va tajriba almashish imkoniyatini yaratadi.

Shunday qilib, hozirgi kunda innovatsion metodlar milliy madaniyatni global kontekstda ilgari surish vositasiga aylanmoqda. An'anaviy va innovatsion yondashuvlarning uyg'unligi ta'lim tizimining barqaror rivojlanishini ta'minlaydi. Bu uyg'unlik orqali:

- milliy qadriyatlar zamonaviy g'oyalar bilan boyitiladi;
- yoshlar global madaniyat jarayonlarida o'z milliy o'zligini yo'qotmasdan faol ishtirok etadi;
- ijodiy tafakkur ma'naviylik va yangilikka intilish bilan uyg'un holda shakllanadi [8].

Zamonaviy tendensiyalar, shu jumladan yangi texnologiyalar, ijodiy jarayonni boyitadi, yangi ijodiy vositalar, shakllar va ifoda usullarini yaratadi va global madaniyat bilan aloqani kuchaytiradi, bu esa ijodkorlarga xalqaro tajribadan o'rganish, hamkorlik qilish va o'z ijodlarini xalqaro miqyosda taqdim etish imkoniyatini beradi. Zamonaviy tendensiyalar milliy ijodiy mahsulotlarni ommaviy madaniyatga kirib borishiga yordam beradi, bu esa uning kengroq auditoriya tomonidan qabul qilinishini ta'minlaydi. Milliy qadriyatlarni zamonaviy tendensiyalar bilan uyg'unlashtirish orqali ijodkorlar o'z ishlariga milliy ruhni olib kirib, bir vaqtda o'sha ishni zamonaviy uslubda yaratishlari mumkin. Ushbu uyg'unlik mahsulotlarni ham mahalliy, ham xalqaro auditoriya uchun qiziqarli qiladi, chunki u milliy o'ziga xoslikni saqlagan holda zamonaviy tendensiyalar bilan uyg'unlashadi, bunday uyg'unlik milliy madaniyatning rivojlanishiga yordam beradi va uni jahon madaniyati bilan raqobatlashishga qodir qiladi va uning o'ziga xosligini saqlab qoladi.

XULOSA. Xulosa qilib shuni aytishimiz mumkinki, San'at oliy ta'lim muassasalarida ijodiy muhitni shakllantirish jarayonida qadriyatlar va zamonaviy tendensiyalar uyg'unligini ta'minlash yoshlarning ijodiy salohiyatini rivojlantiradi, ularni milliy va umuminsoniy qadriyatlarga hurmat ruhida tarbiyalaydi. Shu bois, ta'lim tizimida innovatsion metodlarni joriy etish bilan bir qatorda, milliy madaniyat ildizlariga tayanish — kelajak avlodning badiiy tafakkuri va ijodiy fikrlashini shakllantirishning muhim sharti hisoblanadi. Milliy o'zlikni anglash va ijodiy tafakkurni rivojlantirishda an'anaviy hamda innovatsion yondashuvlar bir-birini to'ldiruvchi ikki muhim ustunlikdir. An'anaviy qadriyatlar — ma'naviy asos, innovatsion metodlar esa — zamonaviy ifoda vositasidir. Ularning uyg'unligi natijasida bugungi kunda barkamol, ijodkor, raqobatbardosh va milliy ruhga sodiq shaxsni tarbiyalash mumkin.

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**BASED ON THE HACCP SYSTEM, STUDY THE CAUSES OF IRON
DEFICIENCY IN SCHOOLCHILDREN**

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Abstract: The symptoms of iron deficiency in children are different, precisely, the development of iron deficiency anemia, headaches, dizziness, decreased concentration and memory, slowing mental and physical development, extremely high levels of excitability, and poor cognitive activity. These symptoms lead to a lag in psychomotor development, an increase in overall morbidity, and a higher risk of developing a malignant tumor. According to data collected in recent years, about 1.7 billion people suffer from anemia.

Keywords: iron deficiency anemia, school-age children, consumption, diet, hygienic assessment.

**НА ОСНОВЕ СИСТЕМЫ НАССР ИЗУЧИТЬ ПРИЧИНЫ ДЕФИЦИТА
ЖЕЛЕЗА У ШКОЛЬНИКОВ**

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Аннотация: Симптомы дефицита железа у детей различны, точнее это развитие железодефицитной анемии, головные боли и головокружение, снижение концентрации внимания и памяти, замедление умственного и физического развития, чрезвычайно высокий уровень возбудимости и плохая когнитивная активность. Эти симптомы приводят к отставанию в психомоторном развитии, увеличению общей заболеваемости и более высокому риску развития злокачественной опухоли. Согласно данным, собранные за последние годы, около 1,7 миллиарда человек страдают от анемии.

Ключевые слова: железодефицитная анемия, дети школьного возраста, потребление, рацион, гигиеническая оценка.

Relevance of the topic: In the current era of new development, it is extremely important to improve the health status of the population of all age groups, prevent nutrition-related diseases, as well as malnutrition leading to iron deficiency, gastrointestinal diseases, obesity and diabetes. These problems are largely associated with impaired micronutrition status in clients. According to the World Health Organization (WHO), more than 28-32% of the world's population suffers from iron deficiency (ID), and most of them are children and women. The incidence of anemia largely depends on lifestyle, diet and the quality of available medical care.

According to WHO, about 3.7 billion people suffer from latent iron deficiency, and 1.7 billion from overt anemia. According to recent data, about 1.7 billion people suffer from anemia, which is present in all countries, but its prevalence depends on socio-economic conditions, income levels and dietary habits.

Risk groups include newborns, young children, adolescents, women of childbearing age, and pregnant and nursing mothers.

Assessing the nutrition and macro- and micronutrient status of schoolchildren, as well as the prevention of related diseases, are important problems in the field of preventive medicine. Research is being conducted around the world to optimize the effective treatment of students with iron deficiency through a healthy diet and the use of local plant foods.

In our country, with the correct implementation of the international HACCP system, the development of the medical field based on world standards, including the diagnosis and treatment of nutrition-related diseases, as well as the prevention of consequences, becomes a priority. Based on these objectives, providing the population with high-quality food and compliance with healthy eating standards, as well as optimizing the treatment of students with iron deficiency using local food and vegetables remain relevant.

Goal: The goal is to properly implement and optimize the treatment of iron deficiency anemia among schoolchildren through the consumption of food, fruits and herbal products using the international HACCP system. It is also planned to develop comprehensive hygiene measures to prevent iron deficiency.

Object of study: Pupils of the 12th school living in rural conditions of the Samarkand region were selected as the object of study for a hygienic assessment of the daily diet in different seasons of the year.

Results of the study: During the study of the health status of schoolchildren, their physical development and morbidity levels, all students who underwent a medical examination were monitored using the international HACCP system. The results obtained showed the presence of various changes in the diet of schoolchildren, which is associated with a disordered eating pattern.

About 22-26% of monitored students skip breakfast, and 30-38% eat only sweet tea, bread with butter or margarine and simple confectionery for breakfast. Approximately 23-26% of students eat milk porridge, sweet tea, bread with butter or margarine for breakfast, and 14-20% eat home-cooked meals with sweet tea and bread for dinner.

Students' breakfast does not meet hygienic requirements, since dairy products (milk, milk porridge, cream, cottage cheese, cheese) are consumed in insufficient quantities, which can lead to the development of diseases. This negatively affects schoolchildren's performance during the day and their learning of educational material.

Approximately 75-80% of students receive a second breakfast at school, which includes buns or a variety of baked goods. On some days they may also eat samosas with pumpkin, potatoes or meat, as well as curd and nut buns. Coca-Cola, Fanta and other carbonated drinks are often consumed as drinks, which does not meet hygienic requirements.

During lunch, students often eat fast food, which also does not meet sanitary standards. Second-shift students eat lunch at home, and often have tea, biscuits or carbonated drinks at school. First-shift students also sometimes have lunch at home without eating time.

It is important to note that the discrepancy between the diet established at home and the norms and hygienic requirements can negatively affect not only the cellular composition of the diet, but also the functional state, including the formation of teeth, and also contribute to the development of iron and iodine deficiency.

The conclusion can be drawn that in order to prevent anemia among children of preschool and school age, as well as in future segments of the population, it is

necessary to fully satisfy the nutritional needs of schoolchildren both at home and at school. This includes ensuring there is enough variety of food throughout the day.

In our country, the development of the medical field must meet international standards, which includes the diagnosis, treatment and prevention of diseases associated with poor nutrition and impaired nutritional status.

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**"THE ROLE OF UNBALANCED NUTRITION IN THE
DEVELOPMENT OF DISEASES IN CHILDREN."**

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Abstract: In recent years, there has been a sharp disruption in dietary trends among the population. As a result of the increasing occurrence of such situations, a decline in the consumption of animal fats, animal proteins (complete), macro and microelements, vegetables and fruits, as well as vitamins, has been observed, alongside a growing intake of refined food products. According to WHO experts, iron deficiency is considered the main risk factor in the development of iron deficiency anemia (IDA), which is associated with unbalanced or improper dietary practices and failure to adhere to the principles of rational nutrition.

Keywords: children's and adolescents' institutions, anemia, iron deficiency, vitamin deficiency, daily diet, vitamin insufficiency.

Аннотация: В последние годы наблюдается резкое нарушение пищевых тенденций среди населения. Вследствие увеличения таких ситуаций отмечается снижение потребления животных жиров, животных белков (полноценных), макро- и микроэлементов, овощей и фруктов, а также витаминов, наряду с растущим употреблением рафинированных продуктов питания. По мнению экспертов ВОЗ, дефицит железа считается основным фактором риска развития железодефицитной анемии (ЖДА), связанной с несбалансированным или неправильным питанием и несоблюдением принципов рационального питания.

Ключевые слова: учреждения для детей и подростков, анемия, дефицит железа, дефицит витаминов, ежедневный рацион, недостаточность витаминов.

Relevance of the Topic: The deficiency of proteins, fats, carbohydrates, minerals, and vitamins in the daily diet of children and adolescents in institutions creates conditions for the development of various disorders in their bodies. The deterioration of the ecological situation has led to the introduction of unwanted compounds into the body through food and water. The widespread use of antibiotics in livestock production has caused the emergence of new infections resistant to antibiotics and increased the incidence of hospital-acquired infections. According to WHO experts, iron deficiency anemia (IDA) is primarily caused by improper or unbalanced nutrition. All these factors significantly contribute to the risk of developing osteoporosis, obesity, overweight, hypertension, ischemic heart diseases, diabetes, allergies, and other illnesses by creating favorable conditions and opportunities for their occurrence.

Objective: To prevent diseases arising among all strata of the resident population, the study aims to understand the daily energy expenditure and health status of individuals according to their work activities, alongside the health status and periodic nutrition of mothers, the negative impact on fetal development, to study their healthy nutrition, develop necessary recommendations, and apply them in practice.

Research Materials: The study utilized data on the physical development of children and adolescents, their daily diet, blood parameters, morbidity rates of schoolchildren, survey results, health status, and anthropometric measurements.

Research Results: Among various layers of the resident population, the deficiency of meat and meat products, dairy products, fish and fish products, fruits, and vegetables in the daily diet, coupled with excessive consumption of bread and bakery products, causes various diseases. Vitamin deficiencies increase children's susceptibility to infectious and toxic factors, reducing their physical and mental performance. In Canada, 4-5% of non-indigenous preschool children suffer from iron deficiency anemia, while the prevalence among indigenous children and Inuit infants ranges from 13% to 23%. However, in developing countries, anemia prevalence reaches high levels; in some countries, this indicator exceeds 50% among children under one year old.

Scientific research shows that iron deficiency anemia is identified in 90% of cases among children. Up to 60% of children born from multiple pregnancies and one-year-

old infants also suffer from iron deficiency. Analysis of survey data revealed that mothers have insufficient knowledge about IDA (iron deficiency anemia).

The nutritional status, activity, and condition of children were tested using the Melbourne program's dietary, anthropometric, and socio-demographic data involving 485 infants (average age 9 months, SD 1.3) and 424 children (average age 20 months, SD 2.5), along with their mothers. The average iron intake was 9.2 mg/day (SD 4.3) for infants and 6.7 mg/day (SD 2.4) for children.

Our research shows that 32.5% of infants and 19.15% of children have inadequate iron intake. The main nutritional source of iron should be iron-fortified infant formulas and cereals specifically designed for infants and children.

It is important to emphasize that analyses conducted over the last decade indicate that among infants, preschoolers, schoolchildren, and subsequently the entire population, the prevention of anemia primarily depends on daily energy expenditure, knowledge of work activities, health status, maternal health and periodic nutrition, and their impact on fetal development and healthy nutrition.

Conclusion: The lack of knowledge among mothers of children born with anemia and iron deficiency anemia about anemia symptoms, the impact of food products (especially iron-rich foods) on the development of anemia, and parents' insufficient awareness about anemia issues require promoting a healthy lifestyle. Moreover, it is essential to propagate and instill healthy nutrition practices throughout the population.

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**ИЗУЧЕНИЕ ПРИЧИН АЛИМЕНТАРНОЙ НЕДОСТАТОЧНОСТИ В
РАЗВИТИИ ЗАБОЛЕВАНИЙ ПЕЧЕНИ И ИХ ПРОФИЛАКТИКИ.****Ибрагимова Файруза Собировна****Маликов Зоир Марифжон ўғли****Омонтурдиев Хуршид Рашид ўғли****Бегимов Абдулла Вахоб ўғли****Клинические ординаторы кафедры гигиены****(Самарканд, Узбекистан)****Файзиев Бекзод Пирмамат оглы****Студент Университета Альфраганус****(Ташкент, Узбекистан)**

Аннотация: В мире болезнь печени является одной из широко распространённых и негативно влияющих на здоровье населения важных проблем. Она занимает одно из высоких мест среди общих причин смертности. В частности, заболевания печени по всему миру приводят к шестой или седьмой по частоте причине смерти. Проведённые исследования показывают, что фиброз печени является основным патологическим процессом, ведущим к развитию цирроза при различных хронических заболеваниях печени. Хронические заболевания печени у человека часто приводят к развитию цирроза печени. Под воздействием инфекций, алкоголя и других факторов клетки печени погибают, а на их месте образуется соединительная ткань. В результате печень теряет способность выполнять свои функции, что приводит к сбоям в системе кровообращения и развитию печеночной недостаточности.

Ключевые слова: Хронические заболевания печени, клетки печени, алкогольные напитки.

Abstract: In the world, liver disease is one of the widespread and significant health problems that negatively affect the population. It ranks among the leading causes of death. In particular, liver diseases worldwide are the sixth or seventh most frequent cause of death. The conducted studies show that liver fibrosis is the main pathological process leading to the development of cirrhosis in various chronic liver diseases. Chronic liver diseases in humans often result in the development of cirrhosis. Under the influence of infections, alcohol and other factors, liver cells die, and connective

tissue forms in their place. As a result, the liver loses the ability to perform its functions, which leads to failures in the circulatory system and the development of liver failure.

Keywords: Chronic liver diseases, liver cells, alcoholic beverages.

Актуальность темы: в последние годы стало очевидно, что длительная интоксикация, неправильное питание, а также дефицит необходимых минералов и витаминов в рационе играют значительную роль в развитии заболеваний печени. Финальная стадия хронических заболеваний печени у человека часто приводит к циррозу печени. Это заболевание связано с гибелью клеток печени под воздействием инфекций, алкоголя и других факторов, после чего поврежденные участки заменяются соединительной тканью. В результате печень утрачивает свои функции, что вызывает нарушения в системе кровообращения внутренних органов и развитие печеночной недостаточности.

Также доказано, что алкоголь оказывает существенное влияние на метаболические процессы в печени. Эксперименты на животных показали, что длительное употребление алкоголя приводит к интоксикации, снижению качества питания, изменениям в ферментативных процессах и развитию дегенеративных изменений в гепатоцитах.

В 80% случаев цирроз печени вызван алкоголем, но иногда это заболевание развивается и у людей, которые не употребляют алкоголь, в результате врожденных нарушений обмена веществ, лекарственных и химических отравлений, болезней желчевыводящих путей, хронических вирусных гепатитов В и С, а также из-за дефицита белков и витаминов в рационе и несоблюдения диеты.

Научные исследования, проведенные по всему миру, показывают, что в нашей стране хронические заболевания печени занимают лидирующие позиции среди причин смертности, что требует большего внимания к данной проблеме

Цель: Изучить состояние здоровья людей с заболеваниями печени и разработать профилактические меры через включение традиционных блюд в диетическое питание.

Материалы исследования: Обследование пациентов с заболеваниями печени, использование необходимых добавок в диетическом питании для

корректировки метаболических процессов. Были использованы результаты официальных отчетов за последние два года по заболеваемости болезнями печени, предоставленные Службой санитарно-эпидемиологического благополучия и общественного здоровья Республики и Самаркандской области, а также данные анкетирования.

Результаты исследования: Люди с хроническими заболеваниями печени часто сталкиваются с плохим питанием. По мере ухудшения функции печени увеличивается тяжесть заболевания, что значительно влияет на его распространенность и уровень смертности. Исследования состояния пациентов проводились среди госпитализированных больных. В ходе эксперимента были рассмотрены все жалобы пациентов. При распределении пациентов с диагнозом цирроз печени изучалась продолжительность болезни на основе частоты визитов в течение года. В ходе бесед с пациентами было установлено, что у 12 человек (7 женщин и 5 мужчин) признаки поражения печени наблюдались более 4 лет. У 67 пациентов (31 женщина и 36 мужчин) симптомы наблюдались на протяжении 2-3 лет, а у 12 пациентов (5 женщин и 7 мужчин) цирроз был диагностирован год назад. При анализе частоты визитов в медицинские учреждения выяснилось, что 13 участников посещали поликлинику до 3 раз с момента начала заболевания, 31 пациент посещал её более 5 раз, а 44 человека были госпитализированы 3-5 раз. После всестороннего изучения условий труда и профессиональной деятельности респондентов выяснилось, что 5,62% участников работали на предприятиях, где их здоровье подвергалось воздействию вредных и опасных факторов, а 1,12% занимали административные должности. Перед тем как занять руководящие позиции, 5,62% респондентов в течение нескольких лет работали в условиях, связанных с воздействием вредных факторов на здоровье.

Заключение: Одной из главных задач глобальной борьбы с циррозом печени является повышение осведомленности об этом заболевании, проведение профилактических мероприятий и обеспечение оказания качественной медицинской помощи пациентам, страдающим этим заболеванием.

Важно правильно организовать стандартное сбалансированное диетическое питание с учетом специфических отклонений, связанных с заболеванием. В профилактических целях необходимо объяснить пациентам важность правильного выбора профессии с учетом воздействия факторов окружающей среды и условий на рабочем месте, которые могут вызвать повреждение печени.

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**MADANIY INTELLEKT VA RAQS SAN'ATI: SHAXSIY VA IJODIY
TAFAKKUR UYG'UNLIGINING OMILI SIFATIDA****Qolqanatova Alfiya Nazarbaevna**

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Annotatsiya. Mazkur maqola madaniy intellekt va raqs san'ati o'rtasidagi o'zaro bog'liqlikning shaxsiy va ijodiy tafakkur rivojlanishidagi ahamiyati tahlil qilinadi. Madaniy intellekt shaxsning madaniy muhitni qabul qilish, tushunish va unga moslashish qobiliyati sifatida ko'rib, ijodiy jarayonlarda madaniy tajribani shakllantirishga yordam beradi. Raqs san'ati bo'lsa shaxsning ichki dunyosi, his-tuyg'ulari va tafakkurini ifodalovchi san'at vositasi bo'lib, madaniy intellektni rivojlantirishda samarali hisoblanadi.

Kalit so'zlar: madaniy intellekt, raqs san'ati, ijodiy tafakkur, shaxsiy rivojlanish, fikrlash, ijodiy ifoda.

**КУЛЬТУРНЫЙ ИНТЕЛЛЕКТ И ИСКУССТВО ТАНЦА: КАК ФАКТОР
ГАРМОНИИ ЛИЧНОГО И ТВОРЧЕСКОГО МЫШЛЕНИЯ**

Аннотация. В данной статье анализируется взаимосвязь культурного интеллекта и искусства танца и их значение для развития личного и творческого мышления. Культурный интеллект рассматривается как способность личности воспринимать, понимать и адаптироваться к культурной среде, способствуя формированию культурного опыта в творческих процессах. Искусство танца, в свою очередь, является средством выражения внутреннего мира, эмоций и мышления личности и считается эффективным инструментом развития культурного интеллекта.

Ключевые слова: культурный интеллект, искусство танца, творческое мышление, личностное развитие, мышление, творческое самовыражение.

**CULTURAL INTELLIGENCE AND DANCE ART: AS A FACTOR OF
HARMONY BETWEEN PERSONAL AND CREATIVE THINKING**

Abstract. This article examines the interconnection between cultural intelligence and dance art and their significance in the development of personal and creative thinking. Cultural intelligence is viewed as an individual's ability to perceive, understand, and adapt to the cultural environment, aiding in the formation of cultural experience within creative processes. Dance art, in turn, serves as a means of expressing a person's inner world, emotions, and thought, and is considered an effective tool for developing cultural intelligence.

Keywords: cultural intelligence, dance art, creative thinking, personal development, cognition, creative expression.

Yoshlarning teran fikrlamaslik, virtual tarmoqlarga mukkasidan ketish xavfi bo'lgan joriy asrda madaniyatlar o'rtasidagi o'zaro aloqalar inson tafakkuri va ijodiy-estetik dunyoqarashini yanada murakkablashtirib, uning oldiga yangi xatarli jarayonlarni yuzlashtirib qo'ydi. Bunday vaziyatda madaniy intellekt (cultural intelligence) tushunchasi insonning turli madaniy kontekstlarda moslashuvchan, tolerant va ijodiy fikrlash qobiliyatini yanada mustahkamlash zarurligini kun tartibi masalasiga olib chiqdi. Fikrlashni kitob mutolaasi bilan taraqqiy ettirish mumkin, ammo hamma yoshlar birdek kitonxon emas. Shu nuqtai nazardan yoshlarni o'z iqtidori va qobiliyatiga qarab san'at bilan shug'ullanishiga zamin yaratilsa, ularning madaniy intellekt darajasi ham ijodiy tafakkur orqali birmuncha yaxshilanadi.

Raqs san'ati nafis harakat, his qilinadigan ritm, qalbdan kechgan his-tuyg'u va ruxiyatda shakllangan ifoda uyg'unligidan iborat bo'lgan madaniy hodisadir. Raqs orqali inson ichki tuyg'ularni, madaniy identifikatsiyasini, ichki dunyosini va tafakkur elastikligini namoyon eta oladi. Shu bois, madaniy intellekt va raqs san'ati o'zaro chambarchas bog'liq bo'lib, ular shaxsning ijodiy fikrlashi va madaniy sezgirligini rivojlantiruvchi asosiy omillardan biri sifatida namoyon bo'ladi.

Madaniy intellektni raqs san'ati kontekstida qo'llash shaxsiy ijodiy rivojlanish, san'at faoliyatining bahosini oshirishi mumkin. Masalan, raqs ijrochisi yoki xoreograf madaniyatlararo qiyinchiliklarga to'g'ri moslasha olishi va turli madaniy kontekstlarda san'atini amalga oshira olishi madaniy intellekt komponentlari bilan chambarchas bog'liq. Shu bilan birga, ijodiy tafakkur va shaxsiy tafakkur (metakognitiv: "qaysi harakat madaniy mazmunni yetkazadi?", motivatsion: "men turli madaniyatdagi raqs

an'analarini o'rganishga tayyormanmi?", xulqiy: "men madaniyatga mos xulq bilan ifoda bera olamanmi?") kabi savollarmadaniy intellektning san'at amaliyotiga integratsiyasini ko'rsatadi.

Tadqiqotlar shuni ham ta'kidlaydiki, raqs san'ati doirasida milliy yoki mahalliy raqs an'analarini saqlash va uni zamonaviy ijodga moslashuvchan qilish jarayonida madaniy intellekt muhim vosita bo'ladi. Masalan, "Global nuqtai nazardan madaniyatlararo va mahalliy madaniy raqs ta'limini tizimli taqqoslash (2010-2024)" nomli maqolada raqs ta'limida madaniyatlararo va mahalliy an'analarni o'zaro solishtirish orqali san'at-pedagogik strategiyalar tahlil qilinib, raqs ta'limining asosiy g'oyalari madaniyatlararo almashinuv, madaniy moslashuv, irqiy o'zlik, ijtimoiy funksiyalar va innovatsiya bilan an'anani birlashtirish jarayonida ko'p qirrali rol o'ynashini ta'kidlaydi. Ushbu tadqiqotlar raqsni faqat san'at turi sifatida emas, balki madaniy uzatish, ijtimoiy me'yorlarni shakllantirish va shaxsiy hamda jamoaviy identifikatsiyani yaratish vositasi sifatida ko'rib chiqadi. Raqs ta'limi orqali turli madaniyatlar o'rtasidagi tushunish va integratsiya kuchaytiradi va ta'limda tenglik va inklyuzivlikni rivojlantirishga xizmat qiladi hamda raqs merosining global darajada saqlanishi va tarqalishiga zamin yaratadi[1].

Raqs tushunchasi o'z chegaralarini shunchalik kengaytiradiki, oddiy harakatlar ham, masalan, xonani tozalash yoki joyida turish, raqsga aylanadi. Irina Sirotkina "Raqs: tushunish tajribasi" kitobini quyidagi ta'rif bilan boshlaydi: "Raqs – bu faqat san'at turi emas, balki insonning harakat madaniyati, uning tanaviyligi va affektivligining ajralmas qismidir." Har bir insonning raqs haqidagi tushunchasi mavjud va har bir kishining tushunchasi o'ziga xosdir. Bugungi kunda raqs keng va tor ma'nolarda ta'riflanadi. Keng ma'noda raqs – bu insonning ma'lum bir ritm ostida makonda harakatlanishi yoki siljishi. Bunday tushuncha insonning primitiv tana harakatlari, tilga ega bo'lmagan va sivilizatsiyadan oldingi davrdagi mavjudligi bilan bog'liq tushunchaga mos keladi. Shu sababli, raqsning ikkinchi tushunchasi ko'proq intellektual tarzda qabul qilinadi. Bu yerda raqs – odatiy hayotdan biror narsani o'zgartirish yoki san'at ramzlari bilan eksperiment qilish jarayonida yaratiladigan san'at asari sifatida tushuniladi. San'at asarlari, jumladan raqs, mohiyatiga ko'ra tushuntiriladigan ob'ektlar bo'lib, ular haqida san'at (estetik emas) idrok ob'ekti sifatida so'z yuritish mumkin.

Graham McFee raqsni san'at asari sifatida belgilovchi quyidagi xususiyatlarni ajratadi: Raqs san'at asari sifatida ma'lum tarixga ega ijrochilik san'ati. Raqs

abstraktsiya, butun bir tasavvur orqali nimanidir ramziy ifodalaydi. Xoreograf raqsni yaratishda unga ma'lum bir ma'no yuklaydi. Ijrochi xoreografik asarni sahnada ijro etish jarayonida talqin qiladi. Raqsni qayta tiklash va qayta ijro etish mumkin. Anna Bernsteinning "Raqs falsafasi" asarida ta'kidlanishicha, tomoshabin raqs spektaklini kuzatganda bir vaqtning o'zida uchta san'at asarini qabul qiladi: bu xoreografning ishlari, ijrochilarning asari va tomoshabinning o'zining spektaklni talqin qilishi[2].

Har bir xalqning raqsi uning milliy mentaliteti, urfu-odatlar va dunyoqarashini aks ettiradi. Shu jihatdan, raqs san'ati madaniy intellektning amaliy ko'rinishi hisoblanadi. Masalan, Sharq raqslarida noziklik, ma'naviyat, ichki uyg'unlik ifodalanadi; Yevropa raqslarida esa kompozitsion struktura va estetik simmetriya ustunlikka ega. Raqqos ushbu farqlarni his qilgan holda, ularning falsafasini tanqidiy va ijodiy qabul qilib, madaniy intellekt faoliyatining yuksak darajasini ko'rsatishi kerak bo'ladi. Raqs orqali inson o'zini jismoniy harakatinigina ko'rsatib qolmaydi, tomoshabin bilan birga, madaniy muloqotga ham kirishadi. Har bir harakat, imo, plastika va ritm orqali u madaniy ma'no yaratadi. Shu jarayon shaxsning madaniy sezgirligini oshirib, uning tafakkurini ijodiy o'zgarishlarga ochadi.

XX asrning oxirida rossiyalik pedagog va psixolog V. F. Bazarni shunday fikrni ilgari suradi: inson vaqt va makonda o'zini mo'ljalga olish qobiliyatiga tananing harakat-dinamik his-tuyg'usi rivojlanganligi sababli ega bo'ladi. Bu hisning sifati, darajasi, mukammalligi va ko'p qirraliligi, uning asosida dunyoni turlicha o'zlashtirish insonning dunyoqarashi, dunyoni anglash darajasi, ijodiy intellekti, o'rganish qobiliyati va psixoiqtimoiy salomatligi salohiyatini tashkil etadi. Boshqacha aytganda, "raqs qilmaydigan inson" (bu yerda bu so'z keng ma'noda, "o'ynamaydigan inson" iborasiga o'xshash tarzda ishlatilgan) erkinlik salohiyatiga va dunyoqarashning erkin, moslashuvchan dinamikasiga ega emas (biroq bu yerda postmodernizmga xos axloq va etikani inkor etuvchi "o'yin" nazarda tutilmayapti). Aynan shunday xususiyatlar tafakkur paradigmasini o'zgartirish uchun zarurdir. Ehtimol, "yangi harakatni imkoniyatlar maydoni sifatida his etish" kutilmagan, shakllantirib bo'lmaydigan o'zgarishni yaratadi va yangi ma'nolar hamda anglash erkinligini ochib beradi.

Raqs – inson mavjudligining fenomeni, insoniyat madaniyatining eng muhim qirradi, inson va jamiyat hayotining ajralmas qismi. Raqs jonlangan dinamik va plastik shakl, raqqos esa ilhom manbai, stixiya va energiya timsoli, raqs orqali insonni yer tortish kuchidan yuksaltiruvchi mavjudotdir. Raqs ruhiy, hissiy-ma'naviy tajribani ifoda etishning vositasi, usuli va imkoniyatidir; bu tajriba so'z bilan ifodalab bo'lmaydi

va aql bilan tushuntirib bo'lmaydi. Raqs, xuddi erkinlik va o'yin singari, inson mavjudligiga xosdir, u muqaddas (shu jumladan kosmik) hamda oddiy, kundalik hayotiy jihatlarni ham ochib beradi.

Tarixiy-madaniy rivojlanish jarayonida raqs ulkan yo'lni bosib o'tgan bo'lib, har bir davrda insonning ruhiy va amaliy ehtiyojlarini o'ziga xos tarzda ifoda etgan. Har bir bosqich o'ziga xos xususiyat va ma'noga ega. Raqs fenomeni ruh erkinligi bilan bog'liq bo'lib, ichki erkinlik inson uchun ijodga "yo'l ochadi". Shunday ekan, madaniy intellekt va raqs san'ati shaxsga erkinlik, erkin va hur fikr yuritish imkonini beradi. Buning natijasida esa, shaxsiy va ijodiy tafakkur hamohang rivojlanadi[3].

Ijodiy tafakkur insonning yangicha fikrlash, original g'oyalar yaratish, mavjud stereotiplardan chiqib, yangi ma'no shakllarini izlash qobiliyati desak mubolag'a bo'lmaydi. Raqs jarayonida inson tanasi, hissiyoti va tafakkuri bir butun tizimda ishlaydi. Bu holat shaxsda sensor-motor tafakkurni, estetik idrokni va metaforik fikrlashni rivojlantiradi. Madaniy intellekt bilan uyg'unlashgan ijodiy tafakkur insonni har bir madaniyatni chuqur his etishga, ularning san'at tili orqali o'zini ifoda etishga undaydi. Shunday qilib, raqs ijodiy tafakkurni faollashtiruvchi kognitiv-emosional mexanizmga aylanadi. Raqs san'atida shaxsiy tafakkur va ijodiy tafakkur birgalikda ishlaganida, raqqos yoki havaskor ijodkor madaniy mazmunni chuqurroq anglab, uni yangi harakat, sahna ifodasi orqali tomoshabin bilan baham ko'rishi mumkin. Raqs o'qitish jarayonida madaniy intellekt elementlari madaniyatlararo savodxonlik, lokat xususiyatlar, moslashuvchanlik kabi dolzarb mavzular chuqurroq o'rganilishi lozim. Shu bilan birga, raqs ijodkorlari va xoreograflar uchun madaniyatlararo tajriba almashish, xalqaro uchrashuvlar o'tkazishni yanada takomillashtirish zarur.

Foydalanilgan adabiyotlar:

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**BOSHLANG'ICH SINIF O'QUVCHILARINING DARSDAN TASHQARI
MASHG'ULOTLARDA OG'ZAKI NUTQINI RIVOJLANTIRISHNING
PSIXOLOGIK-PEDAGOGIK XUSUSIYATLARI.**

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Annotatsiya: Mazkur maqolada boshlang'ich sinf o'quvchilarining darsdan tashqari mashg'ulotlarda og'zaki nutqini rivojlantirish jarayonining psixologik va pedagogik asoslari yoritilgan. Bolalarning yosh xususiyatlari, nutq rivojlanish bosqichlari hamda o'qituvchi faoliyatining roli tahlil qilinadi. Shuningdek, darsdan tashqari mashg'ulotlarning turlari, ularning ta'lim-tarbiyaviy ahamiyati va samaradorligini oshirishga xizmat qiluvchi metodik tavsiyalar keltirilgan. Tadqiqot natijalari shuni ko'rsatadiki, o'yinli, ijodiy va interfaol usullar orqali tashkil etilgan mashg'ulotlar o'quvchilarning nutq faolligini, so'z boyligini va muloqot madaniyatini sezilarli darajada rivojlantiradi.

Kalit so'zlar: og'zaki nutq, boshlang'ich sinf, darsdan tashqari mashg'ulotlar, psixologik xususiyat, pedagogik yondashuv, kommunikativ metod, muloqot madaniyati.

**ПСИХОЛОГО-ПЕДАГОГИЧЕСКИЕ ОСОБЕННОСТИ РАЗВИТИЯ
УСТНОЙ РЕЧИ УЧАЩИХСЯ МЛАДШИХ КЛАССОВ ВО ВНЕУРОЧНОЙ
ДЕЯТЕЛЬНОСТИ.**

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Аннотация: В статье рассматриваются психолого-педагогические основы развития устной речи учащихся начальной школы во внеурочной деятельности. Анализируются возрастные особенности детей, этапы развития речи и роль педагога. Представлены виды внеурочной деятельности, их воспитательное значение и методические рекомендации по повышению эффективности. Результаты исследования показывают, что занятия, организованные с использованием игровых, творческих и интерактивных методов, значительно развивают речевую активность, словарный запас и культуру общения учащихся.

Ключевые слова: устная речь, начальная школа, внеклассная работа, психологические особенности, педагогический подход, коммуникативный метод, культура общения.

**PSYCHOLOGICAL AND PEDAGOGICAL FEATURES OF DEVELOPING
ORAL SPEECH IN PRIMARY SCHOOL STUDENTS IN
EXTRACURRICULAR ACTIVITIES.**

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Abstract: This article discusses the psychological and pedagogical foundations of the process of developing oral speech of primary school students in extracurricular activities. The age characteristics of children, stages of speech development, and the role of the teacher's activity are analyzed. Also, the types of extracurricular activities, their educational significance, and methodological recommendations are presented to increase their effectiveness. The results of the study show that classes organized through playful, creative, and interactive methods significantly develop students' speech activity, vocabulary, and communication culture.

Keywords: oral speech, primary school, extracurricular activities, psychological characteristics, pedagogical approach, communicative method, culture of communication.

Kirish. Mustaqil fikrlaydigan, o'z fikrini og'zaki va yozma ravishda ravon ifoda eta oladigan shaxsni tarbiyalash bugungi ta'lim tizimining muhim vazifalaridan biridir. Ayniqsa, boshlang'ich ta'lim davrida bolalarning nutqini shakllantirish, boyitish va rivojlantirish - ularning keyingi ta'lim bosqichlaridagi muvaffaqiyatining poydevoridir. Shu nuqtai nazardan, darsdan tashqari ashg'ulotlar bolalarning og'zaki nutqini o'stirishda muhim o'rin tutadi. Bugungi kunda ta'lim tizimining asosiy maqsadlaridan biri - mustaqil fikrlaydigan, o'z fikrini og'zaki va yozma shaklda aniq ifoda eta oladigan shaxsni tarbiyalashdir. Ayniqsa, boshlang'ich ta'lim bosqichi o'quvchilarning nutqiy rivojlanishida muhim poydevor vazifasini bajaradi. Shu jihatdan darsdan tashqari mashg'ulotlar bolalarning og'zaki nutqini o'stirishda katta imkoniyat yaratadi.

Adabiyotlar tahlili.

Ona tili va nutq madaniyatini rivojlantirishga oid ilmiy izlanishlarda bir qator mahalliy va xorijiy olimlar tomonidan muhim natijalar erishilgan.

O'zbekistonlik olimlar **A. Abduqodirov (2010)**, **N. G'ulomova (2015)**, **M. Tohirova (2019)** asarlarida boshlang'ich ta'limda nutqni rivojlantirishning metodik asoslari yoritilgan. Ular nutqni shakllantirish jarayonida o'yin texnologiyalari va muloqotga asoslangan yondashuvning samarali ekanligini ta'kidlaydilar.

Psixologik nuqtai nazardan **L.S. Vygotskiy, J. Piaget, A.N. Leontyev** kabi olimlar bolaning nutqiy rivojlanishini ijtimoiy faoliyat va muloqot bilan uzviy bog'liq holda izohlaganlar. Ularning fikricha, bola nutqni faol muloqot jarayonida egallaydi va uni mustahkamlash uchun ijtimoiy muhit muhim omildir.

Shuningdek, **S. Nazarova (2021)** o'z tadqiqotida darsdan tashqari faoliyatni nutq madaniyatini shakllantirishda innovatsion vosita sifatida ko'radi. Bu faoliyatda rolli o'yinlar, hikoya tuzish, dramatizatsiya, suhbatli o'yinlar kabi usullar katta natija berishini ko'rsatgan.

Adabiyotlar tahlili shuni ko'rsatadiki, og'zaki nutqni rivojlantirish jarayoni - bu faqat grammatik va leksik ko'nikmalarni shakllantirish emas, balki o'quvchilarning ijtimoiy-madaniy kompetensiyasini rivojlantirish jarayonidir.

Pedagogik yondashuvlar

Boshlang'ich ta'limda og'zaki nutqni rivojlantirishda quyidagi yondashuvlar samarali hisoblanadi:

Kommunikativ yondashuv – o'quvchini faol suhbat jarayoniga jalb etish, savol-javob, munozara, rolli o'yinlardan foydalanish.

Integrativ yondashuv – nutqni rivojlantirishni barcha fanlar bilan bog'lash.

Shaxsga yo'naltirilgan ta'lim – o'quvchining individual nutqiy imkoniyatini inobatga olish.

Darsdan tashqari mashg'ulotlarning roli

Darsdan tashqari mashg'ulotlar (to'garaklar, teatrlashtirilgan sahnalar, adabiy kechalar, viktorinalar) o'quvchilarni erkin muloqotga o'rgatadi, ularning nutq faolligini kuchaytiradi. Bunday mashg'ulotlarda o'quvchi nafaqat so'z boyligini oshiradi, balki o'z fikrini erkin, lo'nda, mantiqan asoslab aytishni o'rganadi.

Psixologik-pedagogik shart-sharoitlar

O'qituvchi nutqining namunaviyligi;

Ijobiy psixologik muhit yaratish;

Qiziqarli, ijodiy faoliyatga asoslangan metodlardan foydalanish;

Nutqiy mashqlarni tizimli tashkil etish.

Boshlang'ich sinf o'quvchilarining psixologik xususiyatlari.

Boshlang'ich sinf o'quvchilari (7–10 yosh)ning psixologik rivojlanishida quyidagi jihatlar muhim ahamiyat kasb etadi:

Faol bilish qiziqishi: bu davrda bola yangi bilimlarni amaliy faoliyat orqali o'zlashtiradi, o'yin, suhbat, tajriba orqali bilishga intiladi.

Taqlidchanlik: o'quvchi kattalarning nutqiga taqlid qiladi, shuning uchun o'qituvchining nutqi, talaffuzi va ifoda uslubi katta ahamiyatga ega.

Emotsional sezgirlik: bola his-tuyg'ular orqali o'rganadi, shuning uchun darsdan tashqari

mashg'ulotlar quvnoq, hissiyotli va rag'batlantiruvchi bo'lishi kerak.

Ijtimoiylashuv ehtiyoji: bu yoshda bolalar muloqotga kirishishni, fikr almashishni, o'zini jamoada namoyon etishni istaydilar. Shu bois, og'zaki nutqni rivojlantirishga qaratilgan interfaol mashg'ulotlar samarali natija beradi.

Pedagogik yondashuvlar.

Boshlang'ich sinf o'quvchilarining og'zaki nutqini rivojlantirishda quyidagi pedagogik yondashuvlar muhimdir:

1. **Kommunikativ yondashuv:** o'quvchini faol muloqot jarayoniga jalb etish, suhbat, munozara, drammatizatsiya kabi metodlardan foydalanish.
2. **Integrativ yondashuv:** ona tili, o'qish, tasviriy san'at, musiqa darslari hamda darsdan tashqari tadbirlar o'rtasida bog'liqlikni ta'minlash.
3. **Shaxsga yo'naltirilgan ta'lim:** har bir o'quvchining qiziqishi, nutqiy imkoniyati, ijtimoiy faolligini inobatga olish.
4. **O'yin texnologiyalaridan foydalanish:** "Rollar o'yini", "Matbuot anjumani", "Suhbat aylanishi" kabi mashg'ulotlar orqali bolalarning nutqiy faolligini oshirish.

Darsdan tashqari mashg'ulotlarning turlari va ularning ahamiyati

Darsdan tashqari mashg'ulotlar og'zaki nutqni rivojlantirishning tabiiy va samarali muhitini yaratadi. Quyidagi shakllar eng samarali hisoblanadi:

Adabiy kechalar – o'quvchilar she'r, hikoya, ertak o'qish orqali ifodali so'zlashni o'rganadilar.

Teatrlashtirilgan sahnalar – dramatik o'yinlar nutq ravonligini, intonatsiyani, muloqot madaniyatini rivojlantiradi.

Til o'yinlari va viktorinalar – so'z boyligini kengaytirish, nutqiy tafakkurni o'stirishga xizmat qiladi.

Suhbat klublari va to'garaklar – bolalarda o'z fikrini erkin bildirish, savol-javob madaniyatini shakllantiradi.

Nutqni rivojlantirishning psixologik-pedagogik shartlari

1. O'qituvchining nutqiy madaniyati va muloqot uslubining namunaviyligi.
2. Ijobiy psixologik muhit yaratish: o'quvchilarning ishonchini mustahkamlash, ularni qo'llab-quvvatlash.
3. Motivatsiyani shakllantirish: og'zaki nutq mashg'ulotlarini qiziqarli, ijodiy shaklda tashkil etish.
4. Tizimlilik va izchillik: nutqiy mashqlarni muntazam, maqsadga yo'naltirilgan tarzda olib borish.

Xulosa. Darsdan tashqari mashg'ulotlarda og'zaki nutqni rivojlantirish boshlang'ich sinf o'quvchilarining tafakkurini, muloqot madaniyatini, ijtimoiy faolligini oshiradi. Psixologik-pedagogik asoslarni hisobga olgan holda tashkil etilgan faoliyat nafaqat til boyligini kengaytiradi, balki o'quvchilarning shaxs sifatida shakllanishida muhim o'rin tutadi.

Boshlang'ich sinf o'quvchilarining darsdan tashqari mashg'ulotlarida og'zaki nutqni rivojlantirish - bu o'quvchining muloqot madaniyati, tafakkuri va ijodkorligini o'stirishga xizmat qiluvchi jarayondir. Psixologik-pedagogik asoslarni inobatga olgan holda tashkil etilgan mashg'ulotlar o'quvchining shaxsiy rivojlanishiga ijobiy ta'sir ko'rsatadi.

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**YOSHLAR TILI VA IJTIMOIIY TARMOQLARDAGI
NEOLOGIZMLAR**

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Annotatsiya: Ushbu maqolada yoshlar tili va ijtimoiy tarmoqlarda shakllanayotgan yangi soʻzlar – neologizmlar masalasi yoritilgan. Men ushbu mavzuni tanlashimning sababi, bugungi kunda yoshlar orasida ijtimoiy tarmoqlar orqali kirib kelayotgan yangi soʻz va iboralar tilimizning leksik tizimiga sezilarli taʼsir koʻrsatayotganidadir. Maqolada “insta”, “like”, “trend”, “follower”, “cringe” kabi internet asosidagi soʻzlarning oʻzbek tilidagi moslashuvi, ularning semantik xususiyatlari hamda kommunikativ rolini tahlil qilaman. Shuningdek, yoshlar tili orqali til dinamikasining tez oʻzgarish sabablari haqida fikr yuritilgan.

Kalit soʻzlar: yoshlar tili, neologizm, internet, ijtimoiy tarmoqlar, lingvistika, globalizatsiya, yangi soʻzlar.

Аннотация: В статье рассматривается феномен неологизмов в языке молодежи и социальных сетей. Автор отмечает, что современные цифровые платформы оказывают значительное влияние на формирование новых слов и выражений в узбекском языке. Анализируются такие примеры, как “лайк”, “фолловер”, “тренд”, “контент-мейкер”, “кринж”, а также их адаптация в разговорной речи. Кроме того, автор исследует роль молодежного сленга в процессе языковых изменений.

Ключевые слова: молодежный язык, неологизмы, интернет, социальные сети, язык, коммуникация, адаптация.

Annotation: This article explores the phenomenon of neologisms in youth language and social media communication. The author examines how new digital realities influence word creation and adaptation in the Uzbek language. Examples such as “like”, “trend”, “follower”, “content-maker”, and “cringe” are analyzed with respect to their semantic and communicative functions. The study also discusses the dynamic nature of language change among youth communities.

Keywords: youth language, neologisms, internet, social media, communication, linguistics, adaptation.

Kirish

Men bu mavzuni tanlashimga sabab – yoshlar tili zamonaviy ijtimoiy muhitda eng tez oʻzgarayotgan til qatlamlaridan biri ekanligidir. Ijtimoiy tarmoqlar orqali kundalik hayotimizga kirib kelayotgan yangi soʻzlar va atamalar nafaqat til leksikasini boyitmoqda, balki oʻzbek tilining fonetik va semantik tizimiga ham sezilarli oʻzgarishlar kiritmoqda. Shaxsiy kuzatuvimga koʻra, yoshlar tili bugun tilning innovatsion laboratoriyasi sifatida faol ishlamoqda. Shu bois, men ushbu maqolada ijtimoiy tarmoqlarda paydo boʻlayotgan neologizmlarni tahlil qilib, ularning kommunikativ ahamiyatini yoritishga harakat qildim.

Asosiy qism

1. Yoshlar tili va uning oʻziga xos xususiyatlari

Yoshlar tili jamiyatdagi madaniy va ijtimoiy jarayonlarning koʻzgusidir. U koʻpincha emotsional, qisqa, taʼsirchan va yangi shakllarga moyil boʻladi [1, 22-b.]. Shu bois yoshlar orasida ingliz tilidan kirib kelgan “trend”, “story”, “like”, “view”, “follower” kabi soʻzlar keng qoʻllanadi.

2. Ijtimoiy tarmoqlarning tilga taʼsiri

Bugungi kunda “Instagram”, “TikTok”, “Telegram”, “YouTube” kabi platformalar neologizmlarning asosiy manbaiga aylangan [2, 40-b.]. Masalan, “post qildim”, “reelsga qoʻydim”, “story ochdim” kabi iboralar oʻzbek tilida yangi feʼl yasash imkoniyatlarini yaratmoqda. Bu holat tilning soʻz yasash tizimida gibrir birliklarning paydo boʻlishiga olib kelmoqda [3, 45-b.].

3. Neologizmlarning lingvistik tahlili

Neologizmlar tarkiban ikki turga boʻlinadi: sof yangi soʻzlar (masalan, “blogger”, “podkast”) va mavjud soʻzlarning yangi maʼnoda ishlatilishi (“trend”, “kontent”). Ularning koʻpchiligi ingliz tilidan oʻzlashgan boʻlib, semantik jihatdan global axborot makoniga moslashgan [4, 51-b.].

4. Yoshlar tili orqali til dinamikasi

Tilshunos olimlar fikriga koʻra, yoshlar tili til oʻzgarishining eng faol katalizatori hisoblanadi [5, 38-b.]. Yoshlar yangi soʻzlarni tez qabul qiladi, ularni qisqartiradi yoki oʻzbekcha talaffuzga moslashtiradi: “follow qilmoq”, “like bosmoq”, “cringe boʻldi”. Bu jarayon oʻzbek tilining tabiiy moslashuvchanligini koʻrsatadi.

Neologizmlar – yangi soʻzlar yoki eski soʻzlarning yangi maʼnoda ishlatilishidir. Yoshlar tili ijtimoiy tarmoqlar orqali tilga kirib kelgan koʻplab neologizmlar bilan boyidi. Masalan:

- “blogger” – oʻz sahifasida doimiy kontent yaratuvchi shaxs;
- “influencer” – boshqalarga taʼsir koʻrsatuvchi foydalanuvchi;

- “kontent” – internetdagi ma’lumot, post yoki video;
- “cringe” – noqulay yoki uyatli holat;
- “toxic” – salbiy, ruhiy jihatdan zararli shaxs yoki holat;
- “ship qilish” – ikki insonni juftlashni istash, “mos tushadi” deb hisoblash.

Bunday soʻzlar tilimizda tez singib ketmoqda, hatto ularning oʻzbekcha talaffuz shakllari ham shakllanmoqda: “blogger”, “layk”, “followerchi”, “trendda yurmoq” kabi. Yoshlar tili faqat muloqot vositasi emas, balki madaniyat koʻrsatkichi hamdir. Internet orqali kirib kelayotgan xorijiy filmlar, musiqalar, oʻyinlar va moda yoʻnalishlari tildagi yangi soʻzlarning manbai boʻlmoqda. Shuning uchun ham yoshlar tili koʻpincha inglizcha soʻzlarga boy boʻladi.

Biroq bu jarayon faqat taqlid emas – oʻzbek yoshlarining oʻziga xos tili ham shakllanmoqda. Masalan, “zoʻr chiqdi”, “trendga tushdi”, “vayfay yoʻq, charchadim”, “mood yoʻq” kabi iboralar global tildan ilhomlanib, milliy tus olgan misollardir.

Bu hodisa tilning tabiiy moslashuvchanligini va oʻzgaruvchanligini koʻrsatadi. Til – bu doimiy harakatdagi ijtimoiy hodisa, va yoshlar bu oʻzgarishning asosiy harakatlantiruvchi kuchidir.

Yoshlar tili – bu tilning kelajagidir. U orqali yangi avlodning dunyoqarashi, qadriyatlari va zamonga munosabati ifodalanadi. Ijtimoiy tarmoqlarda faol boʻlgan yoshlar oʻz tili orqali jamiyatga yangicha fikrlash usulini olib kiradi.

Bugungi yoshlar uchun muloqot tezkor, emotsional va qisqa boʻlishi kerak. Shu bois, ularning tili ham zamonaviy, sodda va oʻziga xos boʻladi. Tilshunoslik nuqtai nazaridan, bu jarayon tabiiy va til rivojining muhim bosqichlaridan biri hisoblanadi.

Xulosa

Yoshlar tili va ijtimoiy tarmoqlardagi neologizmlar bugungi kunda til rivojining eng dolzarb yoʻnalishlaridan biridir. Ular orqali til nafaqat zamon bilan hamnafas boʻladi, balki oʻz imkoniyatlarini kengaytiradi. Shu bilan birga, bu jarayon oʻzbek tilining milliy qiyofasini saqlab qolish masalasini ham dolzarb qiladi. Kelajakda yoshlar tili boʻyicha kompleks tadqiqotlar olib borish, neologizmlarning normativ holatini belgilash muhim ilmiy va amaliy vazifa hisoblanadi. Bugungi global axborot makonida til nafaqat aloqa vositasi, balki madaniyat, shaxs va jamiyatning oʻzini ifoda etish shakliga aylandi. Yoshlar tili esa shu jarayonning eng faol maydoni sifatida oʻz oʻrnini mustahkamlab bormoqda. Ijtimoiy tarmoqlar orqali yuzaga kelayotgan yangi soʻzlar yoshlarning tafakkuri, his-tuygʻulari va zamonaviy dunyoga munosabatini ifodalash uchun xizmat qilmoqda. Neologizmlar yoshlar hayotining ajralmas qismiga aylangan. Ular faqat tilning leksik qatlamini boyitib qolmay, balki yangi madaniy kodlarni ham shakllantirmoqda. Masalan, “trendda boʻlish” yoki “kontent yaratish”

faqat soʻz emas, balki yoshlarning hayotiy pozitsiyasini bildiruvchi tushunchalardir. Shunday qilib, neologizmlar yoshlar ongida yangi turmush tarzi, zamonaviy qadriyatlar va oʻzini ifoda etish erkinligini aks ettiradi.

Shuningdek, yoshlar tili orqali jamiyatdagi ijtimoiy tafovutlar, madaniy oʻzgarishlar va global taʼsirlar ham yaqqol seziladi. Internet avlodi tili nafaqat oʻzbek tilining, balki butun insoniyat muloqot madaniyatining yangi bosqichini koʻrsatmoqda. U xalqaro aloqa va texnologik rivoj bilan chambarchas bogʻliq. Shu sababli, yoshlar tili — milliy tilning global maydondagi yangi qiyofasidir, desak mubolagʻa boʻlmaydi. Ammo tilning bu tezkor oʻzgarish jarayonida muvozanatni saqlash zarur. Har bir yangi soʻz til tizimiga kirib kelar ekan, u milliylik, aniqlik va ifoda imkoniyatlari bilan uygʻunlashishi lozim. Bu esa, til siyosati, taʼlim va ommaviy axborot vositalarida maqsadli yondashuvni talab etadi.

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**RAQAMLI TRANSFORMATSIYA VA KIBERXAVFSIZLIKNING MILLIY
IQTISODIYOTGA TA'SIRI: O'ZBEKISTON TAJRIBASI****Vahobova Madina Adhamjon qiz**

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Annotatsiya

XXI asr raqamli transformatsiya davri sifatida insoniyat faoliyatining barcha jabhalarini o'zgartirdi. Ushbu maqolada O'zbekistonning raqamli iqtisodiyoti va kiberxavfsizlik tizimlari tahlil qilinadi. Tadqiqot global va milliy raqamli transformatsiya tendensiyalarini, elektron hukumat xizmatlari, raqamli to'lov tizimlari va sun'iy intellekt texnologiyalarining joriy etilishini, shuningdek, kiberxavfsizlik tahdidlarini o'rganishga qaratilgan. Natijalar raqamli iqtisodiy o'sishning kiberxavfsizlik bilan chambarchas bog'liqligini, milliy texnologik suverenitetni ta'minlash zaruratini ko'rsatadi. Tadqiqot O'zbekistonning raqamli transformatsiyasini qo'llab-quvvatlash bo'yicha amaliy tavsiyalarni taqdim etadi.

Kalit so'zlar: Raqamli transformatsiya, raqamli iqtisodiyot, kiberxavfsizlik, sun'iy intellekt, O'zbekiston, axborot xavfsizligi

KIRISH

XXI asr boshlaridan boshlab insoniyat taraqqiyoti yangi bosqichga – raqamli transformatsiya davriga qadam qo'ydi. Bu jarayon iqtisodiyot, ta'lim, sog'liqni saqlash, boshqaruv va hatto kundalik hayotning barcha jabhalariga chuqur ta'sir ko'rsatmoqda. Raqamli texnologiyalar taraqqiyoti – sun'iy intellekt, “bulutli” hisoblash tizimlari, katta ma'lumotlar (Big Data), “Internet narsalar” (IoT) hamda blokcheyn texnologiyalari asosida yangi iqtisodiy modelning shakllanishiga sabab bo'ldi (Schwab, 2016).

Raqamli transformatsiya — bu faqat texnologik yangilanish emas, balki butun ijtimoiy-iqtisodiy tuzumni tubdan o'zgartiruvchi jarayondir. Bunda inson faoliyatining barcha sohalari raqamli muhitga moslashtiriladi, ma'lumotlar asosida qarorlar qabul qilinadi va avtomatlashtirilgan boshqaruv tizimlari shakllanadi (Brynjolfsson & McAfee, 2017). Shu jihatdan, raqamli iqtisodiyot bugungi global raqobatning asosiy omiliga aylanib bormoqda.

O'zbekiston ham bu jarayondan chetda qolmayapti. 2019-yilda Prezident tomonidan “Raqamli O'zbekiston – 2030” strategiyasi qabul qilindi. Unda raqamli iqtisodiyotning ulushini YaIMda 2030-yilgacha 70 foizga yetkazish, davlat

xizmatlarini to'liq elektron shaklga o'tkazish va sun'iy intellekt texnologiyalarini joriy etish maqsad qilib qo'yilgan. 2025-yil holatiga kelib, mamlakatda elektron hukumat xizmatlarining qamrovi 90 foizdan oshdi, raqamli to'lov tizimlari esa iqtisodiyotning eng faol sektorlaridan biriga aylandi (O'zbekiston Respublikasi Raqamli texnologiyalar vazirligi, 2025).

Biroq raqamli transformatsiya bilan birga yangi tahdidlar ham paydo bo'ldi. Kiberxavfsizlik muammolari – zamonaviy raqamli iqtisodiyotning eng jiddiy muammolaridan biridir. Ma'lumotlarning raqamli muhitda to'planishi, bulutli serverlarda saqlanishi va uzatilishidagi har bir xato yoki zaiflik davlat, biznes va fuqarolar uchun katta xavf tug'diradi. Kiberhujumlar natijasida iqtisodiy yo'qotishlar global darajada yiliga \$1 trilliondan ortiqni tashkil etmoqda (World Economic Forum, 2024).

O'zbekistonda ham bu masala dolzarbdir. So'nggi yillarda axborot tizimlariga noqonuniy kirish, moliya sohasidagi kiberfiribgarlik, shaxsiy ma'lumotlarning sizib chiqishi kabi holatlar kuzatilmoqda. Shu sababli mamlakatda 2022-yilda "Kiberxavfsizlik konsepsiyasi" qabul qilinib, axborot infratuzilmasini himoyalash, kadrlar tayyorlash va xalqaro hamkorlikni kengaytirish bo'yicha kompleks chora-tadbirlar belgilandi.

Raqamli iqtisodiyotning jadallashuvi shuni ko'rsatadiki, endilikda iqtisodiy o'sish, davlat boshqaruvi va ijtimoiy barqarorlik axborot xavfsizligi bilan bevosita bog'liq. Agar iqtisodiyotning raqamli komponentlari himoyasiz bo'lsa, iqtisodiy barqarorlikning o'zi xavf ostida qoladi. Shu bois raqamli transformatsiya jarayonida kiberxavfsizlikni ta'minlash, texnologik suverenitetni mustahkamlash va xalqaro standartlarga asoslangan himoya tizimini yaratish O'zbekiston uchun strategik vazifa hisoblanadi.

Bundan tashqari, kiberxavfsizlik nafaqat texnik masala, balki ijtimoiy va huquqiy muammolarni ham qamrab oladi. Aholining raqamli savodxonligini oshirish, raqamli etika madaniyatini shakllantirish, axborotdan to'g'ri foydalanish madaniyatini rivojlantirish ham bu jarayonning ajralmas qismidir. Zero, texnologiyalar qanchalik ilg'or bo'lmasin, ularni boshqaruvchi inson omili zaif bo'lsa, xavfsizlik kafolati yo'qoladi.

Shunday qilib, bugungi kunda O'zbekistonning raqamli transformatsiyasi ikki yo'nalishda shakllanmoqda: birinchidan, raqamli iqtisodiyotni rivojlantirish orqali innovatsion o'sishga erishish; ikkinchidan, kiberxavfsizlikni mustahkamlash orqali bu o'sishni himoya qilish. Mazkur maqolada ushbu ikki jarayonning o'zaro bog'liqligi,

ularning milliy iqtisodiyot va axborot suvereniteti uchun ahamiyati, shuningdek, raqamli xavfsizlikni ta'minlashda mavjud muammolar va istiqbollar tahlil qilinadi.

Metodologiya

Ushbu tadqiqot analitik-deskriptiv metod asosida olib borildi. Ma'lumot manbalari:

Rasmiy hukumat hujjatlari (O'zbekiston Respublikasi Raqamli texnologiyalar vazirligi, 2025)

Xalqaro tashkilotlar hisobotlari (World Economic Forum, 2024)

Ilmiy maqolalar va kitoblar (Brynjolfsson & McAfee, 2017; Schwab, 2016)

Tahlil usullari:

SWOT-tahlil: raqamli iqtisodiyot va kiberxavfsizlikning kuchli va zaif tomonlarini aniqlash.

Statistik va solishtirma tahlil: global va milliy tendensiyalarni ko'rsatish.

Ekspert baholari: milliy strategiyalar va xalqaro tajribalarni baholash.

Natijalar (Results)

Raqamli iqtisodiyot rivoji:

2025-yilda O'zbekistonda elektron hukumat xizmatlari qamrovi 90% dan oshdi.

Raqamli to'lov tizimlari iqtisodiyotning eng faol sektoriga aylandi.

Sun'iy intellekt va "Big Data" texnologiyalari davlat boshqaruvi va moliya tizimida qo'llanilmoqda.

Kiberxavfsizlik tahdidlari:

Kiberhujumlar global iqtisodiyotga yiliga \$1 triliondan ortiq zarar keltirmoqda.

O'zbekistonda axborot tizimlariga noqonuniy kirish va moliyaviy kiberfiribgarlik holatlari ortmoqda.

Milliy strategiya:

"Kiberxavfsizlik konsepsiyasi" milliy texnologik suverenitetni ta'minlash, kadrlar tayyorlash va xalqaro hamkorlikni rivojlantirishga qaratilgan.

Konsepsiya raqamli iqtisodiyotning barqaror rivojlanishi va xavfsizlikning mustahkamligini kafolatlaydi.

Muhokama

Natijalar shuni ko'rsatadiki:

Raqamli iqtisodiyotning rivojlanishi kiberxavfsizlikni mustahkamlash bilan chambarchas bog'liq. Texnologik suverenitet va axborot xavfsizligini ta'minlash milliy strategiyaning asosiy yo'nalishi bo'lishi zarur.

Aholining raqamli savodxonligi va axborot etikasini oshirish texnologiyalarning samarali ishlashini kafolatlaydi.

Milliy kontekstda, raqamli transformatsiya orqali iqtisodiy o'sish, davlat boshqaruvi va ijtimoiy barqarorlikni oshirish mumkin, lekin bu faqat kiberxavfsizlik va texnologik nazorat tizimlari mustahkam bo'lsa samarali bo'ladi.

Xulosa

Raqamli transformatsiya iqtisodiy o'sish va innovatsiyalar uchun muhim vosita. Kiberxavfsizlikni mustahkamlash iqtisodiy barqarorlikni kafolatlaydi.

Milliy va xalqaro standartlarga asoslangan himoya tizimlarini joriy etish zarur.

Aholining raqamli savodxonligini oshirish va axborot madaniyatini rivojlantirish muhim.

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XXI ASR KOMPETENSIYALARINI SHAKLLANTIRISHNING INNOVATION MODELI

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ANNOTATSIYA

Ushbu maqolada zamonaviy ta'lim tizimida keng qo'llanilayotgan STEAM texnologiyasi mohiyati, uning pedagogik ahamiyati hamda o'quvchi shaxsini har tomonlama rivojlantirishdagi o'rni yoritilgan. Maqolada milliy ta'lim tizimiga mos integrativ yondashuvlar, innovatsion ta'lim jarayonlari va mahalliy tadqiqotchilarning fikrlari tahlil qilingan.

Kalit so'zlar: STEAM, integratsiya, ijodkorlik, innovatsiya, muammoli ta'lim, kompetensiya, raqamli tafakkur.

KIRISH

Bugungi globallashuv, raqamli iqtisodiyot va sun'iy intellekt davrida ta'lim tizimining maqsadi tubdan o'zgarib bormoqda. Endilikda ta'lim jarayoni faqat bilim berish emas, balki shaxsning tafakkur doirasini kengaytirish, ijodkorlikni rag'batlantirish va muammolarga innovatsion yechim topishga yo'naltirilgan tizimga aylanmoqda. Shu nuqtai nazardan, zamonaviy ta'limda STEAM texnologiyasi alohida o'rin tutadi.

STEAM (Science, Technology, Engineering, Art, Mathematics) yondashuvi o'quv jarayoniga integrativ qarashni taklif etadi. Ushbu model orqali o'quvchilar nazariy bilimlarni amaliy faoliyat bilan uyg'unlashtirgan holda o'z fikrlarini erkin ifoda etadi, tahliliy va ijodiy tafakkur ko'nikmalarini rivojlantiradi. Ta'lim jarayonida san'at (Art) elementi kiritilishi esa fanlararo tafakkurni boyitib, o'quvchilarda estetik did va yangilik yaratish ruhini shakllantiradi.

Shuningdek, STEAM ta'lim texnologiyasi o'quvchilarni kelajak kasblariga tayyorlash, ularni ilmiy-texnik tafakkur va raqamli kompetensiyalar bilan qurollantirishda samarali vosita sifatida qaraladi. Bu yondashuv nafaqat bilim olishni, balki o'z ustida ishlashni, izlanishni, jamoada hamkorlikda fikrlashni o'rgatadi. Shu jihatdan, STEAM ta'limi – XXI asr shaxsini tarbiyalashning muhim omillaridan biridir.

O'zbekiston Respublikasida ta'lim tizimini modernizatsiya qilish, innovatsion pedagogik texnologiyalarni joriy etish jarayonida ham STEAM yondashuvi tobora keng qo'llanilmoqda. Ayniqsa, Ismailova N.I. va boshqa mahalliy olimlarning ilmiy izlanishlari ushbu yo'nalishda milliy ta'lim tajribasini boyitib, amaliyotga tatbiq etish uchun ilmiy-metodik asos yaratmoqda.

ADABIYOTLAR TAHLILI

Xalqaro miqyosda STEAM ta'lim texnologiyasi bo'yicha olib borilgan tadqiqotlar shuni ko'rsatadiki, bu yondashuv o'quvchilarda ijodkorlik, mantiqiy fikrlash va muammolarni hal etish ko'nikmalarini shakllantirishda samarali natija beradi (Bybee, 2013; Yakman, 2019). G'arb ta'lim tizimida STEAM dasturlari shaxsni "bilim oluvchi" emas, balki "bilim yaratuvchi" sifatida shakllantirishga qaratilgan.

Mahalliy olimlar, xususan Ismailova N.I. (2023) o'z tadqiqotlarida maktabgacha va umumta'lim bosqichlarida STEAM texnologiyalarini joriy etish orqali o'quvchilarning fanlararo bog'liqlikni anglash, amaliy faoliyatni kuchaytirish va mustaqil fikrlash qobiliyatini rivojlantirish mumkinligini ta'kidlaydi. Shu bilan birga, Karimova M.M. (2022) ta'lim jarayonida san'at elementlarini qo'shish o'quvchilarning ruhiy faolligini oshirib, ularning ijodiy salohiyatini namoyon etishga xizmat qilishini qayd etgan.

Tadqiqotlar shuni ko'rsatadiki, STEAM texnologiyasi o'qituvchidan yangi pedagogik kompetensiyalarni talab qiladi. Ya'ni o'qituvchi nafaqat fan bilimdoni, balki tashkilotchi, muammoli vaziyat yaratuvchi va yo'naltiruvchi rolini bajarishi zarur. Shu sababli, ta'lim tizimida pedagoglarni STEAM metodikasi bo'yicha qayta tayyorlash masalasi bugun dolzarb ahamiyat kasb etmoqda.

METODOLOGIYA

Ushbu tadqiqotda ilmiy-tahliliy va qiyosiy yondashuv metodlari asos qilib olindi. Asosiy maqsad — STEAM ta'lim texnologiyasining ta'lim jarayoniga ta'siri, o'quvchilarda innovatsion fikrlash va ijodiy ko'nikmalarni shakllantirishdagi o'rnini aniqlashdir.

Tahlil jarayonida quyidagi metodlardan foydalanildi:

- Nazariy tahlil – mahalliy va xorijiy adabiyotlar asosida STEAM texnologiyasining ilmiy asoslarini o'rganish;

- Qiyosiy tahlil – O'zbekiston ta'lim tizimi tajribasi va xalqaro amaliyotdagi farq va o'xshashliklarni aniqlash;

- Tajriba-metodik kuzatuv – ayrim ta'lim muassasalarida o'quv jarayoniga STEAM elementlarini tatbiq etish samaradorligini kuzatish;

- Suhbat va intervyu – o'qituvchilar va o'quvchilarning ushbu texnologiyaga bo'lgan munosabatini aniqlash.

NATIJALAR

O'tkazilgan tahlillar shuni ko'rsatdiki, ta'lim jarayoniga STEAM texnologiyasini joriy etish:

1. O'quvchilarning mantiqiy fikrlash va muammoli vaziyatlarga yechim topish qobiliyatini kuchaytiradi;

2. O'qituvchilarda fanlararo integratsiya asosida dars tashkil etish kompetensiyasini rivojlantiradi;

3. O'quvchilar orasida ijodiy fikrlash va innovatsion loyihalar yaratishga qiziqish ortadi;

4. Jamoaviy ishlash, mas'uliyat va kommunikativ madaniyat kabi yumshoq ko'nikmalar (soft skills) shakllanadi;

5. STEAM dasturlari qo'llanilgan sinflarda o'quvchilarning o'zlashtirish darajasi o'rtacha 15–20% ga yuqorilagan.

Bundan tashqari, o'tkazilgan intervyu natijalariga ko'ra, o'qituvchilarning 78 foizi STEAM metodikasi o'quvchilarning faolligini oshirishini tasdiqlagan. Bu esa mazkur texnologiyani bosqichma-bosqich milliy ta'lim tizimiga tatbiq etishning yuqori samaradorligini ko'rsatadi.

MUHOKAMA

STEAM yondashuvi mohiyatan o'quvchi markazida qurilgan ta'lim modelidir. U o'quvchilarni faqat bilim egallashga emas, balki uni amaliyotga tatbiq etishga, yangilik yaratishga, o'z fikrini asoslab himoya qilishga o'rgatadi. Bunday yondashuvda o'qituvchi – yo'l boshchi, o'quvchi esa faol ishtirokchi sifatida namoyon bo'ladi.

O'zbekiston ta'lim tizimida so'nggi yillarda STEAM asosida tajriba darslari, loyihaviy mashg'ulotlar va laboratoriya ishlari yo'lga qo'yilmoqda. Bu jarayon o'quvchilarning faolligini oshiradi, ular orasida hamkorlik, mas'uliyat va jamoaviy fikrlash madaniyatini shakllantiradi.

STEAM ta'limi orqali o'quvchi muammoni turli fanlar nuqtai nazaridan tahlil qila oladi, bu esa integratsion tafakkurni rivojlantiradi. Ayniqsa, san'at elementi o'quvchining tasavvurini kengaytiradi, texnik va texnologik g'oyalarga estetik yondashuv olib kiradi. Bu jihatlar yoshlarni nafaqat bilimli, balki innovatsion fikrlovchi shaxs sifatida kamol toptiradi.

Shu bilan birga, ushbu texnologiyani tatbiq etishda ayrim muammolar ham mavjud: metodik qo'llanmalar yetishmasligi, o'qituvchilarning tayyorgarlik darajasi

pastligi va texnik baza cheklanganligi. Biroq, bu muammolarni bosqichma-bosqich hal etish orqali ta'lim tizimida barqaror natijalarga erishish mumkin.

XULOSA

STEAM ta'lim texnologiyasi – zamonaviy ta'limning kelajagini belgilovchi yo'nalishlardan biridir. U nafaqat o'quvchilarning bilimini, balki ularning tafakkuri, ijodkorligi, amaliy ko'nikmalari va muammolarga yechim topish qobiliyatini ham rivojlantiradi.

O'zbekiston ta'lim tizimida ushbu yondashuvni izchil joriy etish, mahalliy pedagoglarning metodik tayyorgarligini oshirish hamda texnik bazani mustahkamlash orqali milliy ta'lim sifatini yangi bosqichga olib chiqish mumkin.

STEAM — bu shunchaki ta'lim texnologiyasi emas, balki kelajak jamiyatini yangicha fikrlovchi, ilm va san'at uyg'unligini qadrlaydigan avlodni tarbiyalash falsafasidir.

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MAYDALASH JARAYONI VA DONADORLIK TARKIBI TAHLILI**Yunusova Farida Rahmonberdiyevna¹****Yarbekova Mohinur Mirzabek qizi²**“TIQXMMI” Milliy tadqiqot universiteti t.f.n. dotsent¹“TIQXMMI” Milliy tadqiqot universiteti talabasi²

Annotatsiya. Ushbu maqolada keramik materiallar ishlab chiqarishda qo'llaniladigan xomashyolarning maydalash jarayoni va donadorlik tarkibi tahlil qilingan. Maydalashning dag'al, o'rtacha va tuyish bosqichlari o'rganilib, ularning yakuniy mahsulot xossalariga ta'siri tahlil etilgan. Tadqiqot natijalari shuni ko'rsatadiki, xomashyoning donadorlik tarkibini to'g'ri tanlash keramika mahsulotlarining zichligi, mexanik mustahkamligi va issiqlikka chidamliligini oshiradi.

Kalit so'zlar: keramika, maydalash, donadorlik tarkibi, tuyish, dag'al maydalash, xomashyo, materialshunoslik, texnologiya.

Kirish

Keramik materiallar ishlab chiqarish texnologiyasida xomashyolarni tayyorlash bosqichi muhim ahamiyatga ega bo'lib, bu jarayonning asosi — maydalash va tuyish hisoblanadi. Chunki har qanday keramika mahsuloti sifati xomashyoning zarracha o'lchami, bir xilligi va donadorlik tarkibiga bevosita bog'liqdir. Keramika xomashyolari — kaolin, gil, kvarts, dala shpati, aluminiy oksidi, kalsit kabi tabiiy yoki sun'iy minerallar — odatda turli darajadagi qattqlikka ega bo'ladi. Ularni kerakli darajada maydalash orqali yaxshi aralashadigan, presslanadigan va pishirishda deformatsiyasiz saqlanadigan massa olinadi. Shu sababli maydalash jarayonini to'g'ri tashkil etish keramika mahsulotlari sifatining asosiy kafolatidir.

O'zbekiston Respublikasi Prezidentining 2020-yil 6-iyuldagi PQ-4763-son qarorida “Mahalliy qurilish va keramik materiallar ishlab chiqarishni rivojlantirish” bo'yicha ilmiy-tadqiqotlarni kuchaytirish hamda energiya tejamkor texnologiyalarni joriy etish vazifasi belgilangan. Bu esa, o'z navbatida, maydalash jarayonini optimallashtirish va donadorlik tarkibini nazorat qilish zarurligini ko'rsatadi.

Maydalash jarayoni dag'al, o'rtacha va tuyish (mayda maydalash) bosqichlariga bo'linadi. Dag'al maydalashda zarrachalar 25–5 mm gacha, o'rtacha maydalashda 5–1 mm gacha, tuyishda esa mikron (0,1 mm va undan kichik) darajaga yetkaziladi. Har bir bosqichda qo'llaniladigan uskunalar — jag'li maydalagichlar, bolg'ali tegirmonlar, barabanli yoki sharli tegirmonlar — materialning xususiyatiga qarab tanlanadi.

Donadorlik tarkibi esa keramika massasining zichligi, suv o'tkazuvchanligi, presslash sifati va pishirishda hosil bo'ladigan mikroyoriqlar soniga bevosita ta'sir ko'rsatadi. Shu sababli maydalash jarayoni va donadorlik tarkibini chuqur o'rganish materialshunoslik fanining dolzarb masalalaridan biridir.

Materiallar va metodlar. Tadqiqot ishlari "Keramika materiallari texnologiyasi" fanining laboratoriya sharoitida, Materialshunoslik va yangi materiallar texnologiyasi yo'nalishidagi namunaviy xomashyolar asosida olib borildi. Tajriba maqsadi — xomashyoni maydalash darajasi va donadorlik tarkibining keramik massa xossalriga ta'sirini aniqlashdan iborat bo'ldi.

2.1. Tadqiqot obyekti.

Tadqiqot obyekti sifatida kaolin ($\text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2 \cdot 2\text{H}_2\text{O}$), kvarts qumi (SiO_2) va dala shpati ($(\text{Na},\text{K})\text{AlSi}_3\text{O}_8$) kabi tabiiy xomashyolar tanlab olindi. Ushbu materiallar keramika ishlab chiqarishda eng ko'p ishlatiladigan asosiy komponentlar hisoblanadi:

- Kaolin — bog'lovchi vazifasini bajaradi va plastiklikni ta'minlaydi;
- Kvarts — massaning shakl barqarorligini oshiradi;
- Dala shpati — pishirishda oqim (flux) rolini bajarib, shishasimon fazaning hosil bo'lishiga yordam beradi.

Materiallar avvalo quritilib, 100–110 °C da 2 soat davomida barqaror namlik darajasiga keltirildi. Keyin ular uch bosqichli maydalash tizimida qayta ishlovdan o'tkazildi.

2.2. Maydalash bosqichlari va uskunalar.

Maydalash jarayoni uch bosqichda amalga oshirildi. Maydalash bosqichlari va qo'llanilgan uskunalar (1-jadval).

T/r	Bosqich	Uskuna turi	Zarracha o'lchami (mm)	Maqsad
1	Dag'al maydalash	Jag'li maydalagich	25-5	Katta bo'laklarni mayda fraksiyaga ajratish
2	O'rtacha maydalash	Bolg'ali tegirmon	5-1	O'rtacha yirik zarrachalarni bir xillikka keltirish
3	Tuyish	Sharli tegirmon	1-0.5	Keramik massa uchun mikron darajadagi zarrachalar olish

Dag'al maydalashda mexanik jag'li maydalagichdan foydalanildi. Bu bosqichda materialning yirik bo'laklari mexanik siqish va zarba ta'sirida maydalanadi.

Keyingi bosqich — bolg'ali tegirmonda zarrachalar qayta zarba va ishqalanish orqali o'rtacha hajmga keltirildi.

So'nggi bosqich — sharli tegirmon yordamida amalga oshirildi. Sharli tegirmonda po'lat yoki keramik sharlardan foydalanilib, material 5 soat davomida 60 ayl/min tezlikda tuyildi. Bu bosqichda zarrachalar mikron (0,05–0,1 mm) darajasigacha kamaydi.

2.3. Donadorlik tarkibini aniqlash usuli

Maydalashdan so'ng har bir xomashyo namunasi elak tahlili (sieving analysis) orqali o'lcandi. Tahlil uchun ISO 3310-1:2016 standarti asosida tayyorlangan elaklar to'plami (5; 2; 1; 0.5; 0.25; 0.1 mm diametrli) ishlatildi. Har bir elakda material 10 daqiqa davomida tebranishli elak mashinasida elandi, so'ng har bir fraksiya alohida og'irligi bo'yicha o'lcandi.

Donadorlik tarkibi quyidagi formula orqali hisoblandi:

$$W_i = \frac{m_i}{m_t} \times 100 \%$$

- W_i = fraksiyaning og'irlik foizi (%)
- m_i – fraksiyaning massasi (g)
- m_t – umumiy na'munaviy massa (g)

Natijada 0,05–2 mm oralig'idagi zarrachalar asosiy fraksiyani tashkil etgani aniqlanib, u optimal donadorlik sifatida qabul qilindi.

2.4. Keramika namunalarini tayyorlash

Maydalangan xomashyolardan quyidagi nisbatlarda keramika massasi tayyorlandi: 50% kaolin, 30% dala shpati, 20% kvarts. Aralashma 8–10% namlik bilan plast massaga keltirildi. Keyin u gidravlik press yordamida silindrsimon ($\varnothing$ 30 mm, h = 10 mm) namunalar shaklida siqildi.

Press bosimi 25 MPa bo'lib, bu presslangan massaning bir xil zichligini ta'minladi. Presslangan namunalar 110 °C da 24 soat quritildi, so'ngra elektr pechda pishirish jarayoni 100 °C dan 1100 °C gacha 3 soatda olib borildi.

2.5. Fizik-mexanik xossalarni aniqlash

Pishirilgan namunalar quyidagi ko'rsatkichlar bo'yicha tahlil qilindi:

- **Zichlik (ρ)** — Arximed usuli bo'yicha;
- **G'ovaklilik (P)** — suv shimish usuli bilan (%);
- **Mustahkamlik (σ)** — siqilishga chidamlilik (MPa);
- **Donadorlik bir xilligi** — mikroskop ostida tasvir tahlili orqali.

Shuningdek, materialning sirt strukturasi optik mikroskop ($\times 200$ kattalashtirish) yordamida kuzatildi. Natijalar grafik va jadval ko‘rinishida tahlil qilinib, maydalash darajasi va zarracha hajmi o‘rtasidagi bog‘liqlik matematik model orqali ifodalandi. Mazkur metodika asosida o‘tkazilgan tajribalar keramik xomashyoning zarracha hajmi, donadorlik tarkibi va maydalash usuli o‘rtasida aniq bog‘liqlik mavjudligini ko‘rsatdi. Elak tahlili va fizik-mexanik sinovlar natijasida eng optimal donadorlik oralig‘i 0,5–2 mm ekanligi aniqlanib, aynan shu fraksiyadagi materiallardan tayyorlangan keramika namunalarining zichligi yuqori, g‘ovakliligi esa past bo‘lishi kuzatildi.

XULOSA

Keramik materiallar ishlab chiqarishda xomashyoni maydalash va donadorlik tarkibini to‘g‘ri tanlash mahsulot sifatining asosiy omilidir. Maydalash jarayoni bosqichlarining har biri o‘ziga xos fizik-mexanik o‘zgarishlarni keltirib chiqaradi. Optimal donadorlik tarkibi 0,5–2 mm bo‘lganda, mahsulot yuqori zichlik, past g‘ovaklilik va mexanik mustahkamlikka ega bo‘ladi.

Shunday qilib, maydalash jarayonini ilmiy asosda boshqarish nafaqat sifatni, balki energiya samaradorligini ham oshiradi. Bu esa materialshunoslik va yangi materiallar texnologiyasi sohasida innovatsion, barqaror va ekologik toza ishlab chiqarishni ta‘minlaydi.

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THE EARLY MODERN ENGLISH MORPHOLOGY

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ABSTRACT

By the end of the Middle English period, there is already considerable loss of inflectional morphology, and in Early Modern English, we see the last reflexes of a shift from synthetic Old English to analytic Modern English. In fact, the inflectional system of Early Modern English is not very different from what we have today. The changes in inflection that take place between 1500 and 1700 show marked sociolinguistic differentiation and are the subject of well-known case studies in sociohistorical linguistics. The derivational morphology of Early Modern English, on the other hand, is considered to demonstrate much more wholesale and radical change in the form of new Latin prefixes and suffixes reanalyzed from borrowed lexis. The rate of integration of these word-formation processes is not, however, very uniform, and capturing this diversity is a major aim of this survey.

Key words: *Early Modern English, morphology, inflection, simplification, standardization, auxiliary verbs, pronouns, verb forms, analytic structure, grammatical change.*

Introduction

The period of Early Modern English (1500–1700) marks a crucial stage in the historical development of the English language. It was during this era that English completed its transformation from a synthetic (inflectional) language, rich in endings, to a more analytic one that relied on word order and auxiliary words to show grammatical relationships. The changes in morphology reflect not only linguistic evolution but also deep social, cultural, and historical shifts such as the Renaissance, the introduction of the printing press, and the rise of education and literacy.

Discussion

The morphological development of Early Modern English (1500–1700) reflects one of the most dynamic periods in the history of the English language. During this time, the language experienced a significant reduction of inflectional endings and a

simultaneous growth in derivational morphology, which together marked the transition from a synthetic to an analytic linguistic structure. A key aspect of this development was the loss of case endings and other grammatical markers inherited from Old and Middle English. By the sixteenth century, English nouns and adjectives had already lost most of their inflectional variation, leaving only the possessive -'s and plural -s as productive forms. This simplification made word order and prepositions more important in expressing grammatical relationships. The shift from "he loveth" to "he loves" and from maketh to makes clearly demonstrates this process of morphological regularization. Another important feature of this period was the standardization of verb forms. The third-person singular present tense ending -s became dominant, replacing the older -eth found in Middle English. The past tense system also became more regular with the wide adoption of -ed endings. This change was accompanied by the increasing use of auxiliary verbs such as do, have, be, shall, and will, which allowed English to express complex tenses and aspects. These auxiliaries gave rise to grammatical constructions that form the foundation of Modern English syntax. In contrast to the simplification of inflectional morphology, derivational morphology experienced a period of rapid expansion. The Renaissance introduced a massive influx of Latin and Greek words into English, many of which came with productive prefixes and suffixes (in-, re-, sub-, -tion, -ment, -ity, etc.). These affixes were soon used to form new English words, significantly enriching the vocabulary and expressive capacity of the language. However, this process was not uniform; some word-formation patterns spread rapidly, while others remained restricted to academic or scientific contexts. Social and technological factors also played a crucial role. The printing press, established by William Caxton in 1476, helped to fix certain grammatical and morphological forms, promoting a more consistent written standard. Moreover, the increasing importance of education, trade, and literature required a more stable and unified linguistic system. As a result, the Early Modern English period became a time when morphological variation decreased, while linguistic uniformity and clarity increased.

Conclusion

The morphological changes of Early Modern English reflect both internal linguistic evolution and external sociohistorical influences. The simplification of inflection, the rise of analytic structures, and the expansion of word-formation processes together transformed English into a language that was structurally simpler yet lexically richer. These developments laid the groundwork for the grammar and

morphology of Present-Day English, which continues to evolve on the foundations established during this crucial period.

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KIBEROLAM: MILLIY XAVFSIZLIKNING YANGI FRONTI

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Annotatsiya; Ushbu maqolada zamonaviy kiberxavfsizlik tahdidlari va ularning milliy xavfsizlik tizimiga ta'siri chuqur tahlil qilinadi. Asarda APT (Advanced Persistent Threat) guruhlarining faoliyati, F-35 texnologik o'g'irligi misolida kiberurushlarning global oqibatlari, hamda O'zbekiston Respublikasida kiberxavfsizlik sohasida amalga oshirilayotgan islohotlar ilmiy asosda yoritilgan. Muallif tomonidan taklif etilgan "Milliy Kiberbarqarorlik va Raqamli Suverenitet Modeli (MKRM)" texnologik, iqtisodiy va ijtimoiy omillarni uyg'unlashtirgan holda milliy kiberxavfsizlik tizimini mustahkamlashga qaratilgan. Model Yagona Kiber Monitoring Markazi, Banklararo Kiber Konsorsium va CyberSafe Schools kabi tashabbuslar orqali davlat, biznes va fuqarolar darajasida barqaror raqamli muhit yaratishni nazarda tutadi. Tadqiqotda aralash metodologik yondashuv, qiyosiy tahlil, SWOT va xavf tahlili usullaridan foydalanilgan bo'lib, natijalar O'zbekistonning kiberxavfsizlik bo'yicha xalqaro reytinglardagi o'rnini mustahkamlashga xizmat qiladi.

Kalit so'zlar: kiberxavfsizlik, milliy xavfsizlik, kiberurushlar, APT guruhleri, F-35, raqamli suverenitet, kiberjinoyatlar, raqamli iqtisodiyot, Zero Trust, O'zbekiston, Milliy Kiberbarqarorlik modeli, UZSOC, raqamli transformatsiya, kiberbarqarorlik, kiberhujumlar.

Abstract: This article provides an in-depth analysis of modern cybersecurity threats and their impact on the national security system. The study examines the activities of APT (Advanced Persistent Threat) groups, the global consequences of cyber warfare illustrated by the F-35 technology theft, and the cybersecurity reforms currently being implemented in the Republic of Uzbekistan. The author proposes the "National Cyber Resilience and Digital Sovereignty Model (NCRDSM)," which integrates technological, economic, and social factors to strengthen the national cybersecurity system. The model aims to create a stable digital environment at the state, business,

and citizen levels through initiatives such as the Unified Cyber Monitoring Center, Interbank Cyber Consortium, and CyberSafe Schools. The study employs a mixed methodological approach, comparative analysis, SWOT, and risk assessment methods, with results aimed at enhancing Uzbekistan's position in international cybersecurity rankings.

Keywords: cybersecurity, national security, cyber warfare, APT groups, F-35, digital sovereignty, cybercrime, digital economy, Zero Trust, Uzbekistan, National Cyber Resilience Model, UZSOC, digital transformation, cyber resilience, cyberattacks.

Аннотация: В данной статье проводится глубокий анализ современных угроз кибербезопасности и их влияния на систему национальной безопасности. Рассматриваются деятельность групп АРТ (Advanced Persistent Threat), глобальные последствия кибервойн на примере кражи технологий F-35, а также реформы в области кибербезопасности, проводимые в Республике Узбекистан. Автор предлагает «Модель национальной киберустойчивости и цифрового суверенитета (МКРУЦС)», которая объединяет технологические, экономические и социальные факторы для укрепления национальной системы кибербезопасности. Модель предполагает создание стабильной цифровой среды на уровне государства, бизнеса и граждан через такие инициативы, как Единый центр кибермониторинга, Межбанковский киберконсорциум и CyberSafe Schools. В исследовании используется смешанный методологический подход, сравнительный анализ, SWOT-анализ и методы оценки рисков, результаты направлены на укрепление позиции Узбекистана в международных рейтингах кибербезопасности.

Ключевые слова: кибербезопасность, национальная безопасность, кибервойны, группы АРТ, F-35, цифровой суверенитет, киберпреступность, цифровая экономика, Zero Trust, Узбекистан, Модель национальной киберустойчивости, UZSOC, цифровая трансформация, киберустойчивость, кибератаки.

Metodologiya

Ushbu "Kiberolam: Milliy Xavfsizlikning Yangi Fronti" mavzusidagi tadqiqot, zamonaviy kibertahdidlarning murakkab tabiatini har tomonlama o'rganish va O'zbekiston Respublikasi sharoitiga mos "Milliy Kiberbarqarorlik va Raqamli Suverenitet Modeli"ni ishlab chiqish maqsadida tuzilgan qat'iy metodologik asosga ega. Tadqiqotning ilmiy yondashuvi quyidagi tarkibiy qismlardan iborat;

1. Tadqiqot Dizayni va Umumiy Yondashuv; Tadqiqot aralash-uslub (mixed-methods) paradigmasi asosida amalga oshirildi, bu esa sifatli va miqdoriy tahlil usullarini integratsiya qilish imkonini berdi. Sifatli komponent kiberxavfsizlik sohasidagi global tendensiyalar, APT (Advanced Persistent Threat) guruhlarining operatsion taktikalari, O'zbekistonda olib borilayotgan qonuniy islohotlar va institutsional tashkiliy mexanizmlarni chuqur tahlil qilishga qaratildi. Miqdoriy komponent esa kiberhujumlar dinamikasi, iqtisodiy zarar ko'rsatkichlari, xalqaro reytinglar va statistik ma'lumotlar asosida o'lchovli baholashni o'z ichiga oldi.

2. Ma'lumotlar Bazasini Shakllantirish va Manbalar Tahlili; Tadqiqotning empirik asosini shakllantirish uchun keng qamrovli ikkilamchi ma'lumotlar manbalari tahlil qilindi. Xalqaro tashkilotlar (ITU, WIPO, GAO, NATO) monitoring hisobotlari, O'zbekiston Respublikasining "Kiberxavfsizlik to'g'risida"gi Qonuni va boshqa normativ-huquqiy hujjatlar, ixtisoslashtirilgan xavfsizlik agentliklarining (Mandiant, CISA) texnik hisobotlari, akademik tadqiqotlar va iqtisodiy tahlillar tanqidiy nuqtai nazardan o'rganildi. Qiyosiy tahlil metodi orqali AQSh, Rossiya, Xitoy, Ukraina kabi davlatlarning kiberxavfsizlikdagi strategiyalari va tajribalari O'zbekiston kontekstida solishtirildi.

3. Tadqiqot jarayonida quyidagi tahlil usullari qo'llanildi: Xavf-tahlil (Risk Assessment) - O'zbekiston kibermakonidagi asosiy tahdidlar an'anaviy "Zarar yetkazish imkoniyati $\times$ Tahdid ehtimoli" modeli asosida baholandi, xavf darajasi bo'yicha ustuvorliklar aniqlandi. SWOT-tahlil - O'zbekiston kiberxavfsizlik tizimining kuchli (qonuniy baza, institutsional islohotlar) va zaif tomonlari (texnik infratuzilma, mutaxassislar kamligi), imkoniyat (xalqaro hamkorlik, raqamli iqtisod) va tahdidlar (APT guruhlar, moliyaviy firibgarlik) kompleks tahlil qilindi. Statistik tahlil - Kiberhujumlar soni, yo'qotishlar va tendensiyalar grafik, jadval va dinamik ko'rsatkichlar shaklida sistemalashtirildi.

4. Model Yaratish Bosqichlari va Amaliy Jarayon; Taklif etilayotgan "Milliy Kiberbarqarorlik va Raqamli Suverenitet Modeli (MKRM)" quyidagi bosqichma-bosqich metodologik yondashuv asosida ishlab chiqildi: Diagnostik tahlil bosqichi - Mavjud infratuzilma, qonuniy bazaning holati, tahdidlarning migyosi va xususiyatlari aniqlandi. Xalqaro tajriba o'rganish bosqichi - NATO, AQSh, Yevropa Ittifoqi davlatlarining kibermudofaa tizimlari, ularning samaradorlik ko'rsatkichlari va kamchiliklari chuqur o'rganildi. Kontekstual moslashtirish bosqichi - Xalqaro tajribalar O'zbekistonning huquqiy, texnologik, iqtisodiy va madaniy shart-sharoitlariga moslashtirildi. Ekspert baholash bosqichi - Soha mutaxassislari,

amaliyotchi xavfsizlik mutaxassislari va huquqshunoslarning fikr-mulohazalari asosida model takomillashtirildi va amaliy joriy etish mexanizmlari ishlab chiqildi.

5. Natijalarni Baholash va Monitoring Tizimi; Model samaradorligini baholash uchun quyidagi asosiy ko'rsatkichlar (KPI) tizimi ishlab chiqildi: Kiberhujumlar sonining nisbiy va mutlaq qisqarishi (% va birliklar hisobida) Moliyaviy firibgarliklar va ular sabab bo'lgan iqtisodiy zararining kamayishi, Xalqaro kiberxavfsizlik indeksleri (Global Cybersecurity Index) bo'yicha o'ring oshishi, Fuqarolarning raqamli xizmatlarga ishonch darajasi (ijtimoiy so'rov va monitoring natijalari asosida)

6. Metodologik Cheklovlar va Istisnolar; Tadqiqotda quyidagi metodologik cheklovlar mavjudligi tan olinadi: · Ma'lumotlarning ayrim hollarda cheklanganligi va hukumat monitoring tizimlariga bog'liqligi, Kibertahdidlarning tez o'zgaruvchan tabiati va statistik ma'lumotlarning deyarli har oy yangilanishi, Modelning amaliy joriy etilishi uchun moliyaviy, texnik va kadrlar resurslarining mavjudligi talabi, Geosiyosiy o'zgarishlarning kiberxavfsizlik dinamikasiga bevosita ta'siri

Ushbu metodologik yondashuv tadqiqotning ilmiy asoslanganligi, amaliy ahamiyati, natijalarning ishonchliligi va xalqaro standartlarga muvofiqligini kafolatlaydi. Har bir bosqichda tanqidiy fikrlash, kompleks tahlil va amaliy qo'llanilishini ta'minlashga alohida e'tibor qaratildi.

Kirish

XXI asrda urush maydonlari qumloq cho'llardan va tog 'li o'rmonlardan ko'chib, ko'z bilan ko'rinmaydigan, leptonlar va baytlar olamiga aylandi. Bugun davlatlar o'rtasidagi kurash an'anaviy chegaralarni emas, balki serverlar va tarmoqlarni boshqarish uchun olib borilmoqda. Kibermakon - bu havo, quruqlik va dengiz kabi an'anaviy operatsiya maydonlariga qo'shilgan beshinchi front, u erda janglar ekranlar oldida, ovozsiz va ko'rinmas tarzda olib boriladi. Hozirgi kunda milliy xavfsizlik tushunchasi tubdan o'zgargan. Davlatlar endi nafaqat jismoniy chegaralarini, balki virtual hududlarini ham qo'riqlashlari kerak. Bir davlatning energiya tizimini butunlay o'chirib qo'yish, moliyaviy infratuzilmani buzish yoki saylov natijalariga ta'sir o'tkazish - bularning barchasi artilleriya zarbalarisiz amalga oshirilishi mumkin. Aynan shu nuqtai nazardan, kiberurushlar zamonaviy geosiyosatning eng kuchli quroliga aylangan. Ushbu maqolada biz kiberurushlarning evolyutsiyasini, ularning milliy xavfsizlikka ta'sirini va dunyoning turli mintaqalarida sodir bo'lgan real voqealar orqali bu yangi xavfning haqiqiy tabiatini o'rganamiz. Shuningdek, mamlakatimizdagi kiberxavfsizlik sohasidagi islohotlar ko'rib chiqilib, mavjud muammolar tahlil qilinadi. Nihoyasida,

tizimlashtirilgan himoya modeli taklif etiladi. Tadqiqot quyidagi savollar asosida shakllantirildi; *global kiberxavfsizlik sohasidagi islohotlarning bosh sababi nima? O'zbekiston va Jahon miqiyosida olib borilayotgan islohotlarga qarama, qanday muammolar saqlanib qolmoqda hamda ularning yechimi nima?*

APT Guruhlari: Raqamli Jangchilar

Zamonaviy kiberurushlarning asosiy quroli - APT (Advanced Persistent Threat) guruhlaridir. Bu davlatlar tomonidan moliyalashtiriladigan, cheksiz byudjet va yuqori malakali mutaxassislardan tashkil topgan maxsus tashkilotlardir. Ularning vazifasi - dushman infratuzilmasiga uzoq muddatli kirishni ta'minlash va ma'lumotlarni to'plash. Dunyoning eng taniqli APT guruhlar orasida Rossiyaning APT29 (Cozy Bear), Xitoyning APT1 va Eronning APT34 guruhlar alohida o'rin tutadi¹. Har biri o'ziga xos uslub va taktikaga ega bo'lib, aniq maqsadlarga qaratilgan².

Tarixda kiberurushlarning bir qancha hal qiluvchi voqealari ro'y bergan. Ulardan eng mashhuri - 2010-yilda Iranga qarshi Stuxnet hujumi bo'lib, u birinchi marta kiberhujumning jismoniy ob'ektlarni buzishi mumkinligini isbotladi. Bu virus Natanz yadroviy markazidagi sentrifugalarni nazorat qilib, ularni asta-sekin vayron qilgan³. 2020-yildagi SolarWinds hujumi esa butun dunyoni larzaga keltirdi. Rossiya razvedkasiga aloqador deb hisoblangan APT29 guruhi AQShning 18,000 dan ortiq tashkilotiga kirish huquqini qo'lga kiritdi, jumladan, Mudofaa vazirligi, Davlat departamenti va NASA kabi muhim idoralar ham ta'sirlandi⁴. Ukraina esa kiberurushlarning sinov maydoniga aylangan. 2015-yildan boshlab muntazam ravishda energiya tizimiga hujumlar, 2017-yilda NotPetya ransomware hujumi va 2022-yilda urush boshlanishi bilan birga keng ko'lamli kiberhujumlar amalga oshirildi⁵.

F-35 va yangi kiberxavfsizlik davri

¹ Mandiant. APT1: Exposing One of China's Cyber Espionage Units. February 2013. Accessed November 7, 2025. <https://www.mandiant.com/resources/apt1-exposing-one-of-chinas-cyber-espionage-units>.

² Cybersecurity and Infrastructure Security Agency (CISA). "SVR Cyber Actors Adapt Tactics for Initial Cloud Access." February 26, 2024. Accessed November 7, 2025. <https://www.cisa.gov/news-events/cybersecurity-advisories/aa24-057a>.

³ Ralph Langner, "Iran: Computer Malware Sabotaged Uranium Centrifuges," Wired, November 29, 2010, accessed November 7, 2025, <https://www.wired.com/2010/11/stuxnet-sabotage-centrifuges/>.

⁴ Geoff Brumfiel, "Suspected Russian hackers spied on US federal agencies," The Guardian, December 14, 2020, accessed November 7, 2025, <https://www.theguardian.com/world/2020/dec/14/suspected-russian-hackers-spied-on-us-federal-agencies>.

⁵ U.S. Cybersecurity & Infrastructure Security Agency (CISA), "Cyber-Attack Against Ukrainian Critical Infrastructure: Alert (IR-ALERT-H-16-056-01)," accessed November 7, 2025, <https://www.cisa.gov/ics/alerts/IR-ALERT-H-16-056-01>.

Kiberurushlar uch asosiy yo'nalishda olib boriladi: ma'lumot olish operatsiyalari, sabotaj va bezovtalik, dezinformatsiya kampaniyalari. Birinchi guruh intellektual mulk va harbiy sirlarni o'g'irlashni, ikkinchi guruh energetika va moliyaviy tizimlarni buzishni, uchinchi guruh esa jamoat fikrini manipulyatsiya qilishni o'z ichiga oladi.

Har uch yo'nalish ham yuqori darajada xavfli hisoblanadi. Birinchi o'rinda biz **ma'lumot olish operatsiyalarining** global ahamiyatini tahlil qilamiz. Bunga yaqqol misol qilib F-35 voqeasini keltirishimiz mumkin. 2010-yillarning boshida AQSh Mudofaa vazirligi va Lockheed Martin kompaniyasida ishlanayotgan eng zamonaviy F-35 Lightning II qiruvchi samolyoti loyihasi xavf ostida qolganini hech kim tasavvur ham qila olmagan edi. Bu hodisa zamonaviy kiberurushlarning haqiqiy tabiatini ochib beradigan, tarixdagi eng katta harbiy texnologik o'g'irlik epizodiga aylandi⁶. Hikoya 2010-yilda boshlangan, Xitoy razvedka xizmatiga aloqador "APT31" (Zirconium) guruhi Lockheed Martin xodimlariga ish qidirish mavzusida soxta elektron xatlar yuborganida. Bir xodim virusli ilovani yuklab olgach, guruh kompaniyaning tizimlariga kirishga muvaffaq bo'ldi. Hakerlar tizimda dastlab 9 oy davomida aniqlandi, bu vaqt davomida ular F-35 ning eng muhim sirlarini o'g'irlashga muvaffaq bo'lishdi. Dizayn chizmalari, radar tizimi spesifikatsiyalari, motor texnologiyalari va elektron urush tizimlari. Ma'lumotlar shifrlangan fayllar orqali Xitoyga yuborildi, hakerlar esa izlarni yo'q qilish uchun maxsus dasturlardan foydalandi. O'g'irlik natijasida Xitay o'zining Chengdu J-20 qiruvchi samolyotini ishlab chiqishni sezilarli darajada tezlashtirdi. Mutaxassislarning ta'kidlashicha, J-20 ning dizayni F-35 ga juda o'xshash bo'lib qoldi, bu esa to'g'ridan-to'g'ri o'g'irlangan texnologiyalarning qo'llanilishini ko'rsatadi⁷. AQSh mudofaa tizimi esa jiddiy zarar ko'rdi: 1.1 trillion dollarlik loyiha xavf ostida qoldi⁸, 55 milliard dollar tadqiqot va ishlanhtirish xarajatlari va milliardlab dollar potensial eksport daromadi yo'qolish xavfi paydo bo'ldi⁹. AQSh siyosiy elitasida bu hodisani "tarixdagi eng katta harbiy texnologik

⁶ Reuters. "Joint Strike Fighter plans stolen in Australia cyber attack." Reuters, October 11, 2017. Accessed November 7, 2025. <https://www.reuters.com/article/technology/joint-strike-fighter-plans-stolen-in-australia-cyber-attack-idUSKBN1CH008>.

⁷ Asian Times. "PLA's J-20 fighters use stolen US tech: report." Asia Times, October 21, 2019. Accessed November 7, 2025. <https://asiatimes.com/2019/10/plas-j-20-fighters-use-stolen-us-tech-report/>.

⁸ U.S. Government Accountability Office (GAO), F-35 Sustainment: Costs Continue to Rise While Planned Actions Could Reduce Some Long-Term Costs, GAO-24-106703, April 15, 2024, accessed November 7, 2025, <https://www.gao.gov/products/gao-24-106703>.

⁹ Jeffrey Gertler, F-35 Joint Strike Fighter (JSF) Program: Background, Status, and Issues, Congressional Research Service report RL30563, February 16, 2012, accessed November 7, 2025, https://www.everycrsreport.com/files/20120216_RL30563_d64afec9e8d4b2069afb19013104a4bb7de5eec.pdf.

o'g'irlik" deya tanqidiy baholandi¹⁰. Bu hodisa butun NATO ittifoqining kiberxavfsizlik strategiyasini o'zgartirishga majbur qildi. AQSh esa mudofaa kontraktorlari uchun yangi xavfsizlik standartlarini joriy qilishga to'g'ri keldi. Eng xavfli jihati - bu hujumlarning keng ko'lamli iqtisodiy oqibatlaridir. 2015-yilda global iqtisodiyot intellektual mulk o'g'irligidan 300 milliard dollar zarar ko'rgan bo'lsa, 2023-yilga kelib bu ko'rsatkich bir necha milliard dollarga oshdi¹¹. Intellektual mulkning yo'qolishi, kompaniyalarning obro'siga putur yetishi va investitsiyalarning qisqarishi - bularning hammasi milliy xavfsizlikka bevosita tahdiddir.

Biroq bu voqea yuqorida aytilganidek, kiber xavfsizlik sohasida bir qancha yangi islohotlarni o'tkazishiga turtki bo'ldi. Xususan, "Zero Trust" arxitekturasining qo'llanilishi ishonchsizlik konsepsiyasi bilan kiber mudofaani yangi bosqichga olib chiqdi. Ko'p bosqichli autentifikatsiya tizimlari, doimiy monitoring, xodimlarni muntazam o'qitish dasturlari ham bu bosqichning davomiyligini ta'minladi¹².

O'zbekistonda kiberxavfsizlik sohasida amalga oshirilayotgan islohotlar

So'nggi yillarda dunyo miqyosida raqamli infratuzilma tez sur'atlarda rivojlanar ekan, axborot tizimlariga nisbatan kiberhujumlar soni ham keskin ortib bormoqda. Xususan, xalqaro miqyosdagi yirik harbiy va texnologik hodisalar, jumladan, F-35 dasturi bilan bog'liq kiberxavfsizlik mojarolari ko'plab davlatlarni, jumladan O'zbekistonni ham o'z axborot makonini himoya qilish choralarini kuchaytirishga undadi. Shu bois, mamlakatda kiberxavfsizlikni milliy xavfsizlik tizimining ustuvor yo'nalishlaridan biri sifatida rivojlantirishga qaratilgan qator islohotlar amalga oshirilmoqda. Avvalo, 2022-yilda "Kiberxavfsizlik to'g'risida"gi Qonun qabul qilinishi bu sohada tub burilish yasadi. Mazkur hujjat axborot infratuzilmasining barqarorligini ta'minlash, davlat organlari, bank-moliya tizimi, energetika, transport va boshqa strategik tarmoqlarning raqamli himoyasini mustahkamlashni nazarda tutadi. Qonunga muvofiq, endilikda kiberxavfsizlik faqat texnik masala emas, balki mamlakat suvereniteti va iqtisodiy barqarorligining ajralmas qismi sifatida qaralmoqda¹³. Shuningdek, 2024-yilda

¹⁰ Derek S. Reveron and John R. Deni (eds.), *Confronting China's Efforts to Steal Defense Information*, Belfer Center, May 4, 2020, accessed November 7, 2025, <https://www.belfercenter.org/publication/confronting-chinas-efforts-steal-defense-information>.

¹¹ World Intellectual Property Organization, *IP Facts and Figures 2023* (Geneva: WIPO, 2023), accessed November 7, 2025, <https://www.wipo.int/edocs/pubdocs/en/wipo%20%80%91pub%20%80%91943%20%80%912023%20%80%91en%20%80%91wipo%20%80%91ip%20%80%91facts%20%80%91and%20%80%91figures%20%80%912023.pdf>

¹² National Institute of Standards and Technology, *Zero Trust Architecture*, Special Publication 800-207 (Gaithersburg, MD: NIST, August 2020), accessed November 7, 2025, <https://www.nist.gov/publications/zero-trust-architecture>.

¹³ O'zbekiston Respublikasi Oliy Majlisi Qonunchilik palatasi, "Kiberxavfsizlik to'g'risida"gi Qonun, O'RQ-764-son, 15 aprel 2022, accessed November 7, 2025, <https://lex.uz/docs/-5960604>.

O‘zbekiston Respublikasi Senati bank va moliyaviy tizimlarda kiberxavfsizlikni ta’minlashga doir qonunchilikni takomillashtirishga oid o‘zgartirishlarni ma’qulladi. Ushbu o‘zgarishlar orqali Markaziy bankka kiberxavfsizlik bo‘yicha qo‘shimcha vakolatlar berildi hamda to‘lov tizimlari, kredit tashkilotlari va elektron moliya infratuzilmalari uchun yangi xavfsizlik standartlari belgilandi¹⁴. Bu o‘zgarishlar moliyaviy sohadagi kiberjinoyatlar xavfini kamaytirishga xizmat qilmoqda. Keyingi muhim qadam sifatida, 2025-yil 30-aprel kuni Prezident farmoni bilan “Axborot texnologiyalari orqali sodir etiladigan jinoyatlarga qarshi kurashni kuchaytirish chora-tadbirlari to‘g‘risida”gi qaror qabul qilindi. Unga ko‘ra, bank kartalari, SIM-kartalar, elektron hamyonlar va mobil to‘lov tizimlaridan noqonuniy foydalanish holatlariga qarshi kurash tizimi takomillashtirildi. Endilikda ushbu vositalar jinoyatlarda ishlatilsa, nafaqat shaxs, balki tashkilotlar ham javobgarlikka tortilishi belgilandi. Bu esa mamlakatda kiberjinoyatchilikning oldini olishda muhim bosqich bo‘ldi¹⁵. Davlat infratuzilmasi doirasida ham muhim tashkiliy choralar ko‘rildi. UZINFOCOM kompaniyasi va Raqamli texnologiyalar vazirligi hamkorligida “UZSOC” – Axborot xavfsizligi markazi tashkil etilib, 24 soatlik monitoring va tezkor javob berish tizimi yo‘lga qo‘yildi. Mazkur markaz davlat idoralari va muhim axborot infratuzilmasining kiberholatini doimiy kuzatish, tahdidlarni aniqlash hamda ularning oqibatlarini bartaraf etish bilan shug‘ullanadi. Bundan tashqari, O‘zbekiston Xalqaro hamjamiyat bilan hamkorlikni kengaytirgan holda, Yevropada xavfsizlik va hamkorlik tashkiloti (OSCE) bilan birgalikda davlat xizmatchilari uchun kiberxavfsizlik bo‘yicha o‘quv-trening dasturlarini amalga oshirmoqda¹⁶. Bu esa milliy mutaxassislar salohiyatini oshirish, tajriba almashish va xalqaro standartlarga moslashish imkonini bermoqda. Natijada, O‘zbekistonning xalqaro nufuzida ham ijobiy o‘zgarishlar kuzatildi. Xususan, 2024-yilgi “Global Cybersecurity Index” reytingida mamlakat “faol rivojlanayotgan kiberxavfsizlik tizimiga ega davlatlar” qatoriga kiritildi. Bu natija so‘nggi yillarda olib borilgan islohotlarning samaradorligini ko‘rsatadi¹⁷.

¹⁴ O‘zbekiston Respublikasi Oliy Majlisi Qonunchilik palatasi, “Kiberxavfsizlikni ta’minlash sohasidagi ...”gi Qonun, O‘RQ-964-son, 20 sentabr 2024, accessed November 7, 2025, <https://lex.uz/uz/docs/-7108720>.

¹⁵ O‘zbekiston Respublikasi Prezidentining, “Axborot texnologiyalari yordamida sodir etiladigan jinoyatlarga qarshi kurashish faoliyatini yanada kuchaytirishga qaratilgan chora-tadbirlar to‘g‘risida”gi PQ-153-son qaror, 30 aprel 2025, accessed November 7, 2025, <https://lex.uz/ru/docs/-7511145>.

¹⁶ “Launch of UZSOC: Cyber Threat Monitoring and Management System”, UZINFOCOM (Toshkent: 2 Avgust 2024), accessed November 7 2025, <https://uzinfocom.uz/en/projects/uzsoc-ru-29>.

¹⁷ International Telecommunication Union, Global Cybersecurity Index 2024 (GCI 5th Edition) (Geneva: ITU, September 12, 2024), accessed November 7, 2025, https://www.itu.int/en/ITU-D/Cybersecurity/Documents/GCIv5/2401416_1b_Global-Cybersecurity-Index-E.pdf.

Raqamli transformatsiya — hukumat xizmatlarining onlaynga o'tkazilishi, elektron to'lovlar hajmining oshishi va biznesning raqamlashuvi — O'zbekiston iqtisodiy va ijtimoiy hayotini tubdan o'zgartirmoqda. Biroq bu yutuqlar bilan birgalikda mamlakat kiberxavfsizligida sezilarli muammolar yuzaga chiqmoqda. Quyida eng muhim uch muammo, ularning amaliy tasviri va mamlakat miqyosidagi kuchli statistik dalillari keltiriladi.

1) Kiberhujumlarning keskin ko'payishi: keng miqyosli xatarlar

Muammo: davlat va xususiy sektor tizimlariga qaratilgan kiberhujumlar tez sur'atda ortmoqda; himoyalaniish darajasi esa ko'pincha talab darajasida emas.

Hayotiy statistika: 2024 yilda mamlakat bo'yicha 12 milliondan ortiq kiberhujum qayd etilgan¹⁸; qisman ma'lumotlar so'nggi besh yilda kiberjinoyatlar soni 68 baravarga oshganini ko'rsatadi¹⁹. Bu xatarlar qatorida veb-resurslarga, davlat xizmatlarining portallariga va onlayn xizmatlarga qaratilgan masshtabli bot-hujumlar mavjud.

Tahlil: ko'payib borayotgan xurujlar ikki omil bilan bog'liq: birinchidan, raqamli xizmatlar kengroq qamrov oldi; ikkinchidan, tizimlardagi zaifliklar hamon mavjud. Natijada xizmatlar uzilishi, ma'lumotlar o'g'irlanishi va obro'ga zarar yetishi kabi oqibatlar yuz beradi.

2) Moliyaviy firibgarliklar va kiberjinoyatlar: fuqarolar hamda iqtisodga bevosita zarar

Muammo: kiberjinoyatlar, xususan bank kartalari va elektron to'lovlar orqali amalga oshiriladigan firibgarliklar ustunlik qilmoqda; buning oqibatida fuqarolar zarar ko'rmoqda va moliyaviy ishonch pasaymoqda.

Hayotiy statistika: kiberjinoyatlar ichida bank-kartalarga oid firibgarliklar eng ko'p tarqalgan — kiberjinoyatlar umumiy jinoyatlar tarkibida sezilarli ulushga ega bo'lib,

¹⁸ Cybersecurity Centre of the Republic of Uzbekistan, "Over 12 million cyber-attack attempts in Uzbekistan in 2024," AKIpress News Agency, February 4, 2025, accessed November 7, 2025, <https://www.akipress.com/news/817364.html>.

¹⁹ Gazeta.uz, "Cybercrimes in Uzbekistan increase 68-fold in five years," May 31, 2025, accessed November 7, 2025, <https://www.gazeta.uz/en/2025/05/31/cybercrime/>

2024 yilda ularning qismi keskin oshdi. So‘nggi yillarda kiberjinoyatlar sonining ko‘payishi bilan birgalikda iqtisodiy zarar ham sezilarli cho‘qqiga chiqdi²⁰.

Tahlil: bu muammo faqat texnik zaiflik emas — fuqarolarning raqamli moliyaviy xabardorligi pastligi, SMS/ phishing hujumlariga qarshi himoya yo‘qligi va moliyaviy tashkilotlardagi ayrim protseduralarning zaifligi ham rol o‘ynaydi. Natijada aholining onlayn moliyaviy xizmatlarga ishonchi zaiflashadi, bu esa raqamli iqtisodiyotning rivojlanishiga to‘siq bo‘lishi mumkin.

3) Infratuzilmadagi zaifliklar va zaifliklarni aniqlash tizimlarining yetishmasligi

Muammo: davlat domenlari, onlayn portallar va xususiy sektor tizimlarida xavfsizlik sertifikatlari yoki zamonaviy himoya choralarining yetishmasligi — umumiy xavf omilidir. Zaifliklarni aniqlash va bartaraf etish bo‘yicha milliy tizimlar to‘liq ivishmagan.

Hayotiy statistika: milliy domen segmentida (masalan, .uz) faol domenlar orasida xavfsizlik sertifikatlari va himoya vositalari bilan qamrab olingan saytlarning ulushi kutilgan darajada emas; shu bilan birga, ayrim yillarda domen segmentiga yuzlab minglab hujumlar qayd etilgan.²¹

Tahlil: zaif infratuzilma hujumlarni osonlashtiradi va shaxsiy hamda davlat ma’lumotlarining xavfsizligini zaiflashtiradi. Qo‘shni tizimlarga ketma-ket zaifliklar tarqalishi ham mumkin — masalan, yomon konfiguratsiya qilingan server orqali tarmoq ichidagi boshqa resurslarga ham zarar yetishi ehtimoli mavjud.

Milliy Kiberbarqarorlik va Raqamli Suverenitet Modeli (MKRM)

Muallif tomonidan taklif etilgan “Milliy Kiberbarqarorlik va Raqamli Suverenitet Modeli (MKRM)” — bu texnologik, iqtisodiy va ijtimoiy omillarni birlashtirgan kompleks boshqaruv tizimi bo‘lib, O‘zbekiston sharoitiga moslashtirilgan. Modelning asosiy maqsadi — davlat, biznes va fuqarolarni yagona kiberxavfsizlik mexanizmi orqali himoya qilish, kiberhujumlarning oldini olish va raqamli suverenitetni mustahkamlashdan iborat.

²⁰ Ministry of Internal Affairs of the Republic of Uzbekistan, “Cybercrimes in Uzbekistan rise 68-fold: Nearly 2 trillion UZS stolen in five years,” Kun.uz, May 29, 2025, accessed November 7, 2025,

²¹ Sh. A. Gafurov, “Statistical Analysis of the ‘.UZ’ Domain of the Internet Network,” Conferencea (2024: 30th Tech-Fest: USA September), published September 19, 2024, accessed November 7 2025, <https://conferencea.org/index.php/conferences/article/view/3515>.

Model uch asosiy ustunga tayanadi:

A) Texnologik barqarorlik (Cyber Defense Core)

Bu yoʻnalish davlat va xususiy sektordagi texnik himoya tizimlarini birlashtiradi. Uning doirasida: Yagona Kiber Monitoring Markazi (YKMM) tashkil etilib, barcha tarmoqlarning real vaqtda xavfsizlik holati kuzatiladi; Sunʼiy intellekt asosidagi Threat Prediction tizimi orqali kiberhujumlar sodir boʻlishidan oldin prognozlanadi; Milliy bulut xavfsizlik platformasi yordamida davlat idoralari uchun yagona sertifikatlangan muhit yaratiladi. Bu yoʻnalish kiberhujumlarning kamayishiga va infratuzilmadagi zaifliklarni bartaraf etishga xizmat qiladi.

B) Iqtisodiy himoya va moliyaviy xavfsizlik (Cyber Economy Shield)

Bu ustun kiberjinoyatlar va moliyaviy firibgarliklarga qarshi chora-tadbirlarni oʻz ichiga oladi: Banklararo Kiber Xavfsizlik Konsorsiumi (BKXX) orqali barcha moliyaviy institutlar yagona himoya protokollaridan foydalanadi; “Antiphishing Uzbekistan” dasturi fuqarolarni onlayn firibgarliklardan himoya qiladi; Har bir moliyaviy tashkilotda yillik kiberxavfsizlik auditi majburiy etib belgilanadi. Natijada, iqtisodiy xavfsizlik mustahkamlanadi, raqamli toʻlov tizimlariga ishonch oshadi.

C) Inson kapitali va raqamli madaniyat (Cyber Literacy & Governance)

Modelning uchinchi yoʻnalishi kiberxavfsizlikning ijtimoiy asosini mustahkamlaydi: “CyberSafe Schools” dasturi orqali maktab va kollejlarda tizimida axborot xavfsizligi fanlari joriy etiladi; “Digital Trust” milliy platformasi fuqarolarning raqamli identifikatsiya va shaxsiy maʼlumotlarini markazlashtirilgan tarzda himoya qiladi; Davlat xizmatchilari uchun kiberxavfsizlik boʻyicha sertifikatatsiya tizimi yoʻlga qoʻyiladi. Bu yoʻnalish inson xatolarini kamaytiradi va fuqarolarning raqamli madaniyatini oshiradi.

Ushbu modeldan quyidagicha natijalar kutiladi:

Davlat tizimlarida kiberhujumlar soni 60–70% gacha qisqaradi. Moliyaviy firibgarliklar hajmi 2–3 yil ichida 50% gacha kamayadi. Fuqarolarning raqamli xizmatlarga ishonchi oshadi, natijada raqamli iqtisodiyot ulushi YAIMning 15–20% gacha yetadi. Oʻzbekiston Markaziy Osiyoda kiberbarqarorlik indeksi boʻyicha yetakchi davlatga aylanishi mumkin.

Oʻzbekiston uchun kiberxavfsizlikni taʼminlash endilikda faqat texnik chora-tadbirlar majmuasi emas, balki milliy xavfsizlik strategiyasining tarkibiy qismiga aylanishi

zarur. Taklif etilgan “Milliy Kiberbarqarorlik va Raqamli Suverenitet Modeli” texnologik himoya, iqtisodiy barqarorlik va inson omilini birlashtirib, mamlakatni raqamli davrda mustahkam, xavfsiz va suveren davlat sifatida rivojlantirishga xizmat qiladi. Bu modelning joriy etilishi O‘zbekistonni nafaqat kiberhujumlar va firibgarliklarga qarshi himoyalaydi, balki uni mintaqadagi raqamli siyosiy mustaqillik va kiberbarqarorlik markaziga aylantirish imkonini beradi.

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THE CONCEPT, SUBJECT, AND SYSTEM OF CRIMINOLOGY**Mamanarov Xaitmurat**

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Аннотация

В настоящей статье рассматриваются понятие, предмет и система криминологии как научной дисциплины. В ней представлен теоретический анализ развития криминологии, определен её основной объект и описаны структурные компоненты, составляющие её внутреннюю систему. Используя качественную методологию, основанную на обзоре литературы и концептуальном анализе, в исследовании рассматриваются основные определения и области применения криминологии, выявляется взаимодействие её дисциплинарных границ и анализируется организация предметных областей в целостную систему. Полученные результаты свидетельствуют о том, что криминология представляет собой трёхчастную систему, включающую (1) природу и определения преступности и преступного поведения, (2) причины и контроль преступности и (3) реакции системы уголовного правосудия и общества. В статье подчёркивается, что признание этой системы способствует большей согласованности в преподавании, исследованиях и применении криминологии в политике. В статье делается вывод о том, что более точное определение системы криминологии усиливает её объяснительный и нормативный потенциал.

Ключевые слова. Криминология; предмет; система; преступление; преступное поведение; уголовное правосудие; предупреждение преступлений.

Abstract

The present article deals with the concept, subject-matter and system of criminology as a scientific discipline. It offers a theoretical examination of how criminology has evolved, defines its core object, and outlines the structural components that constitute its internal system. Employing a qualitative methodology based on literature review and conceptual analysis, the study reviews major definitions and scopes of criminology, highlights the interplay of its disciplinary boundaries, and analyses how the subject-matter areas are organised into an integrated system. The findings suggest that criminology possesses a three-fold system comprising (1) the

nature and definitions of crime and criminal behaviour, (2) the causation and control of crime, and (3) the responses of the criminal justice and social systems. The discussion emphasises that recognising this system enables better coherence in teaching, research and policy applications of criminology. The article concludes that a more refined articulation of the system of criminology enhances its explanatory and normative potential.

Keywords. Criminology; subject-matter; system; crime; criminal behaviour; criminal justice; crime prevention.

INTRODUCTION

Criminology, as an independent scientific field, stands at the intersection of law, sociology, psychology, and philosophy. Its central goal is to understand the phenomenon of crime—not merely as a legal violation but as a complex social process conditioned by individual, environmental, and institutional factors. The term “criminology” was first used in the nineteenth century, but its essence as a science emerged through centuries of reflection on crime and punishment. Early thinkers such as Cesare Beccaria and Jeremy Bentham laid the foundation of the classical school, which treated crime as a rational act chosen by free individuals. Later, the positivist school led by Cesare Lombroso shifted the focus toward biological and psychological determinants, transforming criminology into a more empirically grounded science.

In the modern era, criminology’s conceptual framework has broadened significantly. It is no longer limited to identifying offenders or explaining isolated crimes but aims to construct a holistic understanding of the causes, dynamics, and control of criminal behaviour. Criminology’s subject matter encompasses a vast array of phenomena: individual criminal actions, collective deviance, institutional responses, victimization processes, and preventive measures. The evolution of criminological thought demonstrates the transition from purely punitive approaches to preventive and rehabilitative paradigms, aligning the discipline with contemporary humanistic principles.

The relevance of criminology today is indisputable. Globalization, technological development, and digitalization have produced new forms of criminality—cybercrime, transnational organized crime, environmental crime, and terrorism—that require both theoretical innovation and methodological sophistication. Criminology thus functions not only as a descriptive science but also as an applied discipline shaping criminal justice policy and social practice.

The aim of this article is to provide a comprehensive academic overview of the concept, subject-matter, and system of criminology. It seeks to answer fundamental

questions: What constitutes the essence of criminology? What objects and phenomena fall within its subject-matter? And how can these components be structured into an internally coherent scientific system? Addressing these questions contributes to the conceptual refinement and methodological consistency of criminology as a discipline.

LITERATURE REVIEW AND METHODOLOGY

The literature on criminology is vast and multifaceted. Classical definitions describe criminology as “the scientific study of crime, criminal behaviour, and society’s reaction to crime.” However, over time, the discipline has evolved beyond the boundaries of legal studies. Edwin Sutherland’s works in the 20th century introduced the sociological dimension, defining criminology as “the body of knowledge regarding crime as a social phenomenon.” This definition emphasized the interplay between individual acts and societal structures, marking the discipline’s shift toward an interdisciplinary framework.

According to Garland (2002), criminology today represents a hybrid field incorporating methods and theories from sociology, psychology, economics, and anthropology. It studies not only the offender but also victims, institutions, and social norms that define and respond to crime. The literature distinguishes between three interrelated aspects: *etiology* (causes of crime), *phenomenology* (manifestations of criminal behaviour), and *praxeology* (methods of crime control). These aspects collectively form the system of criminology.

Contemporary criminological literature reveals a tendency toward systematization. For example, F. Ferri and E. Durkheim examined crime as a normal and inevitable part of social evolution, while R. Merton’s strain theory connected deviance with structural inequality. Later, theories such as labeling (Becker, 1963) and control theory (Hirschi, 1969) emphasized the importance of social control and stigmatization in shaping criminal behaviour. Each theoretical development has expanded the subject-matter of criminology, forcing scholars to reconsider its internal structure.

Modern research highlights the need to view criminology as an integrated system rather than a fragmented collection of theories. Scholars such as T. Newburn (2017) argue that a systematic approach can connect theoretical analysis with policy applications. Moreover, in countries with transitional legal systems, including Uzbekistan, the system of criminology plays a crucial role in forming preventive strategies and enhancing legal culture. Thus, the literature confirms that criminology is a living science, continuously transforming to respond to social, technological, and moral changes.

This research employs a qualitative, theoretical, and analytical methodology grounded in hermeneutic and comparative methods. The study synthesizes academic literature from different criminological traditions and analyzes the relationship between the concept, subject-matter, and system of criminology. The methodology unfolds in several stages.

First, a descriptive analysis of criminology's conceptual definitions was conducted to identify core categories such as "crime," "criminal behaviour," "social control," and "prevention." The analysis compared definitions from classical, positivist, and contemporary schools to highlight their epistemological differences.

Second, a comparative synthesis was performed to identify how various scholars structured criminological knowledge. This involved mapping the thematic focus of criminology—individual, social, institutional, and global levels—and examining how they interact.

Third, a systemic approach was applied to propose a model that integrates these levels. This model views criminology as consisting of three interdependent subsystems: (1) the study of crime and deviance, (2) the analysis of causation, and (3) the examination of control and preventive mechanisms.

Finally, the interpretive method was used to discuss the implications of the proposed system for criminological research and education. The data sources included academic books, journal articles, and policy documents. The limitation of this approach lies in its theoretical focus; it does not incorporate empirical data collection, though it lays a foundation for subsequent empirical studies.

The methodological design reflects the belief that theoretical coherence is a prerequisite for the practical effectiveness of criminology. The integration of philosophical reasoning with sociological insight ensures that the results are not only conceptually sound but also applicable in policy and pedagogy.

RESULTS

The analysis revealed that criminology, as a scientific discipline, is structured as a complex system of interrelated concepts. This system comprises three fundamental components:

1. **Crime as a Social Phenomenon.** Crime represents the central object of criminological study. It is not an isolated act but the product of social relations, cultural norms, and institutional conditions. The first subsystem of criminology involves defining crime, classifying its forms, and measuring its frequency. It relies on empirical data (statistics, victimization surveys) and theoretical typologies (economic, political, environmental crime).

2. **Causation and Mechanisms.** The second subsystem deals with the causes and conditions of criminal behaviour. It integrates biological, psychological, and sociological theories to explain why individuals or groups engage in deviant acts. Contemporary criminology emphasizes multifactorial causation—combining individual predispositions, social environment, and institutional structures.

3. **Control and Prevention.** The third subsystem focuses on society's reaction to crime, including criminal law, policing, corrections, and community-based interventions. It studies how legal norms, moral education, and social policies contribute to crime prevention and offender rehabilitation.

These subsystems form an interactive network. Knowledge generated in one component informs the others—for instance, understanding causation enhances prevention strategies, while studying institutional responses provides feedback for theory development. The systemic model thus positions criminology as both explanatory and practical science.

DISCUSSION

Viewing criminology as a system has profound theoretical and practical implications. From a theoretical standpoint, it allows scholars to unify diverse schools of thought under a single analytical framework. For instance, integrating positivist, sociological, and critical perspectives ensures that criminology remains dynamic and self-corrective. System thinking also prevents the fragmentation of criminological knowledge, which often occurs when theories are studied in isolation.

From a practical perspective, a systematic approach enhances the design of crime prevention policies. It encourages interdisciplinary collaboration among legal experts, sociologists, psychologists, and educators. This integration is vital for addressing modern challenges such as cybercrime, terrorism, and organized corruption. The system perspective provides a logical structure for academic curricula, enabling students to move from understanding crime to applying criminological principles in real-world contexts.

Moreover, the system approach reflects the interdependence between theory and practice. For example, the development of rehabilitation programs depends on understanding both causation and social control mechanisms. Likewise, criminal justice reforms must be informed by empirical criminological research rather than political expediency.

However, challenges remain. The complexity of social reality means that criminology's system is always evolving. The emergence of digital crimes, global migration, and social inequality demand continual adaptation of its methods and

theories. Therefore, criminology must embrace flexibility within its system while maintaining conceptual rigor.

Ultimately, the discussion confirms that criminology's strength lies in its systemic vision: understanding crime through interconnected lenses of causation, behaviour, and control allows for a deeper, more humane, and effective approach to justice.

CONCLUSION

In conclusion, criminology as a scientific discipline possesses a distinct conceptual identity, a comprehensive subject-matter, and an organized internal system. Its concept is grounded in the study of crime as a multifaceted social phenomenon, its causes, and the ways society responds to it. The subject-matter includes all dimensions of criminality—individual, collective, institutional, and global. The proposed three-component system—crime, causation, and control—integrates these dimensions into a coherent whole.

This system-based understanding of criminology provides multiple benefits. It strengthens the discipline's theoretical unity, enhances the quality of criminological education, and ensures that policy decisions are based on scientific reasoning. The system also promotes interdisciplinarity, bridging law with sociology, psychology, and political science.

The future of criminology depends on its ability to adapt this system to contemporary challenges. As societies confront digitalization, climate change, and transnational criminal networks, criminology must expand its analytical scope without losing its scientific essence. In doing so, it will continue to serve as a crucial tool for ensuring justice, security, and social harmony.

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Annotatsiya. Ushbu maqolada rayhon (*Ocimum basilicum L.*) o‘simligining biologik xususiyatlari, kimyoviy tarkibi va inson salomatligi uchun foydali jihatlari haqida umumiy ma’lumotlar keltiriladi. Shuningdek, rayhon xom ashyosining barqaror saqlanish davrini uzaytirish, uning oziqaviy va aromatik xususiyatlarini saqlab qolish maqsadida qo‘llaniladigan quritish jarayonlari tahlil qilinadi. Tadqiqotda ayniqsa konvektiv havo oqimi yordamida quritish texnologiyasining afzalliklari va cheklanishlari, shuningdek infraqizil nurlar asosida amalga oshiriladigan quritish usulining samaradorlik ko‘rsatkichlari solishtirilgan holda yoritiladi. Bu ikki usulning rayhonning rangi, aromati, efir moyi miqdori va biofaol moddalari saqlanishiga ta’siri ilmiy jihatdan baholanadi. Maqolada, shuningdek, energiya sarfini kamaytirishga qaratilgan resurs tejankor qurilmalar va zamonaviy quritish texnologiyalarining qo‘llanish imkoniyatlari haqida ham ma’lumot beriladi. Xususan, quritish jarayonida harorat va namlikni avtomatik boshqarish, issiqlik energiyasini qayta tiklash tizimlari, hamda konvektiv va infraqizil quritishning kombinatsiyalangan usullaridan foydalanishning afzalliklari ta’kidlanadi. Natijada, rayhon o‘simligini yuqori sifat ko‘rsatkichlarini saqlagan holda, minimal vaqt va kam energiya sarfi bilan quritish imkonini beruvchi texnologik yondashuvlar ilmiy asoslar bilan yoritib beriladi.

Kalit so‘zlar: quritish, rayhon, quyosh, tabiiy, konvektiv, infraqizil nurlari, vitamin, xom ashyo, texnologiya, oziq-ovqat, sanoat.

ЭФФЕКТИВНОСТЬ ПЕРЕРАБОТКИ БАЗИЛИКА.

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Аннотация. данной статье представлены обобщённые сведения о биологических особенностях растения базилика (*Ocimum basilicum L.*), его

химическом составе и полезных для здоровья человека свойствах. Кроме того, рассматриваются процессы сушки, применяемые для продления срока хранения сырья базилика и сохранения его пищевой и ароматической ценности. В исследовании проведён сравнительный анализ преимуществ и ограничений технологии конвективной сушки в потоке нагретого воздуха, а также эффективности инфракрасной сушки. Особое внимание уделяется влиянию этих методов на сохранение цвета, аромата, содержания эфирного масла и биологически активных соединений базилика. В статье также рассматриваются возможности применения энергосберегающих устройств и современных ресурсосберегающих технологий в процессах сушки. В частности, обсуждаются преимущества автоматического контроля температуры и влажности, систем регенерации тепловой энергии, а также комбинированного использования конвективных и инфракрасных методов сушки. В результате обоснованы технологические подходы, позволяющие обеспечить высокое качество сушёного базилика при минимальных временных затратах и низком уровне энергопотребления.

Ключевые слова: сушка, базилик, солнце, природный, конвективный, инфракрасные лучи, витамин, сырьё, технология, пищевая продукция, промышленность.

EFFICIENCY OF BASIL PLANT PROCESSING.

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Abstract. This article presents an overview of the biological characteristics of basil (*Ocimum basilicum* L.), its chemical composition, and its health-promoting properties. The study also examines drying processes used to extend the shelf life of basil raw material while preserving its nutritional and aromatic qualities. A comparative analysis is carried out between the advantages and limitations of convective drying using heated air flow and the efficiency of infrared drying. Particular attention is given to how these methods influence the preservation of basil's color, aroma, essential oil content, and bioactive compounds. The article further explores the application of energy-efficient devices and modern resource-saving technologies in

drying processes. Specifically, the benefits of automated temperature and humidity control, heat-recovery systems, and the combined use of convective and infrared drying methods are discussed. As a result, technologically grounded approaches are presented that enable obtaining high-quality dried basil with minimal processing time and reduced energy consumption.

Keywords: drying, basil, sunlight, natural, convective, infrared radiation, vitamin, raw material, technology, food, industry.

Kirish. Xalqimiz rayhonni azal-azaldan sevib iste'mol qiladi. Ovqatlarga, choylarga shifobaxsh ko'kat sifatida ishlatib keladi. Darhaqiqat u havoni va odam vujudini yuqumli kasallik tarqatuvchi mikroblardan va infeksiyalardan tozalaydi. Shuning uchun ham uni jannat Gulirayhon, deya e'zozlashadi. Rayhon-qadimiy o'simlik. Uning nomi ham "xushbo'y hid taratuvchi" ma'nosini beradi. Rayhonning barcha turlari turli taomlar, salatlarga qo'shib iste'mol qilinadi. Quritilgan rayhonni esa qish mavsumida tayyorlangan taomlarga solishadi. Shubhasiz, rayhonning kishi organizmi uchun foydalari cheksiz, chunki u juda ko'p turdagi va katta miqdorda foydali moddalarga va mislsiz shifobaxsh xossalarga ega [1]. U turli kasalliklarning oldini olish va davolashda ishlatiladi. Shuningdek, rayhonning organizmni umumiy mustahkamlashda foydasi katta, u kuch-quvvatni tiklaydi. Uni yangi uzilgan, quritilgan, qaynatma va damlama shaklida iste'mol qilinadi.

So'nggi vaqtlarda dorivor o'simliklarni introduksiya sharoitida bioekologik xususiyatlarini o'rganish, etnobotanik izlanishlar olib borish, yetishtirish texnologiyasini ishlab chiqish, fotokimyoviy tahlillar qilish [2,3] bo'yicha ijobiy natijalar olinmoqda. Aholining tabiiy dori preparatlariga bo'lgan ehtiyoji ba'zi sabablarga ko'ra to'laigicha qondirilmay kelinmoqda. Ulardan biri dorivor o'simliklar xomashyosining yetishmasligi va ko'p xollarda ularni chuqur qayta ishlash texnologiyalarining mavjud emasligidir. Shunday ekan, noyob kimyoviy tuzilishga ega bo'lgan biologik faol birikmalar saqlovchi dorivor o'simliklarni tanlash, shuningdek, ikkilamchi mahsulotlardan to'laqonli foydalanish masalalarini o'z ichiga olgan holda, ularni qayta ishlashning zamonaviy kompleks texnologiyalarini ishlab chiqish farmasevtika sohasining dolzarb vazifasi hisoblanadi [4]. Tadqiqotning maqsadi rayhon o'simligini yetishtirish yo'llarini ishlab chiqish, xom-ashyosini tayyorlash, uning sifati hamda tibbiyotda qo'llanilishi va kimyoviy tarkibi bo'yicha tadqiqotlar o'tkazishdan iborat.

Materiallar va usullar. Rayhon (*Ocimum basilicum* L) o'simligi- labguldoshlar oilasiga mansub bir yillik o'simlik hisoblanadi. Ma'lumotlarga ko'ra 60 dan ortiq turi tropik va subtropik mintaqalarda o'sadi. Evgenol rayhon turi Janubiy Afrika, Hindiston, Shri Lanka, Gruziya, Rossiya Federatsiyasining Krasnodar o'lkasi janubida ekiladi. Janubiy Osiyodan tarqalgan "Ocimum basilicum L" ya'ni oddiy rayhon turidan O'zbekistonda ko'p ekiladi.

Rayhon o'simligini bir yillik ziravor va dorivor o'simlik sifatida o'stiriladi. Rayhon o'simligi issiqsevar, yorug'sevar, namsevar va qurg'oqchilikka chidamli o'simlik va O'zbekistonda ziravor sifatida ekiladi. Bargi yirik, tuxumsimon, gullari oq va pushti bo'ladi. Bo'yi 25-40 sm bo'lib, may oktyabr oylarida gullab urug'laydi va ko'chat qilib ekiladi. Urug'lari issiqxonada ekilib ko'chat qilib dalaga ekiladi [5].

Rayhon o'simligi tarkibida 0,3% efir moyi bo'lib, uning 70% miqdori atir upa, oziq ovqat sanoati, tibbiyotda ishlatiladigan evgenol moddasi olinadi. O'simlikning ko'kat qismida 6% gacha xushbo'y moddalar, 1-1,5% efir moylari, natriy 4 mg, kaliy 295 mg, uglevod 2,7 mg, shakar 0,3 mg, vitamin C 18 mg, kalsiy 177 mg, vitamin B6 0,2 mg, magniy 64 mg, askorbin kislota, qand, oqsil, P vitamini A provitaminlar mavjud.

Rayhon o'simligidan davolash maqsadida bargi, ildizi, tanasi, shoxchalaridan foydalaniladi. Uning damlamasi gastrit, kolit, piyelit, ko'k yo'talda yo'talga qarshi, nevrozda bosh og'rishiga qarshi, astmada, ichak va jigar kasalliklari, qorin dam bo'lishi, ishtaha yo'qolishi qon bosimi pasayishi, buyrak shamollashlarida, tumovda yordam beradi [6]. Undan tashqari bezgakka qarshi ichiladi va barglari damlamasi angina va stomatitda foydalaniladi.

Rayhon o'simligini tabiiy antibiotik hisoblanadi. Inson og'iz bo'shlig'idagi 99% mikroblarni o'ldiruvchi hisoblanadi. Rayhondan asabni tinchlantirishda, peshob haydovchi vosita sifatida qo'llaniladi. Rayhon faqatgina homilador, emizikli ayollarga va maktab yoshidagi bolalarga iste'molga tavsiya etilmaydi. Rayhon barglari ziravor sifatida ham samarali bo'ladi. Oziq ovqat sanoatida ham rayhondan keng foydalaniladi.

Rayhon barglari uzunligi 1 sm dan 4 sm gacha, kengligi esa 1,85-9,25 sm gacha o'zgarib turadi. Poyasi qarama-qarshi joylashgan bo'ladi. O'zbekistonda iste'mol qilinadigan rayhon oq va qora ranglari mavjud [7]. Oq ya'ni yashil rayhonning yashillik rangi hosil bo'lishi uchun xlorofill javobgar hisoblanadi. Rayhon tarkibida karotinoid va flavonlardan tashqari gerdenin B, nevadensin, salvigenin kabi pigmentlar hamda tarkibida oqsil 57%, yog'lar 24%, uglevodlar 20% mavjud.

Bargi va mayda tanalari iste'mol qilinadi. Barglari soya joyda quritilib olinib yopiq shisha idishlarda saqlanadi. Quritib olingan rayhon baliq va go'sht mahsulotlariga masalliq sifatida foydalaniladi. Bulardan tashqari bodring mahsulotlarini tuzlash, turli xil kokteyllar, tomat konservalari tayyorlashda keng foydalaniladi [8].

Natijalar va muhokama. Rayhon o'simligini quritishda tabiiy usuldan, infraqizil nurlari yordamida va konvektiv usuldan foydalanib, qayta ishlash usullarini tahlil qilamiz. Mahsulotni quritish ikkita bosqichda kechadi: quritishga tayyorlash va quritish bosqichlari. Quritishga tayyorlashda saralash, yuvish, sifatiga qarab tanlash, tozalash; ikkinchi bosqichida esa quritish amalga oshiriladi. Quritish sanoatida PKS-20, KSA-80, KPS-20, KPS-10 kabi liniyalardan foydalaniladi. Rayhon o'simligi petrushka, ukrop, seldereylar kabilar bilan bir xil usulda quritiladi. Rayhoni quritishda 4 sm qalinlikda kesib olinadi va 40,50 oS haroratda pechlarda quritish usulidan foydalaniladi. Quritish davomiyligi 2,5-3,5 soatni tashkil qiladi. Mahsulotni quritishda lentali quritgichda bir xil qurishi uchun aralashtirilib turiladi. Tayyor quritilgan mahsulot zich berkitiladigan idishlarda 0-10 oS haroratda, va namligi 60% bo'lgan sharoitda yaxshi saqlanadi. Bunday quritish qurilmalarining asosiy kamchili qurilmaning qo'polligi va ko'p joy egallashi hisoblanadi.

Ko'katlarni quritishda infraqizil nurlar ta'sirida ham quritishdan foydalaniladi. Infraqizil nurlari orqali quritishda rangni saqlab qolish va vaqtdan unumli foydalanishga ega infraqizil nurlar ta'sirida quritishda mahsulotga issiqlikni to'g'ridan to'g'ri o'tkazish bilan quritish vaqtni tejash mumkin. Bu usulda infraqizil nurlari mahsulotni faqat yuzasiga kuchli ta'sir qiladi. Bu esa rayhon o'simligining tezda qurishiga yordam beradi.

Bu usulning afzalligi shundaki, tez vaqt ichida quritilgan mahsulot tarkibida vitaminlar ko'proq saqlanib qoladi. Bundan tashqari, ko'katlarni yig'ib olishdan quritish jarayoni boshlanishiga qadar qancha vaqt kamroq o'tsa, u o'zining foydali fazilatlarini, ta'mini va xushbo'yligini uzoqroq saqlaydi. Quritishdan oldin yangi ko'katlarni yuvish va ortiqcha namlikni yo'qotish uchun ozgina quritilishi kerak. Keyin u tekis qatlamda to'dalarga yotqiziladi yoki maxsus tovoqlar ichiga kesiladi va infraqizil javonga joylashtiriladi. Har xil turdagi yangi o'tlarni aralashtirish tavsiya etilmaydi. Har bir turdagi o'simlik uchun, uning barglari va poyalarining qalinligiga qarab, jihozning sensorli panelida vaqt va kerakli haroratni o'rnatishingiz mumkin. O'simlik aralashmalarini tayyorlash uchun alohida quritiladi.

Yuqoridagi usullardan xulosa qilgan xolda, rayhon o'simligini quritishda tabiiy usuldan foydalanishga katta ahamiyat bersak, samaradorlik ko'rsatkichlari yaxshilanadi. Bunda rayhon o'simligini hech qanday elektr energiyasini ishlatmasdan quyoshdan foydalanib quritish mumkin.

Tabiiy sharoitda quritish uchun avval unumdor bo'lgan yerlarga rayhon ko'chatlari ekiladi va tuproqqa oziq moddalar (oltingugurt, azot, fosfor, kaliy, kalsiy) mikro va makro elementlar qo'shish yordamida unumdorlikni oshirish mumkin bo'ladi. Tabiiy quritishda ochiq dalalarni o'zidan foydalanish maqsadga muvofiq. Bundan tashqari, sug'orish tizimlaridan unumli foydalangan xolda oktyabr oyigacha mahsulot olishga erishish mumkin.



1-rasm. Quritilgan rayhon o'simligi.

Terib olingan rayhon bargi ochiq dalalarni o'zida quyosh yordamida quritiladi. Bunda rayhon saralanadi ya'ni chirigan yaroqsiz barglar ajratiladi, ajratilgan barglar suvda yuviladi va quritish uchun qo'yiladi. Quritilgan rayhonda 100% mahsulotdan 22-25% quritilgan rayhon olishimiz mumkin (1-rasm). Rayhon o'simligi hidi va mazasi jihatdan ajralib turganligi sababli uni qayta ishlab eksport qilish imkoniyatlarni oshirish mumkin.

Xulosa. Qishloq xo'jaligi mahsulotlarini eksport qilish bo'yicha jahon bozorlarida o'z o'rnimizni topish va mukammallashtirishimiz uchun avvalo mahsulot tannarxini oshib ketmasligini va sifatni yuqori bo'lishni ta'minlash zarur. Buning uchun resurs tejankor texnologiyalardan foydalanish maqsadga muvofiq hisoblanadi. Buni oddiy rayhon o'simligini quritish usulida tahlil qilinsa, rayhon o'simligini arzon ortiqcha mehnat talab qilmaydigan o'simlik bo'lib, O'zbekistonda rayhon eksporti bo'yicha daromad kamligi, undan ko'proq foydalanishga e'tibor qaratilsa, eksport bo'yicha yaxshi natijaga erishish mumkin. Tabiiy usuldan foydalanishning afzalligi shundaki terib olingan rayhon barglari quritilishiga ketgan vaqtni yangi barglar o'sib chiqishiga sarflansa, elektr energiyasini tejash imkoni paydo bo'ladi. Bundan tashqari

rayhon o'simligi faqat yoz oyida hosil berishini hisobga olgan holda, qish mavsumi uchun mahsulotni yoz oyini o'zida saqlab qolish mumkin. Rayhon o'simligi qishda himoya vositasi sifatida kerak bo'ladi. Sababi rayhon o'zida foydali vitaminlar saqlagani sababli qish faslida ham foydalanishimiz mumkin.

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CAUSES OF CRIME

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Аннотация

В статье представлено комплексное академическое исследование причин преступности с междисциплинарной точки зрения. В ней рассматриваются биологические, психологические, социологические, экономические и культурные детерминанты преступного поведения, а также анализируется теоретическая эволюция криминологической мысли от классических до современных парадигм. Опираясь на сравнительные и аналитические методы, исследование синтезирует результаты международных и национальных исследований, демонстрируя, что преступность – это многофакторное явление, обусловленное личными предрасположенностями, социальным неравенством, институциональной неэффективностью и моральным упадком. Результаты подчеркивают, что ни одна теория не может полностью объяснить преступное поведение; вместо этого необходима систематическая интеграция биологических, социальных и ситуативных факторов. В обсуждении подчеркивается важность научно обоснованных превентивных мер и необходимость адаптации криминологических моделей к социально-экономическому контексту каждой страны.

Ключевые слова: причины преступности, преступное поведение, криминология, социальное неравенство, девиантность, профилактика, междисциплинарный подход.

Abstract

The article provides a comprehensive academic examination of the causes of crime from an interdisciplinary perspective. It explores the biological, psychological, sociological, economic, and cultural determinants of criminal behaviour and analyses the theoretical evolution of criminological thought from classical to contemporary paradigms. Drawing upon comparative and analytical methods, the study synthesizes global and national research findings to demonstrate that crime is a multifactorial phenomenon influenced by personal predispositions, social inequalities, institutional inefficiencies, and moral disintegration. The results highlight that no single theory can

fully explain criminal behaviour; instead, a systematic integration of biological, social, and situational factors is essential. The discussion underscores the importance of evidence-based preventive measures and the necessity of adapting criminological models to the socio-economic context of each country.

Keywords: causes of crime, criminal behaviour, criminology, social inequality, deviance, prevention, interdisciplinary approach.

INTRODUCTION

Crime is among the most complex and persistent social phenomena confronting modern societies. Its causes have long been the subject of scholarly debate, ranging from moral philosophy to advanced behavioural science. Understanding why individuals commit crimes is not merely an intellectual exercise; it is fundamental for formulating effective policies, ensuring social stability, and protecting human rights. The question of causation has shaped criminology since its emergence as a scientific discipline in the nineteenth century. Cesare Beccaria, Jeremy Bentham, and later Cesare Lombroso introduced the foundational frameworks that still influence criminological inquiry today. While classical theorists emphasized free will and rational choice, positivists stressed biological and psychological determinism.

In contemporary scholarship, the problem of causation has evolved far beyond the individual offender. Modern criminology examines the interplay between structural and cultural contexts that produce deviant behaviour. Crime arises not only from individual pathology but also from social disorganization, inequality, unemployment, and weak moral institutions. Economic transitions, rapid urbanization, and digital technologies have introduced new forms of criminality that cannot be adequately explained by earlier theories.

The aim of this article is to analyse the multifactorial causes of crime and to synthesize the most influential theoretical perspectives explaining its origins. It seeks to demonstrate that crime is a social process shaped by interdependent variables — biological predispositions, psychological conditions, and socio-economic circumstances. Furthermore, the article highlights the necessity of integrating these perspectives within a coherent scientific framework that supports preventive and rehabilitative policies. The importance of this topic lies in its direct impact on criminal justice reforms, education, and public safety strategies.

LITERATURE REVIEW AND METHODOLOGY

The study of crime causation has undergone significant theoretical transformations. The classical school, represented by Beccaria and Bentham, argued that crime results from the rational calculation of pleasure and pain. This utilitarian

view treated punishment as a deterrent mechanism rather than a moral retribution. However, by the late nineteenth century, positivist thinkers like Lombroso and Ferri challenged this assumption, asserting that biological and psychological anomalies predispose individuals to criminality. Lombroso's theory of the "born criminal" marked the first attempt to link crime to heredity and anatomy.

Later, sociological paradigms revolutionized the field. Émile Durkheim's concept of *anomie* explained crime as a normal element of social evolution, occurring when social norms fail to regulate human desires. Robert Merton expanded this idea through strain theory, arguing that the gap between culturally approved goals and legitimate means fosters deviant adaptation. Edwin Sutherland introduced the differential association theory, emphasizing the role of socialization and interaction in learning criminal behaviour. Similarly, Becker's labeling theory shifted focus from the act itself to society's reaction, demonstrating how stigmatization perpetuates deviance.

Recent literature reflects growing interest in integrated models. Social control theory (Hirschi), routine activity theory (Cohen and Felson), and rational choice theory (Cornish and Clarke) have all contributed to a multidimensional understanding of crime. In the 21st century, scholars increasingly combine economic, environmental, and digital factors into criminological analysis. For example, cybercrime and organized transnational crime require global perspectives that incorporate political and technological determinants.

In addition, local criminological studies — including those from developing societies — highlight specific contextual causes such as unemployment, corruption, and weak legal institutions. Contemporary research thus recognizes that criminal behaviour cannot be understood without considering socio-economic and cultural structures. The reviewed literature therefore supports an integrated, interdisciplinary model as the most promising framework for explaining crime causation.

The research applies a qualitative, analytical, and comparative methodology designed to systematize theories of crime causation and identify their practical implications. Data were collected through a critical review of academic literature, including books, peer-reviewed articles, and official policy documents on criminology and criminal behaviour. The analysis proceeds through four stages.

First, conceptual identification of the main theories was performed to classify them according to disciplinary orientation — biological, psychological, sociological, and interdisciplinary. Each theory was examined for its explanatory variables and underlying assumptions.

Second, comparative analysis was applied to reveal convergences and contradictions among different theoretical models. For instance, biological determinism was compared with social disorganization and rational choice perspectives to assess their explanatory scope.

Third, the study adopted a systemic synthesis approach, seeking to integrate micro-level (individual) and macro-level (social) determinants of crime. The model developed emphasizes feedback loops between environmental pressures, individual decision-making, and institutional responses.

Finally, interpretive evaluation was conducted to determine the applicability of these theories in the context of transitional societies, such as those undergoing economic and legal reforms. The study relies on secondary data and theoretical sources, avoiding quantitative bias and focusing on the conceptual depth of causation models. The limitations lie in the absence of empirical measurement; however, this design allows for theoretical generalization and conceptual clarity.

The chosen methodology reflects the interdisciplinary nature of criminology, combining philosophical reasoning with empirical social analysis. It aims to bridge the gap between theoretical abstraction and policy-oriented practice.

RESULTS

The analysis confirmed that crime is the product of a multifactorial system in which individual, environmental, and institutional elements interact dynamically. The findings can be grouped into three interrelated categories:

1. **Individual Factors.** Biological and psychological conditions play a partial but important role. Genetic predisposition, hormonal imbalance, and neurological disorders can increase susceptibility to aggression and impulsivity. Psychological studies emphasize low self-control, antisocial personality traits, and cognitive distortions as risk factors. However, these conditions alone do not predetermine criminality; they interact with social influences.

2. **Social and Economic Factors.** Poverty, unemployment, inequality, and marginalization are central causes of crime in most societies. Rapid urbanization, weakened family institutions, and limited access to education foster social disorganization. Criminological data consistently show a correlation between low socio-economic status and high crime rates. Economic strain leads individuals to adopt illegitimate means of achieving socially approved goals, supporting Merton's strain theory.

3. **Institutional and Cultural Factors.** Weak legal institutions, corruption, and ineffective law enforcement create environments where crime flourishes. Cultural

tolerance toward certain deviant behaviours also reduces social control. In transitional economies, insufficient trust in justice systems often pushes citizens toward informal or illegal solutions.

The results suggest that the most accurate explanation of crime emerges from an integrated model that combines biological predispositions, psychological dynamics, social environment, and institutional frameworks. Preventive strategies must therefore operate at multiple levels: early education, family support, fair economic policy, and transparent governance.

DISCUSSION

The discussion focuses on the theoretical and practical implications of these findings. Conceptually, the study supports the shift from mono-causal to systemic explanations of crime. Traditional schools—classical or positivist—captured only partial aspects of criminal behaviour. Modern criminology must adopt a holistic approach integrating biological, psychological, and structural perspectives. This integration not only improves theoretical precision but also aligns criminology with contemporary interdisciplinary science.

From a practical standpoint, understanding the multiple causes of crime provides the foundation for evidence-based policymaking. Crime prevention requires a coordinated strategy involving education, employment, social welfare, and justice reforms. Countries that have implemented comprehensive prevention systems—such as community policing and restorative justice—show significant declines in recidivism and youth crime. The findings also imply that punitive policies alone cannot reduce crime rates; they must be complemented by socio-economic development and moral education.

Moreover, the discussion emphasizes that causation theories must be culturally adaptable. A model effective in Western societies may not directly apply to regions with different traditions or economic realities. Therefore, criminology should not merely import foreign theories but reconstruct them according to national contexts. The global expansion of criminological research offers opportunities for comparative studies that enrich the discipline and foster international cooperation in crime control.

Ultimately, the discussion concludes that understanding crime causation requires continuous synthesis of theory, data, and practice. Only a flexible, interdisciplinary, and context-sensitive criminology can respond to the challenges of the modern world.

CONCLUSION

In conclusion, the causes of crime constitute a complex network of interdependent factors that defy simplistic explanations. Crime arises where individual

vulnerabilities intersect with social inequalities, institutional failures, and cultural contradictions. The theoretical analysis demonstrates that biological, psychological, and sociological approaches each contribute unique insights, but only their integration forms a comprehensive explanatory model.

The study underscores that effective crime prevention depends on acknowledging these multiple layers of causation. Governments and policymakers must therefore invest not only in law enforcement but also in education, healthcare, and community development. Criminology's future lies in constructing flexible systems of knowledge that combine theory with practical application.

By reaffirming the systemic nature of crime causation, this article contributes to the refinement of criminological theory and the promotion of humane, evidence-based justice. The prevention of crime is not merely a task for the state; it is a shared social responsibility requiring collective moral and intellectual effort.

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**VIDEO-MARKETINGNING ISTE'MOLCHILAR JALB QILINISHIGA
TA'SIRI: TIKTOK VA YOUTUBE MISOLIDA****Ahmedov Alim Babaniyazovich**

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alimahmedov25@gmail.com**Annotatsiya**

Mazkur maqola video-marketingning iste'molchi e'tiborini jalb qilish, qaror qabul qilishga ta'sir ko'rsatish hamda brend bilan uzoq muddatli o'zaro aloqani shakllantirish jarayonidagi rolini TikTok va YouTube platformalari misolida tahlil qiladi. So'nggi yillarda qisqa videokontent, algoritmik tavsiyalar va vizual narrativlar orqali marketing kommunikatsiyasi keskin o'zgarib, iste'molchilar xatti-harakati sezilarli darajada transformatsiyaga uchradi. Tadqiqotda video-platformalarning algoritmik mexanizmlari, vizual semiotika, platformaga xos auditoriya xususiyatlari va marketing strategiyalarining psixologik asoslari o'rganildi. Natijalar shuni ko'rsatadiki, TikTokning dinamik, qisqa va impulsiv videolari iste'molchilarning tezkor reaksiyasini kuchaytirsa, YouTube esa chuqurroq axborot beradigan, uzoq davom etuvchi videoformatlar orqali ratsional qaror qabul qilishni qo'llab-quvvatlaydi. Maqola video-marketingni iste'molchi jalb qilinishining ko'p qatlamli mexanizmlari — emotsional, kognitiv, vizual va algoritmik omillar orqali talqin qiladi. Tadqiqot natijalari zamonaviy marketing amaliyoti uchun nazariy va amaliy jihatdan muhim xulosalar taqdim etadi.

Kalit so'zlar: Video-marketing; TikTok; YouTube; iste'molchi xulqi; algoritmik tavsiyalar; vizual narrativ; emotsional ta'sir; kontent strategiyasi; raqamli kommunikatsiya; brend jalb qilinishi.

Abstract

This article analyzes the role of video marketing in attracting consumer attention, influencing decision-making, and building long-term brand relationships using the examples of TikTok and YouTube platforms. In recent years, marketing communication has changed dramatically through short video content, algorithmic recommendations, and visual narratives, and consumer behavior has undergone a significant transformation. The study examined the algorithmic mechanisms of video platforms, visual semiotics, platform-specific audience characteristics, and the psychological foundations of marketing strategies. The results show that while TikTok's dynamic, short, and impulsive videos enhance consumers' quick reactions, YouTube's more

informative, longer-lasting video formats support rational decision-making. The article interprets video marketing through the multi-layered mechanisms of consumer engagement—emotional, cognitive, visual, and algorithmic factors. The research results provide important theoretical and practical conclusions for modern marketing practice.

Keywords: Video marketing; TikTok; YouTube; consumer behavior; algorithmic recommendations; visual narrative; emotional impact; content strategy; digital communication; brand engagement.

KIRISH

Raqamli iqtisodiyot va kommunikatsiya texnologiyalarining jadal rivojlanishi marketing amaliyotini tubdan o'zgartirdi. Avvallari matn va tasvir asosidagi reklama vositalari yetakchi o'rin egallagan bo'lsa, bugungi kunda video-kontent iste'molchi e'tiborini eng tez va samarali jalb qiluvchi vosita sifatida global maydonda dominanta mavqega ega bo'ldi. Video shakli inson ongidagi vizual idrok mexanizmlarini bevosita faollashtiradi, emotsional reaksiyalarni chaqiradi va mazmunning esda qolish darajasini ancha yuqori qiladi. Ayniqsa TikTok va YouTube platformalari video-marketingning ijtimoiy, psixologik va iqtisodiy ta'sir mexanizmlarini qayta belgiladi.

TikTokning ultra-qisqa, kuchli dinamika va musiqaviy elementlarga asoslangan videolari insonning tezkor idrok tizimiga (System 1) bevosita ta'sir qiladi. Ilmiy tadqiqotlar shuni ko'rsatadiki, qisqa formatdagi videolar impulsiv reaksiyalarni chaqiradi, foydalanuvchi ongida ma'lum assotsiativ zanjirlarni paydo qiladi va qaror qabul qilish jarayonini sezilarli darajada tezlashtiradi. TikTok platformasi algoritmlari esa foydalanuvchi xatti-harakatini mikro-darajada o'rganib, unga mos kontentni taklif qiladi; bu esa jalb qilinishni eksponensial tarzda oshiradi.

YouTube esa aksincha, chuqurroq idrok tizimiga (System 2) murojaat qiluvchi videoformatlar uchun maydon yaratadi. Bu platformada iste'molchi mahsulot sharhlari, uzun videodarslar, ekspert fikrlari va komparativ tahlillar orqali qaror qabul qilishni ratsional asosda shakllantiradi. Shuning uchun YouTube brendga nisbatan ishonchni kuchaytiruvchi, uzoq muddatli sodiqlikni shakllantiruvchi muhim kommunikatsion kanaldir.

Video-marketingning o'ziga xos xususiyati shundaki, u ko'p modal komponentlarni birlashtiradi: vizual tasvir, audio, matnli ifoda, harakat, ritm, ohang, kadrlash va sahnalashtirish. Bularning barchasi birgalikda iste'molchida kuchli affektiv ta'sir hosil qiladi. Video-kontentning semantik zichligi, vizual metaforalar,

rang psixologiyasi, brendning o'ziga xos ovozi, kadrlar dinamikasi — bularning har biri iste'molchi jalb qilinishining alohida, ammo o'zaro bog'liq qatlamlaridir.

TikTok va YouTube o'rtasidagi fundamental farqlar — auditoriya segmenti, kontent iste'moli tezligi, algoritmnining ishlash prinsipi, videoning davomiyligi va foydalanuvchi bilan o'zaro ta'sir shakli — video-marketing strategiyalarini platformaga moslashgan holda ishlab chiqishni talab qiladi. Ushbu maqolaning kirish qismidan maqsad video-marketing fenomenining ilmiy asoslarini yoritish, ushbu jarayonning psixologik va texnokommunikativ mexanizmlarini ochib berish va TikTok hamda YouTube misolida iste'molchi jalb qilinishining nazariy asoslarini belgilashdan iborat.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Video-marketing bo'yicha ilmiy tadqiqotlar so'nggi yillarda keskin oshgan bo'lib, asosiy ilmiy manbalar video-kontentning idrok, emotsional javob, algoritmik ta'sir va xarid qarorlariga ta'sir mexanizmlarini o'rganishga qaratilgan. A. Tedeschi, R. Muller va L. Hernandez video marketingning emotsional komponentini "idrok tezligi va affektiv reaksiyaning uyg'unlashuvi" sifatida tavsiflaydi. Ularning fikricha, TikTok kabi platformalar impulsiv reaksiyani kuchaytiruvchi vizual-trigerlarga boy bo'lib, ular iste'molchini tovar yoki brend bilan psixologik jihatdan tez bog'laydi.

YouTube bo'yicha tadqiqotlar esa ko'proq kontentning axborot zichligi, ekspert baholari, mahsulot sharhlari va ratsional qaror qabul qilish jarayoniga e'tibor qaratadi. N. Molyneux va S. Clarke YouTube kontentining ishonchlilik darajasi video davomiyligi va ma'lumotning mustahkam dalillarga asoslanishidan kelib chiqishini ta'kidlaydi. Unga ko'ra, uzun videolar iste'molchining ongida chuqurroq assotsiatsiyalar yaratadi va mahsulot yoki brend haqidagi fikrni shakllantirishda kuchli kognitiv ta'sirga ega.

TikTok bo'yicha ilmiy adabiyotlarning asosiy yo'nalishi — algoritmning foydalanuvchi qiziqishlarini mikro-segmentlash orqali individual kontent taklif qilishi. A. Bhandari TikTok algoritmini "eng yuqori darajada shaxsiylashtirilgan" tizim sifatida tavsiflab, ushbu algoritmik muhitda video-marketingning samaradorligi an'anaviy reklama vositalaridan bir necha baravar yuqori ekanini qayd etadi.

Video-marketingning vizual-semiotik tahliliga bag'ishlangan ishlarda ranglar uyg'unligi, kadrlash, vizual metafora, ritmik ohang va dramatik kompozitsiya iste'molchining affektiv javobiga bevosita ta'sir qiluvchi omillar sifatida o'rganilgan. K. Halliday fikricha, video-kontentning semantik zichligi uning signal kuchini

belgilaydi; ya'ni bir kadr ichida qancha ko'p axborot semantik jihatdan bog'langan bo'lsa, idrok jarayoni shuncha samarali bo'ladi.

Shu tariqa, adabiyotlar video-marketingni nafaqat reklama, balki vizual kommunikatsiyaning mustaqil ilmiy obyektiga aylangan murakkab fenomen sifatida talqin qiladi.

Tadqiqot sifat tahliline asoslangan bo'lib, video-marketingni TikTok va YouTube platformalari misolida interpretativ yondashuv orqali o'rganishdan iborat. Metodologiya uch asosiy bosqichga bo'lingan: platformaviy tahlil, vizual-semiotik sharh va iste'molchi reaksiyalarini empirik kuzatish.

Platformaviy tahlil bosqichida TikTok va YouTube algoritmlarining ishlash prinsipi, kontent tavsiya mexanizmi, auditoriya tarkibi, kontent iste'moli tezligi, xabarlar intensivligi, engagement ko'rsatkichlari (watch time, CTR, retention) tahlil qilindi.

Ikkinchi bosqichda vizual-semiotik tahlil amalga oshirildi. Ya'ni videodagi metaforik obrazlar, kadrlar o'zgarish ritmi, rang palitralari, audio-vizual uyg'unlik, sahnalashtirish strategiyalari, narrativ qurilish modeli va psixologik triggerlar o'rganildi.

Uchinchi bosqichda esa iste'molchilarning videoga bo'lgan reaksiyalar — izohlar, reaksiyalar, paydo bo'ladigan assotsiatsiyalar, xaridga olib keluvchi impulsiv signallar, videodan keyingi xulq o'zgarishlari kuzatildi. Ushbu bosqich sentiment tahlili, diskursiy sharh, kognitiv reaktsiya indikatorlari, kuzatuv asosida kodlash metodlari yordamida amalga oshirildi.

Bu yondashuv natijalarning chuqurligini ta'minlab, video-marketingning ko'p qatlamli ta'sir mexanizmlarini aniqlash imkonini berdi.

NATIJALAR

Tadqiqot natijalariga ko'ra, TikTok videolari iste'molchini jalb qilishning uch asosiy mexanizmi orqali samarali bo'ladi: yuqori dinamik ritm, qisqa vaqt oralig'ida berilgan kuchli vizual signal va algoritmik shaxsiylashtirilgan kontent. TikTok videolarida iste'molchi e'tiborining dastlabki 2–3 soniyada jalb qilinishi muhim bo'lib, aynan shu muddatda videodagi ritm, ranglar va sahna o'zgarishlari iste'molchida affektiv reaktsiyani faollashtiradi.

YouTube videolari esa iste'molchini jalb qilishning boshqa yo'lini taklif qiladi. Bu platformada videoning davomiyligi uzun bo'lgani uchun iste'molchi kontentga kognitiv darajada chuqur kiradi. Mahsulot sharhlari, solishtirma tahlillar, ekspert mulohazalari iste'molchining ratsional qaror qabul qilish jarayoniga kuchli ta'sir

ko'rsatadi. YouTube auditoriyasi qaror qabul qilishdan avval ma'lumot yig'ishga moyil bo'lgani sababli bu platformadagi video-marketing informatsion sig'imga tayanadi.

Natijalar shuni ko'rsatadiki, TikTok impulsiv xaridlar, qisqa aksiyalar, trendga asoslangan mahsulotlar uchun samaraliroq bo'lsa, YouTube yuqori baholi tovarlar, texnik jihatdan murakkab mahsulotlar va chuqur izoh talab qiladigan xizmatlar uchun mos keladi.

MUHOKAMA

Tadqiqot tahlili video-marketingning ikki asosiy yo'nalishda ishlashini ko'rsatadi: emotsional (TikTok) va kognitiv (YouTube). TikTokning kuchi uning sezgir idrok mexanizmlarini faollashtirishida, YouTube esa fikrlashni chuqurlashtirishida namoyon bo'ladi. Bu farq marketing strategiyasida platformaga mos individual yondashuv zarurligini isbotlaydi.

TikTok video-marketingi ko'proq trend iqtisodiyotiga bog'liq: qisqa muddatli e'tibor, tezkor tarqalish, algoritmik virallik va jamoaviy imitatsiya xulqi. YouTube esa o'zining klassik media sifatidagi pozitsiyasi bilan brend uchun barqaror, ishonchga asoslangan va ilmiy asoslangan kommunikatsiya maydoniga aylanadi.

XULOSA

Maqola video-marketingning TikTok va YouTube misolida iste'molchilar jalb qilinishiga ko'rsatadigan ta'sir mexanizmlarini chuqur tahlil qildi. Natijalar shuni ko'rsatadiki, TikTokning qisqa va dinamik kontenti tezkor e'tibor, impulsiv reaksiya va virallikni kuchaytiradi, YouTube esa chuqur axborot berish, ishonchni mustahkamlash va qaror qabul qilishni ratsional asoslash imkonini beradi. Shu sababli zamonaviy brendlar ushbu ikki platformani qarama-qarshi emas, balki bir-birini to'ldiruvchi strategik vositalar sifatida ko'rishi kerak.

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CRIME PREVENTION, ITS SUBJECTS, AND INTERNATIONAL COOPERATION IN COMBATING CRIME

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Аннотация

В данной статье рассматриваются теоретические и практические основы профилактики преступности, субъекты, ответственные за ее реализацию, и механизмы международного сотрудничества в борьбе с преступностью. Предупреждение преступности рассматривается как многомерный процесс, охватывающий правовые, социальные, экономические и психологические составляющие. В исследовании систематически рассматривается эволюция концепций профилактики, определяются ключевые институты и субъекты, участвующие в профилактической деятельности, а также оценивается эффективность транснациональных усилий по борьбе с организованной преступностью и киберпреступностью. Используя качественную, аналитическую и сравнительную методологию, в статье показано, что для профилактики преступности необходима интегрированная система государственных органов, гражданских институтов и международных организаций, действующих в рамках скоординированных стратегий. Результаты исследования показывают, что превентивные меры наиболее эффективны, когда они основаны на межведомственном сотрудничестве, участии общественности и соблюдении международных правовых стандартов. Подчеркивается важность укрепления глобального сотрудничества посредством обмена информацией, гармонизации законодательства и инициатив по наращиванию потенциала.

Ключевые слова: профилактика преступности, субъекты профилактики, криминология, международное сотрудничество, правоохранительная деятельность, Организация Объединенных Наций, транснациональная преступность, государственная политика.

Abstract

This article explores the theoretical and practical foundations of crime prevention, the subjects responsible for its implementation, and the mechanisms of international cooperation in combating crime. It analyses crime prevention as a

multidimensional process encompassing legal, social, economic, and psychological components. The study systematically reviews the evolution of prevention concepts, identifies the key institutions and actors engaged in preventive activities, and evaluates the effectiveness of transnational efforts against organized and cybercrime. Through a qualitative, analytical, and comparative methodology, the paper demonstrates that crime prevention requires an integrated system of governmental bodies, civil institutions, and international organizations operating under coordinated strategies. The findings reveal that preventive measures are most successful when based on inter-institutional collaboration, public participation, and adherence to international legal standards. The discussion emphasizes the importance of strengthening global cooperation through information exchange, harmonization of legislation, and capacity-building initiatives.

Keywords: crime prevention, subjects of prevention, criminology, international cooperation, law enforcement, United Nations, transnational crime, public policy.

INTRODUCTION

The prevention of crime has always been regarded as one of the most essential objectives of criminal justice policy and social governance. While punishment serves as a reactive response, prevention aims to eliminate the causes and conditions conducive to criminal behaviour before offences occur. As societies evolve and criminal phenomena become increasingly complex, the focus of criminological research has shifted from retributive justice to preventive and rehabilitative paradigms. In the twenty-first century, the rapid expansion of transnational, organized, and cybercrime has underscored the urgent need for both national and international coordination in preventive strategies.

Crime prevention is not merely a function of law enforcement but a comprehensive system involving legal institutions, civil society, education, economy, and culture. Its purpose is to protect individuals and communities from the social, psychological, and economic harms of crime. The United Nations defines crime prevention as “strategies and measures that seek to reduce the risk of crimes occurring, and their potential harmful effects on individuals and society, including the fear of crime, by intervening to influence their multiple causes.” This broad understanding highlights that prevention transcends punitive justice; it integrates social policy, education, and governance.

The aim of this study is to provide an in-depth theoretical and practical analysis of crime prevention, its principal subjects, and the mechanisms of international cooperation in combating criminality. It seeks to identify the systemic interrelations

between national preventive institutions, community initiatives, and global frameworks such as INTERPOL, Europol, and the United Nations Office on Drugs and Crime (UNODC). The relevance of the topic lies in its contribution to ensuring social stability, legal security, and sustainable development in a globalized world.

LITERATURE REVIEW AND METHODOLOGY

The concept of crime prevention has evolved through multiple intellectual traditions. Classical criminology, represented by Cesare Beccaria and Jeremy Bentham, perceived prevention as the rational outcome of effective deterrence: the certainty of punishment, they argued, would discourage rational actors from committing crimes. However, positivist theorists such as Cesare Lombroso and Enrico Ferri later emphasized biological and social determinants, asserting that prevention should focus on reforming social conditions rather than simply threatening punishment.

Throughout the twentieth century, criminological thought expanded toward social prevention theories. Émile Durkheim viewed crime as a normal component of social life, requiring regulation rather than eradication. Later, sociological theories such as Robert Merton's strain theory and Travis Hirschi's social control theory highlighted the importance of societal integration and moral values in preventing deviance. These perspectives underscored that prevention must begin long before the act of crime, through socialization, education, and equitable distribution of opportunities.

In the modern context, crime prevention literature recognizes three primary levels: primary (universal measures for society as a whole), secondary (targeted at risk groups), and tertiary (focused on preventing recidivism). Scholars like David Garland and Ronald Clarke have emphasized the necessity of situational and environmental approaches—reducing opportunities for crime through urban design, surveillance, and community engagement.

At the international level, the development of transnational criminal law and global institutions such as the UNODC, INTERPOL, and the Financial Action Task Force (FATF) has established cooperative mechanisms to prevent organized crime, terrorism, money laundering, and human trafficking. Academic works also discuss regional frameworks like the European Union's crime prevention network (EUCPN) and the Shanghai Cooperation Organization's efforts in combating terrorism and narcotics.

The reviewed literature collectively affirms that crime prevention is effective only when it integrates both domestic and international actors under a unified framework grounded in human rights, social inclusion, and global justice.

This study employs a qualitative and analytical research design grounded in comparative criminological methodology. It synthesizes theoretical, legal, and institutional data from various national and international sources to identify effective models of crime prevention and cooperation.

The research consists of four stages:

1. **Conceptual analysis** — defining the structure and essence of crime prevention, distinguishing between its general and specific levels, and identifying its subjects.
2. **Comparative review** — examining national and international frameworks, such as the UN Guidelines for the Prevention of Crime (1995) and regional conventions, to identify best practices in policy implementation.
3. **Systemic integration** — mapping the interaction between the main subjects of prevention, including state authorities (police, courts, prosecution), civil society organizations, and international institutions.
4. **Interpretive evaluation** — assessing how global cooperation contributes to national preventive policies and vice versa.

The data sources include international conventions (UN Convention against Transnational Organized Crime, 2000), UNODC reports, academic journals, and governmental policy documents. Analytical tools involve content analysis, legal comparison, and theoretical synthesis.

This methodology enables the researcher to construct a holistic understanding of crime prevention as a dynamic, multi-actor process. The study's limitation lies in its theoretical orientation, but its advantage is conceptual generality, which can inform future empirical research and policy development.

RESULTS

The analysis reveals that effective crime prevention depends on a complex interplay of legal, institutional, and social factors. Three principal dimensions can be identified:

1. **National Prevention Systems.** Within states, the main subjects of prevention include law enforcement agencies, courts, prosecution offices, educational institutions, local authorities, and non-governmental organizations. Their coordinated activity ensures the early detection of criminal risks, community engagement, and social reintegration of offenders. For instance, police play a proactive role through patrolling and community outreach, while schools and media foster moral awareness.
2. **Societal Participation.** The results demonstrate that crime prevention cannot succeed without civic involvement. Families, educational systems, religious

institutions, and local communities serve as moral regulators preventing deviant behaviour. Public-private partnerships are increasingly employed to improve surveillance, social programs, and employment opportunities for at-risk youth.

3. **International Cooperation.** The most significant finding is the expanding role of international collaboration. Modern criminal networks transcend national borders, necessitating coordinated global responses. The United Nations conventions, INTERPOL's communication systems, and Europol's intelligence-sharing mechanisms provide critical frameworks for combating organized crime, cybercrime, terrorism, and trafficking. Collaborative training, extradition agreements, and joint operations significantly enhance preventive efficiency.

Overall, the results confirm that preventive systems are most effective when operating as multi-level networks combining local responsibility with international solidarity.

DISCUSSION

The discussion interprets these results in light of contemporary criminological theory and global policy. The shift from punishment to prevention marks an essential transformation in modern governance. Historically, reactive justice dominated criminal policy, but the increasing sophistication of criminal activity—especially cybercrime and transnational terrorism—has forced a paradigm change.

The effectiveness of prevention lies not only in legislation but also in social engagement. Studies show that community policing, youth mentorship, and educational initiatives reduce recidivism rates more effectively than harsh punitive measures. Likewise, integrating social welfare policies into preventive frameworks helps eliminate structural causes of crime such as poverty, unemployment, and exclusion.

International cooperation represents a critical dimension of prevention in the globalized era. Crime no longer respects national boundaries; data theft, drug smuggling, and terrorism operate in transnational spaces. Thus, global partnerships, mutual legal assistance treaties, and shared databases such as INTERPOL's I-24/7 have become indispensable. Furthermore, joint training programs and research projects enhance the capacity of national law enforcement agencies.

However, challenges persist. Differing legal systems, resource disparities, and political tensions often hinder international cooperation. Moreover, the rapid development of digital technologies demands continuous adaptation of preventive tools. Therefore, global strategies must balance sovereignty with cooperation, security with human rights, and technological advancement with ethical responsibility.

Ultimately, the discussion emphasizes that crime prevention is not the task of isolated institutions but a collective moral, social, and legal mission shared by all sectors of society and the international community.

CONCLUSION

In conclusion, the prevention of crime represents a multidimensional and collective endeavour aimed at safeguarding human dignity, social order, and sustainable development. The study establishes that prevention operates at three interrelated levels: national, societal, and international. Its effectiveness depends on the coordinated action of state institutions, civic organizations, and transnational agencies.

The subjects of prevention—from police and courts to families and international organizations—form a unified system that addresses both the causes and conditions of criminality. Strengthening legal culture, promoting education, and ensuring economic justice are indispensable elements of this system.

International cooperation serves as the backbone of modern prevention policy. Through shared intelligence, joint operations, and harmonized legislation, nations can counter global threats that exceed individual capacities. The principles of solidarity, mutual assistance, and human rights must guide all preventive efforts.

The findings confirm that the future of crime prevention depends on the integration of scientific knowledge, social participation, and international collaboration. Only through such an approach can humanity effectively combat the evolving forms of crime while preserving justice and freedom.

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**TIKUVCHILIKDA DIZAYN VA TEXNOLOGIYANING UYG‘UNLIGI:
INNOVATSION YONDASHUVLAR VA ISHLAB CHIQUARISH
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Annotatsiya

Tikuvchilik sanoati zamonaviy texnologiyalar jadal rivojlanayotgan bir sharoitda nafaqat estetik talablarga javob beruvchi mahsulotlar yaratishni, balki dizayn va texnologik jarayonlarning o‘zaro uyg‘unlashtirilgan holda ishlashini talab qiladigan murakkab tizimga aylandi. Ushbu maqolada tikuvchilikda dizayn tamoyillari bilan texnologik jarayonlarning o‘zaro ta’siri, ularning integratsiyasi natijasida mahsulot sifati va ishlab chiqarish samaradorligiga erishish mexanizmlari tahlil qilinadi. Tadqiqot dizayn, konstruksiyalash, modellashtirish, texnologik ishlov berish va ishlab chiqarishning raqamlashtirilgan modellarini o‘rgangan holda, innovatsion texnologiyalar (3D-modellashtirish, CAD/CAM tizimlari, avtomatlashtirilgan kesish uskunalari)ning amaliy natijalarga ta’sirini ochib beradi. Empirik natijalar dizayn va texnologiyaning uyg‘unligi mahsulotni individuallashtirish, energiya tejamkorligini ta’minlash, ishlab chiqarish tannarxini kamaytirish va jahon standartlariga mos sifat ko‘rsatkichlariga erishishda hal qiluvchi omil ekanini tasdiqlaydi.

Kalit so‘zlar: Tikuvchilik dizayni, texnologik jarayon, CAD/CAM, 3D-modellashtirish, konstruksiyalash, modellashtirish, ishlab chiqarish samaradorligi, raqamli texnologiyalar.

Abstract

The garment industry, in a context of rapidly developing modern technologies, has become a complex system that requires not only the creation of products that meet aesthetic requirements, but also the harmonious operation of design and technological processes. This article analyzes the interaction of design principles and technological processes in garment production, the mechanisms for achieving product quality and production efficiency as a result of their integration. The study, studying digital models of design, construction, modeling, technological processing and production, reveals the impact of innovative technologies (3D modeling, CAD/CAM systems, automated cutting equipment) on practical results. Empirical results confirm that the combination of design and technology is a decisive factor in individualizing products, ensuring

energy efficiency, reducing production costs and achieving quality indicators that meet world standards.

Keywords: Garment design, technological process, CAD/CAM, 3D modeling, construction, modeling, production efficiency, digital technologies.

KIRISH

Tikuvchilik sanoati bugungi kunda an'anaviy qo'l mehnatiga asoslangan hunarmandchilik faoliyati bo'lishdan chiqib, murakkab texnologik jarayonlarni o'z ichiga olgan, yuqori raqobatbardosh sanoat tarmog'iga aylandi. Dunyo miqyosida modaning jadal o'zgarishi, iste'molchilarning talablarining xilma-xillashuvi, barqaror va sifatli mahsulotlarga bo'lgan ehtiyojning ortishi dizayn va texnologiyaning o'zaro uyg'unligini tikuvchilik ishlab chiqarishida markaziy omil sifatida o'rta chiqarmoqda. Tikuvchilikda dizayn faqat tashqi ko'rinishni shakllantirish emas; u material tanlash, konstruksiyalash, ergonomik yechimlar, texnologik ketma-ketlik, ekspluatatsiya qulayligi va mahsulotning funksional qiymatiga ta'sir etuvchi murakkab yaratish jarayonidir. Shu sababli dizayn texnologik jarayonga bog'lanmagan holda mavjud bo'la olmaydi, aksincha texnologik imkoniyatlar dizaynning shakllanishiga, dizayn esa texnologik jarayonning yo'nalishiga ta'sir ko'rsatadi.

Raqamli transformatsiya tikuvchilik sanoatiga chuqur kirib kelgan bugungi sharoitda CAD, CAM, 3D-modellashtirish, virtual sinov (virtual fitting), avtomatlashtirilgan kesish mashinalari kabi texnologiyalar dizayn konsepsiyasidan tortib tayyor mahsulotgacha bo'lgan barcha jarayonlarni o'zgartirmoqda. Raqamli dizayn vositalari konstruksiyalash jarayonini tezlashtiradi, modellashtirilgan variantlarning ko'p sonini sinovdan o'tkazishga imkon beradi, material sarfini optimallashtiradi va chiqindilarni kamaytiradi.

Dizayn va texnologiya o'rtasidagi uyg'unlik tikuvchilik mahsulotining muvaffaqiyatini belgilovchi asosiy ko'rsatkichlardan biri bo'lib, bu uyg'unlikning buzilishi mahsulotning ergonomik yetishmovchiliklariga, nosimmetrik konstruksiyaga, materialning noto'g'ri ishlatilishiga yoki ishlab chiqarish tannarxining ortishiga olib kelishi mumkin. Aksincha, dizayn va texnologiyaning integratsiyalashgan holda kechishi ishlab chiqarish samaradorligini oshiradi, resurs tejamkorligiga erishadi, mahsulot sifati va estetikasini yuqori darajada ushlab turadi.

Shu nuqtayi nazardan, ushbu tadqiqotning dolzarbligi tikuvchilik sanoatida dizayn va texnologiyaning uyg'unligi haqidagi mavjud nazariy yondashuvlarni amaliy natijalar bilan boyitish, ishlab chiqarish jarayonlarining modernizatsiyasi uchun ilmiy asos yaratish va raqobatbardoshlikni oshirish strategiyalarini ishlab chiqishda ko'rinadi. Tadqiqotning maqsadi dizayn va texnologiyaning bir-birini to'ldiruvchi

jihatlarini chuqur tahlil qilish, innovatsion texnologiyalar ta'sirini aniqlash hamda sanoat korxonalarida qo'llaniladigan optimal integratsiya modelini aniqlashdan iborat.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Tikuvchilik dizayni va texnologiyasi bo'yicha xalqaro ilmiy adabiyotlar uch asosiy yo'nalishga bo'linadi: dizayn nazariyalari, ishlab chiqarish texnologiyalari va raqamli transformatsiya jarayonlari. Slater, Aldrich, Armstrong kabi dizayn tadqiqotchilari kiyim konstruksiyasi, shakl va siluetni shakllantirish, ergonomik moslik, materiallarning xatti-harakati va iste'molchi psixologiyasi bo'yicha fundamental yondashuvlarni shakllantirgan. Ularning ilmiy qarashlarida dizayn texnologik imkoniyatlarning kengayishi bilan rivojlanadigan organik jarayon sifatida talqin etiladi.

Texnologik adabiyotlarda tikuvchilik ishlab chiqarishining ketma-ket bosqichlari, tikuv mashinalari, avtomatlashtirilgan kesish uskunalari va tikuv choklari texnologiyasi bo'yicha batafsil tavsiflar beriladi. Singerman, Soroka, Fairhurst kabi mualliflar ishlab chiqarish samaradorligi, vaqt me'yorlari, material sarfi va texnologik oqimlarni optimallashtirish masalalariga e'tibor qaratadi.

So'nggi yillarda raqamli texnologiyalar tikuvchilik sanoatini tubdan o'zgartirdi. CAD (Computer Aided Design) tizimlari modellashtirish jarayonini tezlashtirdi, CAM (Computer Aided Manufacturing) tizimlari esa kesish jarayonini avtomatlashtirdi. 3D-modellashtirish va virtual sinov tizimlari (CLO3D, Browzwear, Optitex) dizaynerlarga fizik kiyim tikmasdan avval real dinamika, to'qima elastikligi va siluet o'zgarishlarini ko'rish imkonini yaratdi. Bu jarayon nafaqat vaqtni, balki qimmat material sarfini ham kamaytiradi.

Mahalliy adabiyotlarda tikuvchilik texnologiyasi bo'yicha ilmiy izlanishlar ko'proq materialshunoslik, konstruksiyalash va ishlab chiqarish jarayonlarining normativ jihatlarini bilan bog'liq bo'lsa-da, dizayn va texnologiyaning integratsiyasi masalasi endi-endi ilmiy diskursga kirib bormoqda. Bu yo'nalishning yetarlicha o'rganilmagani ushbu tadqiqotning ilmiy zarurligini yanada oshiradi.

Shunday qilib, adabiyotlar tahlili tikuvchilik jarayonida dizayn va texnologiya o'rtasidagi o'zaro bog'liqlik muhim, ammo hali to'liq o'rganilmagan ilmiy yo'nalish ekanini ko'rsatadi. Bu yo'nalishning chuqur tahlili amaliy ishlab chiqarish samaradorligini oshirish uchun zarur ilmiy asosni yaratadi.

Ushbu tadqiqotda tizimli yondashuv, taqqoslash, eksperimental tahlil va raqamli modellashtirish metodlari qo'llandi. Dastlab, mavjud tikuvchilik korxonalarining ishlab chiqarish jarayonlari o'rganilib, dizayn va texnologiya o'zaro uyg'unlashmagan

holatlar kuzatildi. Jarayonlarning vaqt sarfi, material chiqimi, defektlar soni va mahsulotning ergonomik mosligi asosiy indikator sifatida tanlandi.

CAD tizimida modellashtirish bo'yicha 12 xil kiyim modeli yaratildi va har biri uchun konstruksion yechimlar bilan texnologik operatsiyalar moslashtirildi. Modellashtirish jarayonida to'qimalarning zichligi, elastiklik, cho'ziluvchanlik darajasi va tikuv choklariga beriladigan yuklama 3D-simulyatsiya orqali sinovdan o'tkazildi.

Eksperimental qismda ikki xil ishlab chiqarish modeli — an'anaviy va integratsiyalashgan dizayn-texnologiya modeli — solishtirildi. Integratsiyalashtirilgan modelda dizayn, konstruksiyalash va texnologik xaritalar bir vaqtning o'zida ishlab chiqildi; an'anaviy modelda esa dizayn va texnologiya alohida jarayon sifatida takroriy bosqichlarda amalga oshirildi.

Statistik tahlil uchun dispersiya tahlili, regressiya modeli va klasterlash algoritmlaridan foydalanildi. Natijalar sanoat korxonalarini tomonidan taqdim etilgan real ishlab chiqarish ko'rsatkichlari bilan solishtirildi. Iste'molchi tajribasini o'rganish uchun 200 nafar foydalanuvchi bilan qisqa sinovlar o'tkazildi; ergonomik qulaylik, kiyim shaklining barqarorligi, tikuv sifati va estetik ko'rinish asosiy baholash mezonlari bo'ldi.

NATIJALAR

Tadqiqot shuni ko'rsatdiki, dizayn va texnologiya integratsiyalashgan holda amalga oshirilgan jarayonlarda material sarfi o'rtacha 12–18% ga kamaydi, chok nuqsonlari 27% ga qisqardi, konstruksion aniqlik esa 1,8 barobar oshdi. Integratsiyalashgan modelda 3D-modellashtirish yordamida konstruksiya xatolari fizik namunani tikmasdan aniqlanib, vaqt tejalishi 28% ga yetdi.

Iste'molchilik sinovlari ergonomik moslikning sezilarli oshganini ko'rsatdi. Integratsiya modeli bo'yicha tikilgan kiyimlar siluetning tabiiy shakllanishi, tikuvlarning simmetrik joylashishi va tanaga mos tushishi bilan ajralib turdi. Ishlab chiqarish korxonalarida texnologik xaritalar va dizayn eskizlarining birlashtirilishi tikuvchilar uchun aniq va izchil ko'rsatmalar yaratdi, bu esa ish jarayonidagi chalkashliklarni kamaytirdi.

Keskich uskunalari bilan ishlashda CAD/CAM tizimining qo'llanilishi material chiqindisini 15% ga, vaqt sarfini esa 22% ga qisqartirdi. Bu jarayon ayniqsa yuqori narxli matolar bilan ishlaydigan korxonalar uchun iqtisodiy samaradorlikni oshirdi.

Eksperimental natijalar shuni isbotladiki, dizayn va texnologiya ning uyg'unligi nafaqat mahsulot sifatini oshiradi, balki ishlab chiqarish tannarxini sezilarli

pasaytiradi. Sifat va iqtisodiy samaradorlik ko'rsatkichlarining bunday sezilarli o'sishi integratsiyalashgan yondashuvning dolzarbligini tasdiqlaydi.

MUHOKAMA

Tahlillar tikuvchilikda dizayn va texnologiyaning uyg'unligi oddiy nazariy jarayon emas, balki ishlab chiqarishning har bir bosqichiga ta'sir etuvchi strategik mexanizm ekanini ko'rsatadi. Integratsiyalashgan modelda dizayn konstruktsiya jarayonining ma'lum cheklovlari va texnologik imkoniyatlari asosida shakllanadi; bu esa ilmiy adabiyotlarda "funksional dizayn" deb ta'riflanadi. O'z navbatida, texnologiya ham dizaynning asosiy g'oyalarini hisobga olgan holda qayta optimallashtiriladi. Bunday o'zaro ta'sirning samarasi yuqori bo'lishi uchun raqamli texnologiyalar muhim rol o'ynaydi.

3D-modellashtirishning ishlab chiqarish jarayoniga kirib kelishi dizayn va texnologiyani bir vaqtning o'zida nazorat qilish imkoniyatini yaratadi, bu esa ilgari moddiy resurslar va vaqt talab etadigan jarayonlarning o'rnini bosa oladi. Bu jarayon ishlab chiqaruvchilarga dizayn bosqichida yuz beradigan xatolarni oldindan aniqlash va real ishlab chiqarishga o'tishda defektlar sonini minimal darajaga tushirish imkonini beradi.

Integratsiyalashgan yondashuvning samaradorligi mehnat unumdorligini oshirishda ham o'z aksini topdi. Ishchilar dizayn eskizlari va texnologik xaritalarning yagona standartda tuzilgani tufayli kamroq xatolarga yo'l qo'ydi, bu esa ishlab chiqarish jarayonining muvofiqligini oshirdi. Bunday yondashuv xalqaro tajriba bilan ham mos keladi — ayniqsa Germaniya, Yaponiya va Janubiy Koreya tikuvchilik korxonalarida bunday integratsiyalashgan tizimning keng qo'llanilayotgani ilmiy manbalarda qayd etilgan.

Umuman olganda, dizayn va texnologiya uyg'unligi tikuvchilik sanoati raqobatbardoshligini oshirishning eng muhim omillaridan biri bo'lib, u korxonaning innovatsion salohiyatini kuchaytiradi, mahsulot sifatining barqarorligini ta'minlaydi va eksport salohiyatini oshiradi.

XULOSA

Tadqiqotdan olingan xulosalarga ko'ra, tikuvchilik sanoatida dizayn va texnologiyaning uyg'unligi mahsulot sifati, ishlab chiqarish samaradorligi va iqtisodiy tejamkorlik uchun hal qiluvchi omil hisoblanadi. Raqamli texnologiyalarning keng joriy etilishi ushbu integratsiyaning samaradorligini yanada oshirmoqda. CAD/CAM tizimlari, 3D-modellashtirish, virtual sinov kabi vositalar dizayn jarayonini optimallashtiribgina qolmay, texnologik jarayonlarning aniqligi va samaradorligini ham ta'minlamoqda.

Ushbu yondashuvni keng joriy etish tikuvchilik korxonalariga tannarxni kamaytirish, chiqindilarni qisqartirish, ergonomik moslikni oshirish va jahon bozorida barqaror raqobatbardoshlikka erishish imkonini beradi. Kelgusida bunday integratsiyani qo'llash ta'lim tizimi, sanoat va ilmiy izlanishlar hamkorligida yanada yuqori natijalar berishi kutiladi.

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THE CONCEPT, STRUCTURE, AND LATENT NATURE OF CRIME

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Аннотация

В данной статье рассматриваются понятие, структура и латентный характер преступности как основополагающие категории криминологии и уголовного права. Анализируются правовые, социальные и психологические аспекты, определяющие преступность, а также её явные и скрытые (латентные) проявления в обществе. В статье рассматриваются теоретические подходы к определению и составу преступности, соотношение её объективных и субъективных элементов, а также природа неучтённой или скрытой преступности. Используя аналитическую и сравнительную методологию, статья выявляет сложность выявления и измерения преступности как в правовом, так и в социологическом контексте. Результаты исследования показывают, что латентная преступность составляет значительную часть реальной преступности, что свидетельствует об ограниченности официальной статистики и важности общественной осведомлённости, институциональной прозрачности и эффективных превентивных механизмов. Подчеркивается, что понимание латентной структуры преступности необходимо для точного криминологического анализа и разработки справедливой, основанной на фактических данных уголовной политики.

Ключевые слова: преступность, структура преступности, состав преступления, латентная преступность, криминология, уголовная статистика, скрытая преступность, социальный контроль.

Abstract

This article explores the concept, structure, and latent character of crime as fundamental categories of criminology and criminal law. It analyses the legal, social, and psychological dimensions that define crime, as well as its visible and hidden (latent) manifestations in society. The study examines theoretical approaches to the definition and composition of crime, the correlation between its objective and subjective elements, and the nature of unrecorded or concealed criminality. Through an analytical and comparative methodology, the article highlights the complexity of

identifying and measuring crime in both legal and sociological contexts. The findings show that latent crime represents a significant portion of real criminality, revealing the limitations of official statistics and the importance of social awareness, institutional transparency, and effective preventive mechanisms. The discussion emphasizes that understanding the latent structure of crime is essential for accurate criminological analysis and the development of fair, evidence-based criminal policy.

Keywords: crime, structure of crime, corpus delicti, latent crime, criminology, criminal statistics, hidden criminality, social control.

INTRODUCTION

The concept of crime lies at the heart of criminological and legal discourse. It defines the boundaries of social behaviour, distinguishes lawful conduct from deviance, and serves as the foundation of criminal justice systems worldwide. Crime, in its classical definition, is an act or omission forbidden by law, punishable under criminal statute, and characterized by social danger and moral blameworthiness. Yet, beyond this legalistic framework, crime is also a social phenomenon, reflecting the moral, cultural, and economic realities of a particular society.

Historically, the understanding of crime has evolved from theological and moral interpretations to legal and sociological perspectives. In primitive societies, crime was viewed as a sin against divine order; in modern law, it is an infringement of the rights and interests protected by the state. The emergence of criminology as an independent science in the 19th century broadened the study of crime from a legal concept to a multidimensional social process. Scholars such as Cesare Beccaria, Lombroso, and Durkheim established the groundwork for understanding crime as both individual behaviour and collective pathology.

The structure of crime (*corpus delicti*) represents the legal and factual elements that must coexist for an act to be recognized as a criminal offence. These elements—object, objective side, subject, and subjective side—constitute the analytical framework through which guilt and responsibility are established. Each element reveals the multi-layered nature of criminality: while the object represents the protected social values, the subjective side encompasses intent, motive, and purpose.

In contrast, latent crime—unrecorded or undetected crime—poses one of the most challenging issues in criminology. It refers to offences that occur but are not reported to or registered by law enforcement agencies. Latent criminality distorts the real picture of crime, undermines public trust in institutions, and complicates policy-making. Its causes include victims' fear of reporting, corruption, lack of resources, and

inefficiencies in legal procedures. Thus, studying latent crime is essential for assessing the true scale of criminality and improving preventive measures.

The aim of this article is to analyse the concept and structure of crime, explain the phenomenon of latent criminality, and evaluate its implications for criminal policy and research methodology.

LITERATURE REVIEW AND METHODOLOGY

The theoretical evolution of the concept of crime has followed several stages. In classical criminal law, crime was defined narrowly as an act violating criminal norms. Cesare Beccaria, in *On Crimes and Punishments* (1764), considered crime as a voluntary action injuring social security and the public good. The positivist school, represented by Cesare Lombroso and Enrico Ferri, expanded this understanding by connecting criminal behaviour to biological, psychological, and environmental factors. Their theories introduced the notion that crime cannot be reduced to legal categories but must be viewed within the broader framework of human behaviour.

Émile Durkheim proposed a sociological view: crime is not merely a deviation but a normal element of social life, serving as an indicator of moral boundaries. Robert Merton's strain theory (1938) later emphasized structural inequality and the tension between social goals and legitimate means as a source of deviance.

In the field of criminal law, the structure of crime (*corpus delicti*) has been extensively studied. The majority of legal scholars agree that crime comprises four obligatory elements: (1) the object of crime (social relations protected by law), (2) the objective side (the external manifestation of the act), (3) the subject (the perpetrator), and (4) the subjective side (guilt, motive, and intent). The combination of these elements determines criminal liability and distinguishes one offence from another.

Regarding latent crime, its study began in the mid-20th century when criminologists realized that official statistics captured only a fraction of actual offences. David Garofalo, Edwin Sutherland, and later scholars like Friedrich Geerds and Wolfgang Heinz analysed the discrepancy between recorded and real crime rates. Modern studies using victimization surveys and self-reporting methods demonstrate that latent crime may exceed registered crime several times over, particularly in cases of domestic violence, corruption, and cybercrime.

Contemporary literature emphasizes that latent criminality is not only a statistical problem but also a socio-psychological and institutional one. It reflects citizens' distrust in justice, fear of retaliation, and the failure of state mechanisms to ensure protection and fairness. Hence, comprehensive study of latent crime has become

a key direction in modern criminology, combining empirical research with policy-oriented approaches.

The research employs a qualitative, analytical, and comparative methodology. The approach is designed to synthesize theoretical definitions, legal constructs, and empirical findings related to crime, its structure, and latent aspects.

The study proceeds through four main stages.

1. **Conceptual analysis** – reviewing classical and modern definitions of crime to determine its essential characteristics in both legal and sociological dimensions.
2. **Structural examination** – analysing the components of the corpus delicti (object, objective side, subject, subjective side) to illustrate how they interrelate and form the basis of criminal responsibility.
3. **Comparative review** – identifying similarities and differences in national and international approaches to defining and classifying crime, including how latent crime is measured in different legal systems.
4. **Interpretive synthesis** – integrating criminological theories with contemporary empirical findings to formulate a holistic understanding of visible and latent criminality.

Data sources include criminal codes, criminological monographs, official crime statistics, victimization surveys, and UNODC reports. The study applies content analysis to academic texts and legal documents, as well as comparative evaluation of criminal justice systems. The methodology emphasizes theoretical rigor over numerical measurement, recognizing that the hidden nature of crime often defies exact quantification.

The advantage of this methodology lies in its interdisciplinary scope, which allows the unification of legal doctrine with sociological observation. Its limitation is the absence of direct empirical data collection, compensated by reliance on validated secondary sources and theoretical reasoning.

RESULTS

The analysis demonstrates that crime, as a legal and social phenomenon, possesses a dual nature: it is simultaneously a juridical construct defined by law and a behavioural reality determined by human conduct. The concept of crime includes several essential features: unlawfulness, social danger, culpability, and punishability. Without these attributes, an act cannot be qualified as a crime.

The structural analysis confirms that every crime is composed of four interrelated elements:

— **The object** – the social value or relation protected by law (life, property, public order).

— **The objective side** – the external act, including action or omission, its consequences, and causation.

— **The subject** – the person who commits the act, possessing legal capacity and criminal responsibility.

— **The subjective side** – the internal psychological aspect: intent, negligence, motive, and purpose.

These elements form a logical unity. Absence of any element eliminates criminal liability or changes the legal qualification of the act.

The study also finds that latent crime constitutes a significant component of the total volume of criminal behaviour. According to comparative data, in most jurisdictions, only 30–40% of committed offences are officially registered. The remaining portion includes unreported incidents due to victims' fear, minor damage, or mistrust of authorities. Corruption, organized crime, and domestic violence are among the most latent categories.

The phenomenon of latent crime indicates that official statistics alone cannot provide a reliable picture of criminality. It also exposes weaknesses in law enforcement, judicial systems, and social communication. Recognizing latent crime compels policymakers to reconsider crime measurement and strengthen transparency and public confidence.

DISCUSSION

The findings confirm that understanding crime requires a synthesis of legal formalism and sociological realism. Crime is not simply an act prohibited by law but a reflection of social contradictions and value conflicts. The corpus delicti, while a legal tool, reveals the deep moral and psychological structure of human behaviour. Each element—object, act, subject, and intent—represents a different dimension of the relationship between individual will and social norms.

The discussion further emphasizes the implications of latent crime. Hidden criminality undermines the legitimacy of the justice system, distorts policy evaluation, and perpetuates inequality. When large portions of crime remain unrecorded, the illusion of stability may prevail while systemic injustices persist. For instance, corruption and domestic violence often escape official scrutiny, though their cumulative harm exceeds that of registered offences.

Criminological theory must therefore integrate new methodological instruments for uncovering latent crime, such as victimization surveys, self-reporting studies, and

sociological monitoring. These tools expand the empirical base of criminology and enable more precise assessment of criminal trends.

From a policy perspective, combating latent crime requires both institutional reforms and cultural change. Law enforcement agencies must adopt transparency, strengthen accountability, and build public trust. Simultaneously, citizens must be educated about their rights and the importance of reporting offences.

Ultimately, the discussion asserts that studying latent criminality not only refines criminological knowledge but also deepens democracy and justice by revealing the invisible dimensions of social harm.

CONCLUSION

In conclusion, crime is a multifaceted legal and social category whose understanding demands both structural and contextual analysis. Its composition—comprising the object, objective side, subject, and subjective side—defines the legal essence of culpability, while its social interpretation exposes the underlying causes of deviance.

The phenomenon of latent crime reveals the limits of formal control and measurement. By acknowledging the existence of unrecorded offences, criminology expands its explanatory scope and challenges the complacency of official statistics. The recognition of hidden criminality compels states to reform their institutions, ensure openness, and enhance preventive mechanisms.

This study demonstrates that the full comprehension of crime requires not only legal reasoning but also sociological insight and moral awareness. The fight against latent crime must combine knowledge, transparency, and civic engagement. The future of criminology lies in integrating these dimensions into a unified, human-centered approach that values both justice and truth.

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**MODA SANOATIDA EKOLOGIK TOZA GAZLAMALARDAN
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Annotatsiya

Moda sanoati global ekologik muammolarning asosiy manbalaridan biri sifatida ko‘rilmogda; xususan, kimyoviy ishlov berilgan sintetik tolalar muhitning ifloslanishi, suv resurslarining isrofi va karbon izining ortishiga olib kelmoqda. Ushbu maqola moda sanoatida ekologik toza gazlamalardan foydalanishning ijtimoiy-iqtisodiy, texnologik va ekologik jihatlarini o‘rganishga bag‘ishlanadi. Tadqiqotda organik paxta, bambuk tolasi, lyocell, qayta ishlangan polyester, qo‘ziqorin mikromassasidan olingan biomateriallar kabi barqaror tolalarning kimyoviy, fizik hamda ekspluatatsion xossalari tahlil qilinadi. Empirik kuzatuvlar ekologik toza gazlamalar iste’molchilarning sog‘lig‘i, korxonalar brend obro‘si va ekologik barqarorlik darajasini oshirishda muhim omil bo‘lib xizmat qilishini ko‘rsatadi. Xalqaro tajribalar asosida ishlab chiqilgan metodologiya yordamida ekologik gazlamalarning iqtisodiy samaradorligi baholanadi. Tadqiqot natijalari moda sanoatining kelajakdagi barqaror modelini shakllantirishda ekologik toza gazlamalarning strategik ahamiyatga egaligini tasdiqlaydi.

Kalit so‘zlar: Ekologik gazlamalar, moda sanoati, barqaror moda, organik paxta, lyocell, qayta tiklanuvchi tolalar, yashil texnologiyalar, textile sustainability.

Abstract

The fashion industry is considered one of the main sources of global environmental problems; in particular, chemically treated synthetic fibers lead to environmental pollution, water waste, and an increase in the carbon footprint. This article is devoted to studying the socio-economic, technological, and environmental aspects of the use of environmentally friendly fabrics in the fashion industry. The study analyzes the chemical, physical, and operational properties of sustainable fibers such as organic cotton, bamboo fiber, lyocell, recycled polyester, and biomaterials derived from mushroom micromass. Empirical observations show that environmentally friendly fabrics serve as an important factor in improving consumer health, brand reputation, and environmental sustainability of enterprises. The cost-effectiveness of environmentally friendly fabrics is assessed using a methodology developed based on international experience. The results of the study confirm the strategic importance of

environmentally friendly fabrics in shaping the future sustainable model of the fashion industry.

Keywords: Ecological textiles, fashion industry, sustainable fashion, organic cotton, lyocell, renewable fibers, green technologies, textile sustainability.

KIRISH

So‘nggi o‘n yilliklarda moda sanoati global iqtisodiyotning eng yirik va tez o‘sayotgan tarmoqlaridan biri sifatida shakllandi. Biroq bu tezlik bilan o‘shir jarayoni atrof-muhit uchun sezilarli salbiy oqibatlar bilan kechmoqda. Xalqaro hisobotlarga ko‘ra, dunyodagi umumiy chiqindilarning sezilarli qismi aynan tekstil sanoati hissasiga to‘g‘ri keladi; sintetik tolalar tarkibidagi mikroplastiklar esa okean suvlarida eng xavfli ifloslantiruvchi moddalar qatoriga kiradi. Moda industriyasi suv resurslarining jadal sarflanishi, bo‘yoq sanoatida qo‘llaniladigan toksik kimyoviy larning tuproq va suv tizimiga tushishi, energiya iste‘molining yuqoriligi bilan ekologik tizimlarga bosim yuklaydi. Shuning uchun ekologik toza gazlamalar konsepsiyasi zamonaviy moda ishlab chiqarish jarayonida nafaqat dolzarb masala, balki strategik zarurat sifatida qaralmoqda.

Ekologik gazlamalar deganda faqatgina tabiiy tolalardan to‘qilgan matolar emas, balki ishlab chiqarishning barcha bosqichlarida ekologik standartlarga javob beradigan, qayta tiklanuvchi xomashyo asosida yaratilgan, kimyoviy jarayonlardan minimal darajada foydalanilgan, biologik parchalanish xususiyatiga ega materiallar tushuniladi. Qayta ishlangan polyester, lyocell, bambuk tolasi, banan tolasi, qo‘ziqorin mikromassasi (mycelium), sarg‘aymaydigan organik paxta kabi materiallar ekologik barqaror moda uchun yangi istiqbollar yaratmoqda.

Moda sanoatida ekologik toza gazlamalarga bo‘lgan ehtiyoj ortib borishining ijtimoiy sabablaridan biri sifatida iste‘molchilarning ekologik ongining kuchayishi, sog‘liq uchun xavfsiz mahsulotlar talabining ortishi va barqaror brendlarga bo‘lgan qiziqishning kuchayishi ko‘rsatiladi. Korxonalar uchun ekologik materiallarga o‘tish esa uzoq muddatda resurs tejash, chiqindilarni kamaytirish, ekologik soliqlar va cheklovlardan qochish, brend obro‘sin mustahkamlash kabi iqtisodiy afzalliklarni taqdim etadi.

Tadqiqotning dolzarbligi shundaki, ekologik gazlamalarning xususiyatlari yuzasidan ilmiy materiallar yetarli bo‘lsa-da, moda sanoatidagi real ishlab chiqarish jarayonlariga integratsiya mexanizmi, iqtisodiy samaradorlik mezonlari va iste‘molchilar xulq-atvoriga ta’siri hali yetarlicha izchil o‘rganilmagan. Ushbu maqola ushbu bo‘shliqni to‘ldirishga qaratilgan bo‘lib, ekologik gazlamalarning texnologik, ijtimoiy va iqtisodiy omillarini kompleks tahlil qiladi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Ekologik gazlamalarning samaradorligi va barqarorligi masalasi jahonda ko'plab ilmiy izlanishlarning markazida turibdi. Xalqaro tadqiqotchilar — Slater, Fletcher, Gwilt, Braungart va xalqaro BMT atrof-muhit dasturlari moda sanoatidagi ekologik inqirozning ildizlari materialshunoslik va ishlab chiqarish texnologiyalari bilan bevosita bog'liq ekanini ta'kidlaydi. Slaterning tadqiqotlarida paxta yetishtirish jarayonida suvning ortiqcha sarfi, pestitsidlar qo'llanilishi va tuproq degradatsiyasi moda sanoatini eng ko'p tanqid ostiga oluvchi jihatlar sifatida qayd etilgan. Shu bilan birga, organik paxta ekologik standartlarga javob beradigan alternativ xomashyo sifatida keng o'rganilgan.

Fletcher va Gwilt tomonidan ishlab chiqilgan "barqaror moda" konsepsiyasi materialning kelib chiqishi, ishlab chiqarish bosqichlari, iste'mol jarayoni va yakuniy parchalanish darajasini o'z ichiga olgan to'liq hayotiy sikl tahlilini taklif etadi. Ularning nazariy yondashuvlarida ekologik gazlamalar nafaqat kimyoviy xavfsizlik, balki ijtimoiy mas'uliyat nuqtayi nazaridan ham baholanadi.

Bambuk tolalari va lyocell bo'yicha olib borilgan ilmiy tadqiqotlarda bu materiallarning kam suv talab qilishi, kimyoviy moddalarning minimal qo'llanilishi hamda yuqori biologik parchalanish darajasi ularni ekologik jihatdan ustun materiallar qatoriga qo'shadi. Mycelium (qo'ziqorin mikromassasi) asosidagi biomateriallar esa tabiiy charmga alternativ bo'lib, hayvonlar farovonligi va ekologik xavfsizlik mezonlarini birlashtiradi.

Mahalliy ilmiy ishlar orasida O'zbekistonning to'qimachilik sanoatidagi ekologik jarayonlar, organik paxta yetishtirish texnologiyalari va sariq tolalarning qayta ishlanishi bilan bog'liq tadqiqotlar alohida o'rin tutadi. Biroq moda sanoatining ekologik materiallar, ularning iste'molchiga ta'siri va ishlab chiqarish strategiyasiga ta'sir mexanizmlari hozircha yetarlicha o'rganilmagan.

Adabiyotlar tahlili shuni ko'rsatadiki, ekologik gazlamalar nafaqat ekologik barqarorlikni, balki ijtimoiy mas'uliyatni va iqtisodiy samaradorlikni ta'minlaydigan ko'p qirrali konsepsiya bo'lib, moda sanoati uchun kompleks yondashuvni talab qiladi.

Tadqiqotda sifat va miqdoriy yondashuvlar uyg'un qo'llanildi. Ushbu metodologiya ekologik gazlamalarning texnologik xossalarini, iqtisodiy samaradorligini, iste'molchilarning ekologik ongini va ishlab chiqaruvchilarning barqarorlikka doir qarashlarini o'rganishga imkon berdi. Dastlabki bosqichda ekologik gazlama namunalarining kimyoviy tarkibi spektrometriya, termik analiz va biologik parchalanish testlari orqali o'rganildi. Har bir gazlama turi uchun suv sarfi, energiya

iste'moli, qayta tiklanish darajasi, CO₂ chiqindisi va toksik hosil bo'lish jarayonlari bo'yicha ma'lumotlar to'plandi.

Keyingi bosqichda moda korxonalarining ekologik materiallar bilan ishlash tajribasi o'rganildi. O'zbekiston, Turkiya, Janubiy Koreya va Niderlandiya bozorida faoliyat yurituvchi yetakchi moda brendlari bilan yarim strukturaviy intervyular o'tkazildi. Intervyular brendlarning ekologik gazlamalarga o'tishdagi iqtisodiy to'siqlar, texnologik cheklovlar, marketing strategiyalari va iste'molchilarning munosabatlari haqida ma'lumot berdi.

Iste'molchilar ongini baholash uchun 600 nafar respondent o'rtasida onlayn so'rovnoma o'tkazildi. So'rovda ekologik toza gazlamalarni tanlashga ta'sir qiluvchi omillar — narx, chidamlilik, estetik ko'rinish, ekologik ong darajasi, brendga ishonch — o'lchandi.

Tahlil jarayonida ekologik gazlamalarning hayotiy siklini baholash uchun LCA (Life Cycle Assessment) modeli qo'llanildi. Natijalar statistik regressiya, klaster tahlili va o'zaro bog'liqlik koeffitsientlari orqali baholandi.

NATIJALAR

Tadqiqot ekologik gazlamalarning moda sanoatida qo'llanilishi bo'yicha bir qancha muhim natijalarni ko'rsatdi. Dastlab, kimyoviy tahlillar ekologik gazlamalarning 70–90% biologik parchalanish darajasiga ega ekanini, sintetik materiallarga xos mikroplastik chiqindilarni hosil qilmasligini tasdiqladi. Organik paxta va lyocell suvni 40% kamroq talab qilgani, bambuk matosi esa pestitsidsiz yetishtirilgani sababli ekologik xavfsizlik ko'rsatkichlarining yuksak bo'lishiga erishildi.

Korxonalar bilan olib borilgan suhbatlar ekologik gazlamalarning ishlab chiqarish jarayoniga joriy etilishida texnologik modernizatsiya zarurligini ko'rsatdi. Aksariyat ishlab chiqaruvchilar ekologik gazlamalardan foydalanish brendning jozibadorligini oshirganini, iste'molchilar ishonchini kuchaytirganini ta'kidladi. Biroq narxning ko'tarilishi, sertifikatlash jarayonining murakkabligi va xomashyo ta'minotidagi beqarorlik asosiy muammo sifatida qayd etildi.

Iste'molchilar so'rovining natijalari ekologik gazlamalarni tanlashda birinchi o'rinda sog'liq uchun xavfsizlik omili turishini ko'rsatdi. Respondentlarning 62% ekologik gazlamalardan tayyorlangan kiyimlarni sintetik materiallardan afzal ko'rishi, 48% ularni uzoq muddat xizmat qilishi uchun tanlashi aniqlandi.

LCA tahlili ekologik gazlamalar sintetik materiallarga nisbatan 35–60% kam energiya sarflashi, chiqindilar hajmini 50% gacha kamaytirishi, uglerod izini esa sezilarli darajada qisqartirishini tasdiqladi. Bu natijalar moda sanoati uchun ekologik

gazlamalarning nafaqat estetik yoki marketing afzalligi, balki real ekologik foyda manbai ekanini ko'rsatadi.

MUHOKAMA

Natijalar ekologik gazlamalarning moda sanoati uchun zarur strategik yo'nalish ekanini tasdiqlaydi. Zamonaviy modada material tanlovi nafaqat texnologik va iqtisodiy omillar, balki jamiyatning ekologik ong darajasi bilan ham belgilanadi. Barqaror moda modeliga o'tishda asosiy muammo — ekologik gazlamalarning narx va ta'minot barqarorligi; biroq uzoq muddatda ular korxonalar uchun iqtisodiy foyda keltirishini amaliy natijalar ko'rsatmoqda.

Ekologik gazlamalarning keng tarqalishi uchun davlat darajasida rag'batlantiruvchi siyosat, ekologik sertifikatlash tizimining takomillashuvi, ilmiy-tadqiqot ishlarining kuchayishi va iste'molchilar ongini oshirish zarur. Xalqaro tajriba shuni ko'rsatadiki, ekologik materiallarga o'tish jarayoni jamiyat, biznes va davlatning hamkorlikdagi tizimli harakatlari natijasida muvaffaqiyatli kechadi.

XULOSA

Tadqiqot ekologik gazlamalarning moda sanoatidagi roli tobora ortib borayotganini ko'rsatdi. Ekologik toza materiallar ishlab chiqarish jarayonida suv va energiya sarfini kamaytiradi, chiqindi hajmini qisqartiradi, iste'molchilar sog'lig'ini himoya qiladi va moda brendlarining barqarorlik darajasini oshiradi. Ularning iqtisodiy samaradorligi ham yuqori bo'lib, uzoq muddatda raqobat ustunligi yaratadi. Moda sanoati barqaror rivojlanishi uchun ekologik gazlamalar asosiy strategik yo'nalishlardan biri bo'lib qoladi.

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**THE CONCEPT, STRUCTURE, AND CRIMINOLOGICAL
CHARACTERISTICS OF THE PERSONALITY OF THE OFFENDER**

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Аннотация

В данной статье представлено углубленное криминологическое исследование понятия, структуры и аналитических характеристик личности преступника. Рассматривается интеграция биологических, психологических и социальных факторов, лежащих в основе преступного поведения, а также рассматривается научная эволюция этого понятия в криминологии. Используя теоретико-аналитический подход, в исследовании систематизируются основные структурные элементы личности преступника – её моральные, интеллектуальные, эмоциональные и волевые качества – и анализируется их взаимосвязь с мотивами, условиями и видами преступной деятельности. В исследовании также рассматриваются типология преступников, роль социальной среды в формировании преступных наклонностей и значение исследований личности в профилактике преступлений. Результаты подтверждают, что личность преступника представляет собой многофакторный конструкт, сформированный взаимодействием врождённых характеристик и социальных влияний. Понимание её структуры и динамики необходимо для разработки эффективных реабилитационных и профилактических стратегий.

Ключевые слова: личность преступника, криминологическая характеристика, структура личности, преступное поведение, типология, социализация, реабилитация, криминология.

Abstract

This article presents an in-depth criminological study of the concept, structure, and analytical characteristics of the offender's personality. It explores the integration of biological, psychological, and social factors that form the foundation of criminal behaviour and examines the scientific evolution of this concept within criminology. Using a theoretical and analytical approach, the research systematizes the main structural elements of the criminal personality—its moral, intellectual, emotional, and volitional traits—and analyses their correlation with motives, conditions, and types of

criminal activity. The study also addresses the typology of offenders, the role of social environment in shaping criminal tendencies, and the significance of personality studies in crime prevention. The results confirm that the offender's personality is a multifactorial construct shaped by interaction between innate characteristics and social influences. Understanding its structure and dynamics is essential for developing effective rehabilitative and preventive strategies.

Keywords: personality of the offender, criminological characteristics, structure of personality, criminal behaviour, typology, socialization, rehabilitation, criminology.

INTRODUCTION

The problem of the offender's personality occupies a central place in criminology and criminal psychology. Every crime originates from a person—a subject endowed with consciousness, will, motives, and social experience. Therefore, understanding the personality of the offender is crucial for identifying the mechanisms of criminal behaviour, predicting recidivism, and developing preventive and correctional measures.

In legal terms, the offender is a person who has committed an act defined as a crime by criminal law. However, from a criminological point of view, this definition is insufficient. Criminology regards the offender not only as the author of a criminal act but as a complex social being whose behaviour is influenced by internal and external factors. These include genetic predispositions, psychological traits, family upbringing, education, environment, and social interactions.

The notion of “criminal personality” evolved throughout the history of criminological thought. The positivist school of the 19th century, represented by Cesare Lombroso and Enrico Ferri, laid the groundwork for understanding the biological and anthropological aspects of criminality. Lombroso's theory of the “born criminal” attempted to link crime to inherited physical and mental anomalies. Although later criticized, it initiated systematic studies of the offender's individuality.

Modern criminology views the offender's personality as the result of socialization processes, moral development, and environmental impact. This perspective combines biological, psychological, and sociological dimensions, acknowledging that crime cannot be reduced to any single cause. The structure of the offender's personality is multifaceted: it encompasses moral orientations, motivational systems, emotional stability, cognitive abilities, and social adaptability.

The aim of this article is to analyse the conceptual essence, internal structure, and criminological characteristics of the offender's personality. The study also explores

how the understanding of this category informs effective approaches to prevention, correction, and social reintegration.

LITERATURE REVIEW AND METHODOLOGY

The study of the offender's personality has a long and complex history. In classical criminology, the focus was on the rational choice of individuals; Beccaria and Bentham saw the criminal as a free moral agent acting according to calculated interest. This view shifted radically with the advent of positivist criminology in the late 19th century. Cesare Lombroso's *L'uomo delinquente* (1876) introduced a deterministic approach, arguing that certain individuals are biologically predisposed to criminality. Enrico Ferri and Raffaele Garofalo expanded this idea, adding psychological and environmental factors to the analysis.

In the 20th century, criminological theory increasingly emphasized psychological and sociological determinants. Sigmund Freud's psychoanalytic theory suggested that criminal behaviour could stem from unconscious conflicts and repressed drives. Hans Eysenck later developed the theory of personality and crime, proposing that individuals with high levels of extraversion and low levels of conditioning are more prone to deviant behaviour.

Sociological theories added a new dimension. Edwin Sutherland's differential association theory proposed that criminal behaviour is learned through communication with others. Travis Hirschi's social bond theory stressed that weak ties to family, school, and community increase the likelihood of offending. Meanwhile, Robert Merton's strain theory linked criminality to societal inequality and limited access to legitimate means of success.

Contemporary criminology integrates these approaches into a holistic model. Scholars such as David Garland and T. Newburn emphasize that the personality of the offender reflects broader cultural, institutional, and economic conditions. The development of typologies—habitual, situational, violent, economic, and organized offenders—has facilitated a more precise criminological characterization.

Research also highlights rehabilitation as a key element. Understanding the offender's psychological structure is essential for designing correctional programs that address individual needs, emotional regulation, and moral values. The reviewed literature thus positions the study of the offender's personality as a bridge between theory and practice, connecting criminological analysis with social policy.

This research employs a qualitative, analytical, and interdisciplinary methodology. It integrates theoretical frameworks from criminology, psychology, and sociology to examine the structure and characteristics of the offender's personality. The

study relies on secondary data, including classical and contemporary academic sources, criminal psychology monographs, and policy documents.

The methodology involves several stages:

1. **Conceptual systematization** – identification of the key definitions and dimensions of the offender's personality from historical and modern perspectives.
2. **Structural analysis** – classification of the main components of the offender's personality: moral (value system, conscience, empathy), intellectual (education, cognitive flexibility), emotional-volitional (self-control, impulsivity), and social (role adaptation, communication patterns).
3. **Comparative synthesis** – analysis of typologies and criminological classifications of offenders in different contexts (e.g., habitual vs. situational, violent vs. non-violent).
4. **Interpretive integration** – connecting theoretical insights with practical applications in crime prevention and rehabilitation.

Data interpretation follows hermeneutic and analytical logic, focusing on meaning, interrelation, and causal inference rather than statistical measurement. The study also references empirical findings from psychological and sociological surveys to illustrate theoretical propositions.

The methodological approach enables a multidimensional understanding of the offender's personality—viewed as a dynamic system influenced by biological predispositions, psychological structures, and environmental stimuli. Its limitation lies in the absence of quantitative assessment, which could complement qualitative insights, yet the interpretive depth compensates for this limitation.

RESULTS

The study confirms that the offender's personality is not a static category but a dynamic system of interrelated traits that determine an individual's behaviour in social and legal contexts. Its structure can be represented through four interconnected components:

1. **Moral and Value Component** – defines the individual's internal ethical standards, sense of justice, empathy, and moral responsibility. Offenders often exhibit moral deformation, manifested in cynicism, justification of violence, or disregard for norms.
2. **Intellectual-Cognitive Component** – includes mental abilities, level of education, and perception of social reality. Many offenders show distorted reasoning, poor problem-solving skills, or narrow situational thinking.

3. **Emotional-Volitional Component** – reflects self-control, emotional stability, and impulsivity. Emotional imbalance, aggression, and frustration tolerance are key indicators of criminogenic potential.

4. **Social-Role Component** – expresses the individual's social identity, adaptation capacity, and interaction with community institutions. Disrupted family relationships, unemployment, and peer influences play significant roles in criminal socialization.

Typologically, offenders can be divided into habitual (chronic), situational (occasional), and professional types, each with distinct motivational and psychological structures. The study also reveals that the offender's personality is shaped by the interplay between micro-level factors (family, education, personality traits) and macro-level determinants (economic inequality, cultural norms, legal institutions).

These findings demonstrate that criminological characterization must account for both individual and systemic dimensions. The personality of the offender cannot be reduced to pathology; it is a social product reflecting the contradictions of moral and institutional environments.

DISCUSSION

The discussion situates the results within the broader framework of criminological theory and practice. Understanding the personality of the offender allows for more effective prevention, rehabilitation, and reintegration strategies. The transition from punitive to corrective justice depends on recognizing the offender as a human being capable of change rather than as a fixed deviant.

From a theoretical standpoint, the integration of psychological and sociological factors provides a balanced explanation of criminal behaviour. Biological predispositions may predispose individuals to aggression, but social learning and environment determine how these impulses are expressed. Therefore, prevention requires both moral education and structural reform.

Practically, criminological profiling of offenders enables differentiated approaches to justice. For instance, rehabilitation programs for juvenile offenders emphasize emotional education and social reintegration, while those for habitual criminals focus on behavioural modification and occupational training. Psychological evaluation is also crucial for risk assessment and parole decisions.

The discussion further highlights the importance of studying the offender's personality in light of contemporary challenges. Digitalization, migration, and urban stress create new forms of deviance requiring adaptive psychological and social

strategies. The future of criminology thus lies in interdisciplinary synthesis, combining insights from neuroscience, psychology, and sociology with legal frameworks.

Ultimately, recognizing the complexity of the offender's personality reinforces the humanistic orientation of modern criminology, emphasizing that understanding the criminal mind is the first step toward social harmony and justice.

CONCLUSION

In conclusion, the offender's personality is a multidimensional construct that embodies the interaction of biological, psychological, and social factors. Its analysis provides the key to understanding the origins, motives, and persistence of criminal behaviour. The study demonstrates that moral deformation, emotional instability, and inadequate social adaptation are recurrent features of criminogenic personalities, but they develop within specific socio-cultural environments.

The structural model of the offender's personality—moral, intellectual, emotional-volitional, and social—offers a comprehensive framework for criminological analysis. It underscores the need for individualized preventive and rehabilitative measures grounded in psychological diagnosis and social policy.

The criminological characterization of offenders contributes not only to academic theory but also to practical justice reforms. By focusing on education, employment, and moral development, societies can transform punitive systems into restorative ones. Understanding the offender's personality, therefore, serves as both a scientific and ethical imperative for reducing crime and strengthening human dignity.

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CHILD-REARING CUSTOMS AMONG UZBEKS.

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Abstract. This article examines national customs related to child upbringing and their significance in the process of raising children, illustrated through the traditions of the Nurobod district. The importance of the child in Eastern culture is emphasized, where a child's growth and development is regarded as the future of the entire nation. The article reveals these aspects based on ethnographic studies, analysis, and critical observations. In Eastern culture, the value of a human being has long been highly esteemed. Children were regarded as full-fledged individuals, and various customs were observed to ensure their harmonious development. These traditions were established not only to help the child grow into a well-rounded personality but also to instill a sense of love for the homeland. The article highlights these aspects as well. This study is based on ethnographic observation.

Keywords: Chilla, cradle, isriq, "Cradle ceremony," "Sunnat ceremony," "Hatna ceremony," Kayvoni ona, Chilla water, sachala, "Qo'rqma" ritual.

Introduction. In Eastern cultures, child rearing has always been given special attention. Many traditions that begin with the birth of a child are aimed at ensuring its healthy and harmonious growth. For example, traditions such as chilla, cradle ceremonies, and isriq served to support the physical and spiritual development of the child. Also, through ceremonies such as circumcision and circumcision, the child was integrated into society and taught to understand national values. In Eastern culture, the child is considered the future not only of the family, but also of the entire nation.

The main part. Therefore, special attention is paid to upbringing, and values such as good manners, respect, and love for the homeland are instilled in the child.[1] These customs not only ensure the child's development as a person, but also play an important role in passing on the cultural heritage of society from generation to generation. For example, the customs of the Nurabad district of the Samarkand region can shed light on the topic. The birth of a child is considered one of the most joyful events in Uzbek society. The child is considered the main link in the family and is protected like the apple of the eye from the day of his birth until he grows up. Customs and traditions also serve to ensure that the child grows up as a successful, harmonious, and healthy person. Forty days after the child's birth, "chilla" is observed.[2] During

the days of chilla, a separate house is prepared for the child and the mother. Isriq is burned in the house every day. Isriq is believed to protect against evil eyes and evil glances. Neither the child nor the mother will be allowed to go out in the evening or at night. The lights will not be turned off at night. The curtains of the house will not be drawn during the day. The house should always be bright. Because the eyes of a newborn baby should get used to the light and not be afraid.

Relatives come to see the child after the chilla has come out. People who have had a premature birth or a broken marriage cannot enter the child's room during the chilla. It is believed that this will have a bad effect on the child's future. Relatives who come to the child must bring a gift for the child and, when leaving, they must leave a piece of their clothes (a piece of clothing). This piece is added to the isriq. This custom is done so that the child will not be affected by bad luck. In Monod, if someone does not leave a piece of their clothes, their name is written on a white piece of paper and added to the isriq. Bringing raw meat to a house with a chilla is considered a sign of bad luck. If raw meat is brought into the chilla where the child is sleeping, the child will catch chilla and the child may become very sick. In fact, this custom exists because raw meat is rich in infections and makes the child weak. Three days after the baby's umbilical cord is cut, the baby is bathed for the first time. The mother, who is a mature, self-controlled, powerful, and prosperous mother, performs the bath. This is because the intention is that the guest who comes to the new world will also reach the age of this mother, become a powerful and prosperous child. During the first bath, the hair in the mother's womb is removed. Special water is prepared for the bath. Soil, salt, a tail, and a silver ring are added to the water.

The baby is then immersed in the same water three times. This water is called "chill water". When the baby is immersed in this water, the water should touch all parts of the baby; if it does not touch any part, that part will sweat quickly. It is said that the baby's neck sweats quickly and is restless because of the chilla water. [3] It adapts the baby's skin to the outside world. Even after chilla, if the baby or the nursing mother goes out into a dark place at night, a piece of bread is placed in his hand. On the day the baby turns forty, wheat is roasted and distributed to the neighbors along with sweets. This custom is done to indicate that another person has been added to the world and to ensure that his or her fortune is complete. If any of the family members are mourning, it is not possible to enter the chilla house; if possible, family members with a chilla baby do not attend mourning or large gatherings. This is considered harmful to the child's health. The child's clothes are sewn in a tight fit so that the seams do not dig into the child's body during the chilla period, and the clothes worn during the chilla

period are not worn after the chilla period is over. The meaning of this custom is that the child should grow up and not be squeezed by small clothes. If the child is dressed in chilla clothes, the child will not grow up to his age, that is, he will not change. Of course, logically, dressing a child in tight clothes may not be comfortable for him, cause him to be capricious, and may not sleep well. That is why, according to the Uzbek national tradition, when buying clothes for a child, it is customary to buy clothes that are slightly larger than his age.

If the child does not change according to his age, our grandmothers weigh him. The scale is a double-sided scale, with a child on one side and fruit on the other. The ceremony of putting the child in the cradle is also held in a special way. The cradle is decorated by the girl's mother. The reason for bringing it is because the cradle is a daughter's inheritance from the mother. The cradle is decorated and decorated. Three layers of cotton are placed in the cradle. A tar is placed at the bottom so that the cloth does not sink. A knife, a sharp stone, and a mirror are placed at the head end. The mother places the child in the cradle with two layers of kaivo, lying on her left side. "Is the child lying on the right side?" she asks. Those around her say "no." She takes the child and places him on his right side. She laid the baby down three times and asked again, "Is the baby lying down right?" Those around her said, "Yes." The baby was tied to the cradle. This custom was a tradition for the young mother. Then a white tablecloth was spread over the cradle. The mother slowly hit the cradle three times with a mallet, saying, "Coward, coward." This is a "don't be a coward" ritual. Adapting the baby to the sounds of the environment is helping him understand the world. Then a "sachala" of sweets is scattered over the cradle. The children pick them up, and the women around them also pick them up with good intentions.

When the child is about to take a step, his feet are tied with a string. Three small balls are rolled between his feet and the string is cut. This ceremony is held in the presence of the children. And sweets are distributed to the children. If the child is a girl, one sheep is slaughtered, if it is a boy, two sheep are slaughtered. The meat is eaten by the mother for 40 days. A "Sunnat toy" is performed for a boy between the ages of 2 and 7. It is also called "Sunnat toy", "Hatna toy", "Og'il toy", "Chipron". Basically, people are given osh. At this wedding, a "clothing" ceremony is performed for the mother who gave birth to a boy. The mother is first wrapped in a white scarf. And relatives give gifts of various clothes one after the other. Then the surpa in the house is taken out. [5] Put flour and sweets in a sieve and everyone sifts it through the sieve one by one. With good intentions, they sift it and take the sweets with them. The boy's mother beats the surpa and puts it on his head. If there is a younger daughter-in-law in

the family, she puts it on his head. This means that you will do the next circumcision wedding. Everyone gives gifts to the child who has been circumcised. The child is also dressed in sarees. When the child grows up as a direct participant in these customs, great respect and reverence for his motherland and homeland will appear in his soul. These customs are a great education and harmony of our people, created over thousands of years. Respect for each other, oriental respect, and setting boundaries beautifully are actually customs. For example: forty days of silence is a boundary set to protect the mother and child and prevent strangers from approaching them. Unfortunately, these customs are disappearing today. The process of globalization is making our millennia-old values obsolete. In fact, we need to preserve these traditions and pass them on to future generations.

Conclusion. We have our own identity as long as we have these beautiful traditions that reflect our national spirit and oriental culture. To preserve these traditions, we need to conduct more ethnographic research, do scientific work, and make it clear to young people that traditions are not a sign of backwardness, but the essence of our existence. We need to prove that modern child psychology was actually born in the East and reveal the true essence of traditions. We need to understand how much good is intended for the child at the heart of a tradition and pass it on to the future.

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**INVESTIGATION OF CRIMES IN THE FIELD OF INFORMATION
TECHNOLOGY. INVESTIGATION OF CRIMES RELATED TO
NARCOTICS. INVESTIGATION OF CRIMES COMMITTED BY MINORS
AND ORGANIZED GROUPS**

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Аннотация

В данной статье рассматриваются методологические и организационные основы расследования преступлений, совершаемых в сфере информационных технологий, преступлений, связанных с наркотическими веществами, а также преступлений, совершаемых несовершеннолетними или организованными группами. Синтезируя криминологическую теорию, следственную практику и сравнительно-правовой анализ, исследование рассматривает, как различные категории современных преступлений требуют дифференцированных тактических, криминалистических и процессуальных подходов, при этом сохраняя структурные сходства в сборе доказательств, поведенческом анализе и следственной координации. В исследовании освещается эволюция методов преступления в условиях цифровизации, сложность наркосетей и криминогенная уязвимость несовершеннолетних в групповых ситуациях. С помощью междисциплинарного анализа в статье показано, как эффективность расследования зависит от адаптивных методологий, межсекторального сотрудничества, цифровой криминалистики и психосоциальной оценки.

Ключевые слова: Расследование киберпреступлений; преступления, связанные с наркотиками; организованная преступность; несовершеннолетние правонарушители; криминалистическая методология; цифровая криминалистика; уголовный процесс; криминология.

Abstract

This article explores the methodological and organizational foundations of investigating crimes committed in the field of information technologies, offenses involving narcotic substances, and crimes perpetrated by minors or organized groups. By synthesizing criminological theory, investigative practice, and comparative legal analysis, the study examines how diverse categories of contemporary crime require

differentiated tactical, forensic, and procedural approaches while sharing structural similarities in evidence collection, behavioral analysis, and investigative coordination. The research highlights the evolution of criminal methods under digitalization, the complexity of narcotics-related networks, and the criminogenic vulnerabilities of minors in group settings. Through multidisciplinary analysis, the article demonstrates how investigative effectiveness depends on adaptive methodologies, cross-sector cooperation, digital forensics, and psychosocial assessment.

Keywords: Cybercrime investigation; narcotics offenses; organized crime; juvenile offenders; forensic methodology; digital forensics; criminal procedure; criminology.

INTRODUCTION

Modern criminal justice faces a highly fragmented landscape in which crime manifestly evolves faster than legal and investigative mechanisms designed to counter it. Three prominent areas illustrate this dynamic transformation: crimes committed through or against information technologies, offenses involving narcotic substances, and crimes carried out by minors or structured criminal groups. Though their *modus operandi* differs substantially, they share a foundational characteristic: each type demands investigative strategies that go beyond traditional procedural frameworks, requiring sophisticated interdisciplinary approaches that combine legal, technical, psychological, and organizational dimensions.

Information technology crimes—ranging from unauthorized access to data, large-scale financial intrusions, cyberextortion, and identity theft to cross-border digital fraud—undermine economic stability and public trust. Since perpetrators often operate anonymously, across jurisdictions, and through encrypted infrastructures, investigators face the dual challenge of preserving digital evidence while ensuring procedural legitimacy. The transient nature of electronic traces, the global distribution of servers, and the volatility of network data necessitate investigative precision supported by advanced forensic techniques.

Narcotics-related offenses, by contrast, unfold within complex social and economic networks. They involve cultivation, manufacturing, transportation, distribution, and consumption cycles that are often compartmentalized across multiple actors. These crimes merge elements of organized group activity, financial laundering, corrupt institutional infiltration, and interpersonal violence. The investigative focus expands beyond the detection of physical substances to encompass the uncovering of supply chains, identifying communication routes, mapping distribution hierarchies, and understanding the sociopsychological environment that sustains demand.

Crimes committed by minors or organized groups introduce yet another dimension. Juvenile offenders often exhibit impulsivity, suggestibility, underdeveloped self-regulation, and vulnerability to group influence. Their actions may reflect imitation rather than calculated criminality. In contrast, organized groups operate on sophisticated coordination, division of roles, hierarchical control, and strategic planning. These two contexts—seemingly opposite—intersect in their reliance on group dynamics: minors become instruments of manipulation, while organized groups rely on loyalty, secrecy, and coercion.

Investigative practice therefore requires a conceptual unification that allows authorities to distinguish between individual psychological factors, structural criminal networks, and technologically mediated methods. This article aims to articulate that unifying conceptual foundation while exploring the specificities of each crime category. By integrating doctrinal legal analysis, criminological theory, and empirical evidence from investigative practice, the study provides a cohesive framework for understanding how investigators must adapt to the evolving criminal landscape. The synthesis reveals that effective investigation hinges upon a meticulous balancing act: respecting procedural guarantees, deploying scientific-technical tools, interpreting behavioral patterns, and coordinating with specialized institutions operating both domestically and internationally.

LITERATURE REVIEW AND METHODOLOGY

The theoretical corpus surrounding cybercrime investigation has expanded rapidly since the early 2000s. Authors such as Wall, Brenner, and Casey emphasize that digital evidence requires a conceptual departure from material evidence: it is non-tactile, highly perishable, and replicable without loss of integrity. Their research demonstrates that cybercrime investigations demand protocols based on chain-of-custody principles adapted to electronic media, emphasizing cryptographic hashing, metadata preservation, and reconstructive forensic imaging. Studies in digital forensics further explore the analytical significance of log files, packet capture data, blockchain transactions, encrypted messaging platforms, and anonymization networks.

Narcotics-crime literature, in contrast, reflects decades of criminological and sociological inquiry. Classical works by Goldstein, Becker, and Levine highlighted the “systemic violence” associated with drug markets and the multiplicity of roles played by participants. Contemporary research delves into transnational cartels, darknet marketplaces, synthetic drug laboratories, and decentralized distribution models. Forensic toxicology literature underscores methods of chemical analysis such as GC-MS, LC-MS/MS, and immunoassay screening for substance identification. Meanwhile,

criminological research emphasizes environmental criminology, offender profiling, and socio-economic determinants of drug crime.

Studies concerning juvenile criminality draw heavily on developmental psychology. Scholars like Steinberg and Moffitt identify key vulnerabilities in adolescent neurodevelopment that manifest in impulsivity, group conformism, and heightened emotional reactivity. Legal literature stresses the importance of pedagogical rather than punitive responses. Meanwhile, research on organized crime—exemplified by Varese, Paoli, and Albanese—examines hierarchical control structures, economic motives, and adaptive strategies that allow groups to evade surveillance.

Although these bodies of research arise from distinct domains, comparative analyses reveal shared investigative challenges: hidden networks, encrypted communication channels, group dynamics, and evidence concealment strategies. Thus, the literature calls for a unified investigative methodology capable of merging insights from digital forensics, sociological analysis, psychological assessment, and classical criminalistics.

The methodological approach of this study integrates doctrinal legal analysis, comparative criminology, digital forensic evaluation, and case-study synthesis. First, statutory frameworks governing cybercrime, narcotics offenses, and juvenile/organized crime were examined across multiple jurisdictions to identify procedural similarities and divergences. Special emphasis was placed on evidentiary standards, international cooperation mechanisms, and specialized investigative powers.

Second, digital forensic methodologies were analyzed using both experimental and observational techniques. Simulated cybercrime scenarios were created to observe the extraction of logs, metadata, volatile memory artifacts, packet streams, and cryptographic signatures. These simulations allowed the evaluation of investigative reliability under varying conditions of network configuration, device encryption, and anonymization tools.

Third, narcotics-related investigative procedures were examined using hypothetical distribution networks modeled on empirical data. This allowed the identification of investigative nodes such as supply origin, courier methods, financial routing, and communication channels. Chemical analysis methodologies were reviewed to assess the evidentiary durability of toxicological findings.

Fourth, juvenile and organized crime scenarios were analyzed through psychological profiling and role-based group modeling. Juvenile behavioral patterns

were contrasted with group-coordinated actions to identify distinguishing features relevant for investigative differentiation.

Finally, expert interviews with investigators in digital crime units, narcotics task forces, and juvenile crime departments provided qualitative insight into operational challenges.

Together these methodological layers present a multi-angled analytical framework grounded in empirical observation, legal analysis, and forensic science.

RESULTS

The analysis produced several key findings. In cybercrime investigations, the most critical determinant of success was the rapid acquisition of volatile digital evidence. Memory dumps, session tokens, and temporary files dissipated within minutes, making delay the primary cause of evidentiary loss. Investigators faced obstacles related to jurisdictional fragmentation: servers located abroad, cloud-based data storage, and VPN usage often complicated legal access requests. Algorithmic analysis of logs proved effective in reconstructing attacker pathways but required substantial technical expertise.

In narcotics investigations, the structural mapping of supply chains emerged as the central investigative challenge. Cases rarely revolved around a single offender; instead, investigators confronted multi-tier networks involving suppliers, intermediaries, couriers, retail distributors, and financiers. Chemical analysis reliably linked seized substances to specific manufacturing sources, yet communication intercepts and undercover operations remained more effective for dismantling networks. Financial analysis of money flows provided critical insights, revealing laundering patterns through informal value transfer systems, cryptocurrency exchanges, and false invoicing structures.

Investigations involving minors revealed distinct dynamics. Offending behavior tended to stem from peer pressure, lack of adult supervision, socio-emotional instability, and identity-seeking behavior rather than entrenched criminal intent. Interrogation strategies relying on empathy, structured dialogue, and developmental considerations yielded more reliable testimony than confrontational approaches. In organized group investigations, however, evidence showed the opposite pattern: members actively concealed information, coordinated stories, used encrypted channels, and relied on division of labor to minimize exposure. Physical evidence in such cases played a lesser role than electronic communication traces and insider testimony.

Across all categories, the results consistently demonstrated that multidisciplinary collaboration—between digital forensics experts, narcotics analysts,

psychologists, and financial investigators—significantly improved investigative outcomes. The research further revealed that rigid adherence to traditional investigative templates impeded progress in technologically complex cases.

DISCUSSION

The findings suggest that although cybercrime, narcotics crime, and group-related juvenile or organized crime appear disparate, their investigative challenges reveal deep methodological parallels. In each category, investigators confront concealed communication channels, distributed offender networks, and rapidly evolving tactics. A thematic analysis reveals that successful investigations rely on a combination of technological expertise, psychological insight, and strategic coordination rather than on isolated procedural actions.

Cybercrime investigations demonstrate the necessity of reimagining evidence: data exists in volatile, duplicable, transmittable forms. As such, investigators must treat digital environments as crime scenes requiring preservation protocols analogous to those used for physical evidence—yet adapted to electronic logic. The discussion emphasizes that proactive monitoring, early intervention, and international cooperation are critical in a domain defined by geographical fluidity.

Narcotics crime investigations underscore the need for network-centered approaches. Offenses in this field are systemic, forming part of economic ecosystems rather than isolated acts. Thus, investigative efforts must focus on dismantling organizational structures rather than simply arresting individual offenders. This aligns with contemporary criminological views that emphasize prevention and structural disruption over reactive enforcement.

Violations committed by minors require an entirely different epistemic lens. Rather than interpreting behavior through a punitive paradigm, investigators must evaluate developmental factors, vulnerability to influence, and psychosocial context. In contrast, organized groups exhibit highly rationalized behavior driven by economic motives and coordinated planning. The juxtaposition of these categories highlights the importance of tailoring investigative tactics to offender psychology and group dynamics.

The broader implication is that criminal investigation must embrace interdisciplinarity as a structural necessity. Digital evidence analysts, forensic chemists, behavioral psychologists, and financial auditors must collaboratively construct investigative models capable of responding to contemporary crime. Failing to do so limits investigative accuracy and undermines procedural justice.

CONCLUSION

The study concludes that the investigation of cybercrime, narcotics offenses, and crimes committed by minors or organized groups requires methodological flexibility, robust forensic capabilities, and cross-disciplinary coordination. Each type of offense presents unique challenges linked to the nature of evidence, offender psychology, and organizational structures. However, all three categories benefit from investigative approaches that leverage technological tools, behavioral insights, and interagency cooperation.

Future developments should prioritize international legal harmonization in cybercrime cases, expanded forensic capabilities in narcotics investigations, and rehabilitative as well as preventive strategies for juvenile offenders. Investigative bodies must adapt continuously to technological and social change, ensuring that criminal procedure evolves alongside emerging threats.

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**MITOXONDRIYA: HUJAYRAMIZ ICHIDAGI KUCH STANSIYASINING
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Annotatsiya

Ushbu maqolada mitoxondriyaning tuzilishi, funksiyasi, kelib chiqishi va inson hayotidagi ahamiyati keng yoritiladi. Mitoxondriya “hujayraning energiya markazi” sifatida tanilgan boʻlib, u adenosin trifosfat (ATF) ishlab chiqarish orqali hujayraning barcha biologik jarayonlarini taʼminlaydi. Maqolada mitoxondriyalarning ikki qavatli membranasi, oʻz DNKsiga ega boʻlishi, energiya almashinuvidagi roli, shuningdek, mitoxondrial kasalliklar va qarish jarayonidagi ishtiroki tahlil qilinadi. Shuningdek, zamonaviy ilm-fan nuqtayi nazaridan mitoxondriyaning evolyutsion kelib chiqishi va uning genetik mustaqilligi haqidagi nazariyalar ham muhokama qilinadi.

Kalit soʻzlar: mitoxondriya, energiya almashinuvi, ATF, hujayra, oksidlovchi fosforlanish, mitoxondrial DNK, endosimbioz nazariyasi, hujayra nafas olishi, apoptoz, biotexnologiya.

Kirish

Inson tanasi millionlab hujayralardan tashkil topgan boʻlib, har bir hujayra oʻzida murakkab “shahar” tizimini eslatadi. Ushbu “shahar”ning yuragi — **mitoxondriya** deb ataluvchi organelladir. Mitoxondriya yunoncha “mitos” — iplari, “chondrion” — donacha degan soʻzlardan olingan boʻlib, bu organellalar hujayra ichidagi eng muhim energiya ishlab chiqaruvchi tizimdir. Ular barcha eukariot organizmlarning hujayralarida mavjud boʻlib, asosiy vazifasi — **ATF (adenozin trifosfat)** molekulalarini sintez qilishdir. Aynan ATF — hujayra faoliyati uchun asosiy “yoqilgʻi” hisoblanadi.

Mitoxondriya oʻzining alohida **DNKsiga**, ribosomalariga va ayrim oqsillarni mustaqil sintez qilish qobiliyatiga ega. Shu sababli olimlar uzoq yillar davomida mitoxondriyani “yarim mustaqil organella” deb atab keladilar. Ularning oʻziga xosligi shundaki, mitoxondriya nafaqat energiya ishlab chiqaradi, balki hujayraning **apoptoz (programmalangan oʻlim)** jarayonida ham ishtirok etadi. Bundan tashqari, u

metabolik jarayonlar, kalsiy ionlarini saqlash va issiqlik ishlab chiqarishda ham muhim ahamiyat kasb etadi.

Mitoxondriyaning ahamiyati shunchalik ulkanki, ba'zi olimlar uni **“hujayra ichidagi yurak”**, boshqalar esa **“biologik elektrostansiya”** deb ataydilar. Chunki mitoxondriya bo'lmasa, na hujayra, na organizm yashay oladi.

Bugungi kunda mitoxondriya nafaqat biologiya, balki tibbiyot, genetika, biotexnologiya va hatto sport fiziologiyasi sohalarida ham tadqiqot markazida turibdi. Mitoxondriya faoliyatidagi buzilishlar ko'plab og'ir kasalliklar — **Parkinson, Alzheimer, diabet, yurak ishemiyasi, bepushtlik** kabi kasalliklarning sababi sifatida aniqlangan.

Ushbu maqolada biz mitoxondriyaning **tuzilishi, ishlash mexanizmi, genetik mustaqilligi, kasalliklar bilan bog'liqligi va ilm-fan rivojida tutgan o'rni** haqida batafsil so'z yuritamiz.

ASOSIY QISM

1-BO'LIM. MITOXONDRIYANING TUZILISHI VA FUNKSIYASI

Mitoxondriya — bu ikki qavatli membranaga ega, o'rtacha 0,5–1 mikrometr kattalikdagi organella bo'lib, eukariot hujayralarning deyarli barchasida mavjud. Ular hujayraning energiya markazi hisoblanadi, chunki ularning asosiy vazifasi **adenozin trifosfat (ATF)** molekulalarini sintez qilishdir. Bu molekula hujayra ichidagi barcha metabolik jarayonlar uchun energiya manbai sifatida xizmat qiladi.

1.1. Mitoxondriyaning tashqi tuzilishi

Mitoxondriya **ikkita membrana** bilan o'ralgan:

- **Tashqi membrana,**
- **Ichki membrana.**

Tashqi membrana silliq va nisbatan oson o'tiluvchi bo'lib, u orqali ayrim molekulalar, masalan, ionlar, suv va kichik organik moddalarning o'tishiga ruxsat beriladi. Bu membranada **porin** deb ataluvchi oqsillar mavjud bo'lib, ular **“eshikcha”** vazifasini bajaradi.

Ichki membrana esa juda murakkab tuzilgan va sirtida **kristalar (cristae)** deb ataluvchi bukilishlar hosil qiladi. Aynan shu kristalar mitoxondriyaga o'ziga xos **“to'lqinli”** shakl beradi. Kristalar ichki sirtini bir necha baravar oshirib, fermentlar joylashishi uchun katta maydon yaratadi. Bu fermentlar — **oksidlovchi fosforlanish va elektron tashish zanjiri** jarayonlarining asosiy ishtirokchilari hisoblanadi.

1.2. Ichki tuzilma: matritsa va ferment tizimlari

Ichki membrana ichida joylashgan bo'shliq **mitoxondrial matritsa** deb ataladi. Matritsa — bu suyuq muhit bo'lib, u o'z ichiga quyidagilarni oladi:

- Mitoxondrial **DNK**,
- **Ribosomalar**,
- **Fermentlar**,
- **Kalsiy** va **magnezium** ionlari,
- Ba'zi oraliq metabolitlar (masalan, piruvat, asetil-KoA).

Matritsada sodir bo'ladigan eng muhim jarayonlardan biri — **Krebs sikli** (yoki **limon kislotasi sikli**) hisoblanadi. Bu jarayon natijasida uglevodlar, yog'lar va oqsillar parchalanib, ularning energiyasi **NADH** va **FADH₂** ko'rinishida saqlanadi. Ushbu molekulalar keyinchalik **elektron tashish zanjiri** orqali ATF ishlab chiqarishda ishtirok etadi.

1.3. Energiya ishlab chiqarish mexanizmi

Mitoxondriyaning eng asosiy vazifasi — **ATF sintezi**. Bu jarayon **oksidlovchi fosforlanish** deb ataladi va uch bosqichda kechadi:

1. **Glikoliz** – bu jarayon sitoplazmada sodir bo'ladi, bunda glyukoza piruvatga aylantiriladi.
2. **Krebs sikli** – piruvat mitoxondriyaga kiradi va CO₂, NADH, FADH₂ hosil qiladi.
3. **Elektron tashish zanjiri (ETZ)** – bu bosqich mitoxondriyaning ichki membranasida sodir bo'ladi. Elektronlar ETZ bo'ylab harakatlanar ekan, protonlar membrana orqali o'tkaziladi va natijada **proton gradienti** hosil bo'ladi. Ushbu gradientning energiyasi **ATF-sintaza** fermenti orqali ATF sintez qilish uchun ishlatiladi.

Shunday qilib, bir dona glyukoza molekulasidan o'rtacha **36–38 ta ATF** molekulasini hosil bo'ladi. Bu hujayra hayot faoliyati uchun juda katta energiya manbaidir.

1.4. Mitoxondrial DNK va genetik mustaqillik

Mitoxondriya o'zining **aylanasimon DNK molekulasi**ga ega. U yadro DNKdan mustaqil ravishda ba'zi genlarni kodlay oladi. Mitoxondrial DNK (mtDNK) taxminan 37 ta genni o'z ichiga oladi:

- 13 tasi — oqsillarni kodlaydi,
- 22 tasi — tRNKni,
- 2 tasi — rRNKni kodlaydi.

Bu genlar mitoxondriyadagi energiya ishlab chiqarish tizimi uchun zarur bo'lgan oqsillarni sintez qilishda ishtirok etadi. Biroq, mitoxondriyaga kerak bo'lgan oqsillarning 90% dan ortig'i yadro DNK tomonidan kodlanadi va sitoplazmadan mitoxondriyaga olib kiriladi.

Mitoxondrial DNKning yana bir o'ziga xos jihati — u **faqat ona orqali meros bo'lib o'tadi**. Shuning uchun olimlar “mitoxondrial Eva” tushunchasini joriy etishgan, ya'ni bugungi barcha insonlarning mitoxondriyalari taxminan 150–200 ming yil avval yashagan yagona ayol ajdoddan kelib chiqqan deb hisoblanadi.

1.5. Mitoxondriyaning qo'shimcha funksiyalari

Mitoxondriya faqat energiya ishlab chiqaruvchi emas, balki ko'plab muhim biologik jarayonlarda ham ishtirok etadi:

- **Apoptoz** (programmalangan hujayra o'limi) jarayonini boshqaradi. Mitoxondriya “sitoxrom c” kabi oqsillarni ajratib chiqaradi, bu esa hujayra o'lim mexanizmini ishga tushiradi.
- **Kalsiy homeostazini** saqlaydi, ya'ni hujayra ichidagi kalsiy darajasini tartibga soladi.
- **Issiqlik hosil qilish** — ba'zi maxsus to'qimalarda (masalan, jigarrang yog' to'qimasida) mitoxondriya energiyani issiqlikka aylantirib, organizmni sovuqdan himoya qiladi.
- **Metabolik oraliq mahsulotlarni** (masalan, yog' kislotalari va aminokislotalarni) qayta ishlashda ishtirok etadi.

Mitoxondriya shuningdek hujayra qarishi bilan bevosita bog'liq. Ularning DNKsi tez oksidlanadi va vaqt o'tishi bilan mutatsiyalar to'planadi, bu esa energiya ishlab chiqarish samaradorligini kamaytiradi. Shu sababli mitoxondriya faoliyatining pasayishi qarish jarayonining asosiy belgilaridan biri hisoblanadi.

2-BO'LIM. MITOXONDRIYANING KELIB CHIQISHI VA EVOLYUTSION SIRI

Mitoxondriyaning o'ziga xos genetik mustaqilligi, ikki qavatli membranasi va bakteriyalarga o'xshash ayrim xususiyatlari olimlarni uzoq yillar davomida o'ylantirib kelgan. Shuning uchun mitoxondriya nafaqat hujayra biologiyasi, balki **evolyutsion biologiya** uchun ham muhim tadqiqot obyekti hisoblanadi.

2.1. Endosimbioz nazariyasi — mitoxondriyaning kelib chiqish siri

Mitoxondriyaning paydo bo'lishi haqida eng mashhur ilmiy tushuntirish — bu **endosimbioz nazariyasidir**. Ushbu nazariya XX asrning ikkinchi yarmida amerikalik biotadqiqotchi **Linn Margulis** tomonidan taklif etilgan.

Nazariyaga ko'ra, bundan taxminan **1,5–2 milliard yil avval**, qadimgi eukariot hujayralar hali shakllanmagan davrda, **yirik prokariot** (yadroga ega bo'lmagan) hujayra kichikroq **aerob bakteriyani** o'z ichiga yutib olgan. Ammo bu bakteriya yo'q bo'lib ketmagan, balki yirik hujayra ichida yashab qolgan va undan foyda ko'rgan. Natijada, ular o'zaro **foydali simbioz** (ya'ni o'zaro hamkorlik) asosida yashay boshlaganlar:

- **Yirik hujayra** bakteriyaga himoya va oziq moddalar bilan ta'minlagan,
- **Kichik bakteriya** esa egasiga energiya (ATF) ishlab bergan.

Vaqt o'tishi bilan bu bakteriya o'zining mustaqil yashash qobiliyatini yo'qotib, hujayra ichidagi **organella** — **mitoxondriyaga** aylangan.

Endosimbioz nazariyasi mitoxondriyaning ko'plab xususiyatlarini izohlab bera oladi:

- Mitoxondriyada **aylanasimon DNK** mavjud (bakteriyalardagi kabi).
 - Mitoxondriya **o'z ribosomalariga ega** (prokariotlarnikiga o'xshash 70S tipida).
 - Ular **ikkita membranaga ega**: ichki membrana bakteriyani, tashqi membrana esa "egasi" hujayrani.
 - Mitoxondriya **ikkiga bo'linish yo'li bilan** (bakteriyalar kabi) ko'payadi.
- Demak, bugungi eukariot hujayralar aslida qadimiy bakteriyalar bilan birlashgan "hamkor tizim"dir.

2.2. Mitoxondriya va bakteriyalar o'rtasidagi o'xshashliklar

Olimlar mitoxondriyani **α -proteobakteriyalar** guruhiga mansub qadimgi bakteriyalar avlodidan kelib chiqqan deb hisoblashadi. Ayniqsa, **Rickettsia** turiga yaqin bo'lgan bakteriyalar mitoxondriyalarga juda o'xshash. Quyidagi o'xshashliklar bunga dalil bo'ladi:

Xususiyat	Mitoxondriya	α -proteobakteriyalar
DNK shakli	Aylanaviy	Aylanaviy
Ribosoma turi	70S	70S
Bo'linish usuli	Ikkiga bo'linish	Ikkiga bo'linish
Oqsil sintezi	Mustaqil (cheklangan)	Mustaqil
Energiya ishlab chiqarish	Oksidlovchi fosforlanish	Oksidlovchi fosforlanish

Bundan tashqari, mitoxondriyadagi ayrim genlar bakteriyalarnikiga juda o'xshash ketma-ketlikka ega. Bu genetik o'xshashlik endosimbioz nazariyasining genetik dalilidir.

2.3. Evolyutsion ahamiyat va eukariotlarning paydo bo'lishi

Mitoxondriya paydo bo'lgan davr — **Yer tarixida muhim burilish nuqtasi** bo'lgan. Chunki u nafas olish orqali energiya olish imkonini yaratgan. Avvalgi prokariotlar (masalan, bakteriyalar) asosan fermentatsiya yo'li bilan energiya olishgan, bu esa juda kam energiya beradi.

Ammo mitoxondriya paydo bo'lgach, hujayralar **kisloroddan to'liq foydalanib**, har bir glyukozadan 18 barobar ko'p energiya olish imkoniyatiga ega bo'ldi. Shu tufayli eukariotlar:

- Kattaroq o'lchamli,
- Murakkab tuzilmali,
- Ko'p hujayrali organizmlarga aylana oldilar.

Shunday qilib, mitoxondriya — Yerda hayotning keyingi evolyutsion bosqichlarini shakllantirgan eng muhim omillardan biridir.

2.4. Mitoxondriya va plastidlarning umumiy kelib chiqishi

Qiziqarli jihat shundaki, mitoxondriya singari **xloroplastlar (plastidlar)** ham endosimbioz yo'li bilan paydo bo'lgan deb hisoblanadi. Ammo xloroplastlar fotosintez qiluvchi **sianobakteriyalardan** kelib chiqqan. Shu sababli o'simlik hujayralarida ham mitoxondriya, ham plastidlar mavjud — biri energiyani ishlab chiqaradi, ikkinchisi esa quyosh nurini kimyoviy energiyaga aylantiradi.

Bu ikki organella o'rtasidagi o'xshashliklar — ikkita membrana, o'z DNK va ribosomalarining mavjudligi — ularning umumiy evolyutsion yo'lini tasdiqlaydi.

2.5. Mitoxondriyaning biologik “hamkorlik” falsafasi

Endosimbioz nazariyasi nafaqat biologik, balki **falsafiy ma'noda** ham chuqur ahamiyatga ega. U shuni ko'rsatadiki, hayotning rivojlanishida raqobatdan ko'ra **hamkorlik** muhimroq bo'lgan. Hujayra ichidagi “bakteriya” o'zini saqlab qolish uchun emas, balki hamkorlik orqali yanada mukammal tizim yaratgan. Bu — tabiatdagi murakkab tizimlar qanday paydo bo'lishining eng yorqin namunasidir.

Shuningdek, mitoxondriya hamkorlik orqali genetik va energetik tizimlarning uyg'unlashgan modelini yaratgan. Shu sababli, mitoxondriya evolyutsiyani tushunishda markaziy o'rinni egallaydi.

3-BO'LIM. MITOXONDRIYAL KASALLIKLAR VA TIBBIYOTDAGI AHAMIYATI

Mitoxondriya nafaqat hujayra energiya ishlab chiqaruvchisi, balki organizmning hayotiy faoliyatini barqaror ushlab turuvchi markaziy tizimdir. Shu sababli mitoxondriya faoliyatidagi har qanday buzilish inson salomatligiga bevosita ta'sir qiladi. Oxirgi yillarda olib borilgan ilmiy tadqiqotlar shuni ko'rsatadiki, **ko'plab surunkali kasalliklar, qarish jarayoni, asab tizimi kasalliklari** va hatto **bevushtlik** mitoxondriyal funksiyaning pasayishi bilan bog'liqdir.

3.1. Mitoxondriyal kasalliklarning sabablari

Mitoxondriyal kasalliklar — bu mitoxondriyaning genetik yoki funksional buzilishi natijasida yuzaga keladigan kasalliklar guruhidir. Ularning sababi ko'pincha **mtDNK mutatsiyalari** yoki **yadro DNKsidagi xatoliklar** bilan bog'liq bo'ladi.

3.1.1. Genetik mutatsiyalar

Mitoxondrial DNK (mtDNK) yadro DNKga qaraganda mutatsiyalarga ko'proq moyil. Chunki u oksidlovchi stressga ko'proq duch keladi va uni himoya qiluvchi mexanizmlar cheklangan. Mutatsiyalar natijasida ATF sintezida ishtirok etuvchi fermentlar buziladi, bu esa hujayralarning energiya yetishmovchiligiga olib keladi.

Masalan:

- **Leber irsiy optik neyropatiyasi (LHON)** – ko'rish nervi zararlanishi natijasida ko'rish qobiliyati yo'qoladi.
- **MELAS sindromi (Mitochondrial Encephalomyopathy, Lactic Acidosis and Stroke-like episodes)** – bu kasallik miya faoliyati va mushaklar ishini izdan chiqaradi.
- **Kearns–Sayre sindromi** – mitoxondrial DNKning o'chib ketishi bilan bog'liq bo'lib, yurak, ko'z va mushak tizimiga ta'sir qiladi.

3.1.2. Oksidlovchi stress va ekologik omillar

Mitoxondriya faoliyatiga tashqi muhit omillari ham kuchli ta'sir qiladi. Oqsil oksidlanishi, toksinlar, nurlanish, noto'g'ri ovqatlanish, chekish va spirtli ichimliklar

mitoxondriya DNKsiga zarar yetkazadi. Shuningdek, yoshi ulgʻaygan sari mitoxondriyadagi **reaktiv kislorod zarralari (ROS)** koʻpayib boradi, bu esa hujayra va toʻqimalarda oksidlovchi stressni kuchaytiradi.

3.2. Mitoxondriya va qarish jarayoni

Mitoxondriya faoliyatining pasayishi — qarishning eng muhim mexanizmlaridan biridir. Qarish jarayonida mitoxondriya soni kamayadi, ichki membrana degradatsiyaga uchraydi, ATF ishlab chiqarish kamayadi, va natijada hujayralar zaiflashadi.

Shu sababli olimlar mitoxondriyalarning sogʻlom faoliyatini **qarishga qarshi strategiya** sifatida koʻrmoqda. Masalan:

- **Koʻp harakat va jismoniy mashqlar** mitoxondriya sonini oshiradi.
- **Antioksidantlar (C, E, Q10 kofermenti)** ROSni kamaytiradi.
- **Oraliq roʻza (intermittent fasting)** va **kaloriyani kamaytirish** mitoxondriyal biogenezni faollashtiradi.

Qiziqarli fakt: 2023-yil MIT olimlari mitoxondriyadagi gen ifodasini tiklash orqali laboratoriya sichqonlarining umrini 25% ga uzaytirishga muvaffaq boʻlishdi.

3.3. Mitoxondriya va asab tizimi kasalliklari

Asab tizimi mitoxondriya faoliyatiga juda bogʻliq, chunki miya organizmdagi umumiy energiyaning 20–25 foizini isteʼmol qiladi. Mitoxondriyal disfunktsiya quyidagi kasalliklar bilan bogʻliq deb topilgan:

- **Parkinson kasalligi** – dopamin ishlab chiqaruvchi hujayralarda mitoxondriya faoliyati buziladi.
- **Alzheimer kasalligi** – mitoxondriya oksidlovchi stress tufayli shikastlanadi, bu esa neyronlarning oʻlimiga olib keladi.
- **Autizm spektri buzilishlari** – ayrim bolalarda mtDNK mutatsiyalari bilan bogʻliq energiya tanqisligi kuzatilgan.

Zamonaviy tibbiyotda mitoxondriya faoliyatini yaxshilash uchun **mitoxondriya-targetli dori vositalari** ishlab chiqilmoqda. Masalan, **MitoQ**, **SkQ1**, **Elamipretide (SS-31)** singari preparatlar mitoxondriya membranasini himoya qilib, oksidlovchi stressni kamaytiradi.

3.4. Mitoxondriya va sport fiziologiyasi

Sportchilar va faol hayot kechiruvchi insonlarda mitoxondriyalar soni va faoliyati yuqori bo‘ladi. Chunki muntazam jismoniy mashqlar mitoxondriyalarda **biogenez** jarayonini faollashtiradi, ya’ni yangi mitoxondriyalar hosil bo‘ladi.

Aerob mashqlar (yugurish, suzish, velosport) natijasida:

- ATF ishlab chiqarish samarasi oshadi,
- Qon aylanish yaxshilanadi,
- Qon shakar darajasi barqarorlashadi,
- Qariyalarda kognitiv faoliyat (xotira, diqqat) tiklanadi.

Bundan tashqari, mitoxondriyani mustahkamlovchi **L-karnitin, Q10 kofermenti, omega-3 yog‘ kislotalari, nikotinamid ribozid (NR)** kabi moddalar sportchi va sog‘lom turmush tarafdorlari orasida mashhur bo‘lib bormoqda.

3.5. Mitoxondrial terapiya va genetik muhandislik

So‘nggi o‘n yillikda ilm-fan mitoxondrial kasalliklarni davolash uchun yangi yondashuvlarni ishlab chiqmoqda. Ular orasida quyidagilar eng istiqbolli yo‘nalishlar hisoblanadi:

a) Mitoxondrial almashtirish terapiyasi (MRT)

Bu usul “uch ota-onali bola” texnologiyasi nomi bilan mashhur. Unda onaning mitoxondriyalari buzilgan bo‘lsa, sog‘lom donor ayolning mitoxondriyasi yordamida embrion hosil qilinadi. Shu yo‘l bilan bola ona genlarini oladi, lekin mitoxondriyalari sog‘lom bo‘ladi.

Bu usul hozircha faqat ayrim mamlakatlarda (Buyuk Britaniya, AQSh) ruxsat etilgan.

b) CRISPR texnologiyasi yordamida mtDNKni tahrirlash

Avvallari CRISPR faqat yadro DNKni o‘zgartirishda qo‘llanilgan bo‘lsa, 2020-yildan boshlab olimlar mtDNKdagi mutatsiyalarni tuzatish imkonini beruvchi **mito-CRISPR** usulini ishlab chiqishdi. Bu usul kelajakda irsiy mitoxondrial kasalliklarni davolashda inqilob bo‘lishi mumkin.

c) Farmakologik stimulyatorlar

Ba’zi moddalarning mitoxondrial biogenezni faollashtiruvchi ta’siri aniqlangan. Masalan, **resveratrol, NAD⁺ prekursori, AICAR, PQQ** kabi moddalar mitoxondriya sonini oshiradi va energiya ishlab chiqarishni kuchaytiradi.

3.6. Mitoxondriya — kelajak tibbiyotining markazida

Bugungi tibbiyotda mitoxondriyaga “kelajakning davolash kaliti” sifatida qaralmoqda. Chunki u **genetika, metabolizm, immunitet, qarish va onkologiya** jarayonlarida markaziy rol oʻynaydi.

Mitoxondriya disfunktsiyasini aniqlash orqali shifokorlar:

- Kasalliklarni erta aniqlash,
- Shaxsiy genetik terapiya tanlash,
- Profilaktik parhez va mashqlar rejasini tuzish imkoniyatiga ega boʻlmoqdalar.

Bu esa “**mitoxondrial tibbiyot**” deb ataluvchi yangi yoʻnalishni shakllantirmoqda. Shu yoʻnalish orqali kelajakda inson umrini uzaytirish va qarilikni sekinlashtirish mumkin boʻlishi kutilmoqda.

XULOSA

Mitoxondriya — hujayra ichidagi eng muhim organellalardan biri boʻlib, u nafaqat energiya ishlab chiqaradi, balki hayotning davom etishida markaziy rol oʻynaydi. U “hujayraning kuch stansiyasi” sifatida barcha metabolik jarayonlarni energiya bilan taʼminlaydi. Shuning uchun ham mitoxondriya faoliyatidagi har qanday buzilish inson organizmiga salbiy taʼsir koʻrsatadi.

Ushbu ilmiy maqolada mitoxondriyaning **tuzilishi, funksiyasi, kelib chiqishi, genetik mustaqilligi, kasalliklar bilan bogʻliqligi va tibbiyotdagi ahamiyati** keng yoritildi. Quyidagi asosiy xulosalarga kelish mumkin:

1. **Mitoxondriya tuzilmasi** ikki qavatli membranadan iborat boʻlib, ichki membranadagi kristalar ATF ishlab chiqarish uchun katta yuzani taʼminlaydi.
2. **Energiya ishlab chiqarish jarayoni** oksidlovchi fosforlanish mexanizmiga asoslanadi, bunda glikozadan olinadigan elektronlar elektron tashish zanjiri orqali ATF hosil boʻlishiga olib keladi.
3. **Mitoxondrial DNK** mustaqil boʻlib, faqat ona orqali nasldan-naslga oʻtadi. Bu xususiyat inson evolyutsiyasini oʻrganishda muhim ahamiyatga ega.
4. **Endosimbioz nazariyasi** mitoxondriyaning qadimgi bakteriyalardan kelib chiqqanligini isbotlab berdi. Ular hujayra bilan oʻzaro foydali hamkorlik asosida simbiozga kirishib, bugungi murakkab eukariotlarning paydo boʻlishiga sabab boʻlgan.
5. **Mitoxondriyal kasalliklar** insonda koʻplab surunkali, asab, yurak, koʻz, mushak va qarish bilan bogʻliq sindromlarga olib keladi. Ularning sababi koʻpincha mtDNK mutatsiyalari yoki oksidlovchi stress natijasidagi shikastlanishlardir.

6. **Mitoxondriya faoliyatini qo'llab-quvvatlash** uchun sog'lom ovqatlanish, jismoniy faollik, antioksidantlar iste'moli va stressni kamaytirish muhimdir.
7. **Zamonaviy tibbiyot** mitoxondriyani davolash obyekti sifatida o'rganmoqda. CRISPR texnologiyasi, mitoxondrial almashtirish terapiyasi va farmakologik stimulyatorlar yordamida ko'plab genetik kasalliklarni davolash imkoniyati paydo bo'lmoqda. Mitoxondriya — bu hayotning “energetik yuragi”. U hujayra ichida millionlab yillardan beri faoliyat yuritib, insonning hayot sifati va umr davomiyligini belgilovchi markaziy elementga aylangan. Kelajakda mitoxondriyal sog'lomlashtirish bo'yicha tadqiqotlar nafaqat tibbiyot, balki insoniyatning biologik kelajagini ham belgilab beradi.
- Shunday qilib, mitoxondriya sirlarini chuqur o'rganish inson salomatligi, uzoq umr ko'rish, va kasalliklarga qarshi kurashda eng muhim yo'nalishlardan biri hisoblanadi.

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GENERAL RULES OF FORENSIC TACTICS. PLANNING AND ORGANIZATION OF THE INVESTIGATION

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Аннотация

В статье рассматриваются основополагающие принципы криминалистической тактики, особое внимание уделяется следственному планированию и организационным механизмам, обеспечивающим эффективное проведение досудебного расследования. В исследовании следственная тактика рассматривается как целостная система, сформированная процессуальным правом, возможностями оперативно-розыскной деятельности, криминалистическими технологиями и криминологическими закономерностями, лежащими в основе преступного поведения. Синтезируя существующие теоретические основы с современной следственной практикой, статья реконструирует, как рациональное планирование, адаптивные тактические решения, управление информацией и междисциплинарная координация определяют качество и надежность доказательственных результатов. В исследовании также рассматривается, как когнитивные стратегии следователей, ситуационное предвидение и антиципационный анализ минимизируют ошибки, снижают тактические риски и повышают устойчивость к противодействию со стороны подозреваемых. Методологически статья использует сравнительно-правовой анализ, изучение конкретных случаев и реконструкцию тактических решений, наблюдаемых в сложных уголовных расследованиях. Результаты показывают, что следственное планирование выходит за рамки формального планирования и функционирует как динамичный интеллектуальный процесс, основанный на оценке вероятностей, моделировании сценариев и процессуальной экономии. В заключении подчеркивается необходимость повышения методической грамотности следователей и укрепления научной базы тактических рекомендаций.

Ключевые слова: криминалистическая тактика, планирование расследования, уголовный процесс, принятие тактических решений, доказательственная достоверность, следственная стратегия, ситуационный

анализ, тактический риск, криминалистическая методология, оперативно-розыскная деятельность.

Abstract

The article examines the foundational principles of criminalistic tactics with particular attention to investigative planning and organizational mechanisms that ensure the effective conduct of pre-trial inquiry. The study approaches investigative tactics as an integrated system shaped by procedural law, operational-search possibilities, forensic technology, and criminological regularities underlying criminal behavior. By synthesizing the existing theoretical frameworks with contemporary investigative practice, the article reconstructs how rational planning, adaptive tactical decisions, information management, and interdisciplinary coordination determine the quality and reliability of evidentiary outcomes. The research further highlights how investigators' cognitive strategies, situational foresight, and anticipatory analysis minimize errors, reduce tactical risks, and increase resistance to counteractions by suspects. Methodologically, the article employs comparative legal analysis, case-based examination, and reconstruction of tactical solutions observed in complex criminal investigations. The findings illustrate that investigative planning transcends formal scheduling and functions as a dynamic intellectual process grounded in probability assessment, scenario modeling, and procedural economy. The conclusion underscores the need for expanding methodological literacy among investigators and strengthening the scientific basis of tactical recommendations.

Keywords: forensic tactics, investigative planning, criminal procedure, tactical decision-making, evidentiary reliability, investigative strategy, situational analysis, tactical risk, forensic methodology, operational-search activity.

INTRODUCTION

Criminalistic tactics constitute one of the most intellectually demanding segments of forensic science, where the procedural obligations of the investigator intersect with the psychological, organizational, and evidentiary requirements of an effective inquiry. The general principles of tactics emerged historically from practical necessity: investigators confronted with incomplete, contradictory, or hostile information needed reliable scientific strategies to orient their actions, structure investigative situations, and select the most appropriate means of obtaining truthful evidence. While criminal procedure law establishes the legal framework in which investigative actions may occur, it is criminalistic tactics that translate these procedural norms into purposeful, efficient, and risk-conscious behavior.

Investigative planning, as an integral component of this tactical system, reflects the degree to which the investigator anticipates the development of the case, predicts possible countermeasures by suspects, identifies evidentiary gaps, and designs a coherent sequence of actions. Despite its conceptual simplicity, planning in criminal investigation is not a linear administrative exercise. Rather, it is a multidimensional mental construct shaped by legal constraints, operational capabilities, resource availability, forensic technological tools, and evolving investigative situations. In many jurisdictions, investigators are formally required to maintain written plans, yet in practice these documents are merely the surface layer of a far deeper intellectual process involving continuous hypothesis generation, decision revision, and scenario testing.

The need to strengthen the theoretical basis for investigative planning has become increasingly urgent as criminal schemes grow more sophisticated, transnational, and technologically mediated. Traditional investigative routines—interrogations, searches, seizures, identifications—remain essential, but their tactical application requires an understanding of cognitive psychology, risk assessment, information theory, and behavior prediction. A tactically sound investigation ensures that procedural actions are not only lawful but also logically consistent, minimally intrusive, and evidentially productive. Poor planning, by contrast, leads to duplicated efforts, procedural mistakes, evidentiary contradictions, and defensive advantages for suspects.

The intellectual core of planning lies in the investigator's ability to interpret the initial data and reconstruct a plausible model of the crime's mechanism, participants, and consequences. This reconstruction then becomes the basis for predicting how the investigative situation may evolve under different tactical choices. The investigator must foresee where resistance might emerge, which witnesses may be pressured, which evidence is likely to be concealed or destroyed, and which operational measures can neutralize such threats. Thus, tactical thinking resembles a series of informed anticipatory judgments grounded in empirical forensic knowledge and professional experience.

The significance of criminalistic tactics is especially evident in complex investigations involving organized crime, corruption, cyber-offenses, or violent crimes with limited direct evidence. In such cases the investigator must orchestrate the work of forensic experts, operational units, prosecutors, and sometimes international partners. The complexity of these interactions reinforces the need for well-developed planning skills: only through structured coordination can the investigator ensure that

evidentiary opportunities are not missed and that operational actions align with procedural requirements.

This article aims to re-evaluate the conceptual foundations of criminalistic tactics and propose a scientifically grounded understanding of investigative planning as a dynamic and adaptive process. By synthesizing doctrinal literature, practical case analysis, and methodological insights, it offers a nuanced explanation of how rational planning improves evidentiary integrity, mitigates tactical risks, and enhances investigative effectiveness.

LITERATURE REVIEW AND METHODOLOGY

Scholarly writing on criminalistic tactics reflects a long evolution from descriptive manuals to theoretically enriched frameworks that integrate law, psychology, and forensic science. Early forensic scholars such as Gross and Locard emphasized the investigator's observational skill and logical reasoning, laying the foundation for later theories of tactical thinking. Over time, criminalistics expanded beyond the cataloging of techniques and evolved into a discipline concerned with the optimization of investigative decisions under conditions of uncertainty.

Contemporary literature generally converges around several core propositions. First, tactical decisions cannot be divorced from the procedural form: legality and admissibility of evidence are prerequisites for any tactical operation. Scholars argue that tactical sophistication is meaningless if it compromises procedural legitimacy, as evidenced by court rulings that invalidate improperly obtained evidence. Second, planning is widely recognized as an essential cognitive tool that shapes the structure of the investigation. Many authors highlight the role of planning in preventing tactical errors, reducing the influence of cognitive biases, and ensuring the economy of investigative actions.

The literature also explores the situational nature of investigative tactics. Researchers note that the same procedural action—interrogation, search, inspection, or confrontation—may require different tactical solutions depending on the specifics of the investigative situation: suspect behavior, witness psychology, crime type, environmental conditions, and available resources. This situational perspective reflects the influence of psychology, especially theories of decision-making and communication. The ability to adapt tactics based on situational cues is increasingly viewed as a defining feature of effective investigative practice.

Another strand of literature examines the integration of operational-search information into investigative planning. While operational data cannot replace procedural evidence, it often provides essential context that guides tactical choices.

Scholars warn, however, that reliance on operational information must be tempered with caution, as such information may be incomplete, intentionally misleading, or derived from confidential sources whose reliability varies. Proper tactical planning therefore requires the investigator to differentiate between evidentially verified facts and operational assumptions.

Recent contributions emphasize digital challenges: cybercrime investigations demand new tactical approaches related to data preservation, digital trace identification, and cross-border information exchange. Many authors observe that traditional planning models grounded in physical crime scenes require substantial adaptation in the digital domain. Yet the underlying principles—logical sequencing, predictive analysis, risk minimization—remain consistent across domains, underscoring the universality of tactical planning.

Finally, the literature underscores the importance of reflexive analysis in investigative tactics. Post-investigation assessments help refine tactical guidelines and improve investigational methodology. Despite growing attention to evidence-based policing and forensic analytics, many authors argue that tacit knowledge—intuition, professional experience, and interpersonal competence—continues to influence tactical decisions. This duality between formal guidelines and personal investigative style remains a recurrent theme in scholarly debate.

The methodological framework of the study combines doctrinal legal analysis, comparative examination of forensic tactics in different investigative systems, and interpretive reconstruction of tactical decision-making processes. The research draws upon criminal procedure codes, forensic manuals, judicial decisions, and documented investigative cases to identify the principles governing rational investigative planning.

A doctrinal approach enables a systematic interpretation of procedural norms that frame the legal boundaries of tactical actions. By analyzing statutory requirements and evidentiary rules, the study clarifies the constraints within which investigative planning must operate. Procedural guarantees—such as legality, proportionality, and respect for rights—constitute the normative skeleton around which tactical choices are constructed.

Comparative analysis provides additional insights by contrasting investigative planning practices across different legal traditions. In some systems, planning is highly formalized through obligatory written plans, supervisory approval, and detailed procedural guidelines. In others, planning is embedded in a more flexible discretionary model, where the investigator's autonomy plays a dominant role. This comparative lens

highlights the influence of institutional culture, organizational structure, and resource availability on the development of tactical principles.

Case-based reconstruction serves as another methodological pillar. By examining completed investigations, the study identifies recurring patterns in tactical decision-making: the role of initial information, the sequence of actions, the anticipation of suspect behavior, and the coordination between procedural and operational units. Particular attention is given to how investigators respond to unexpected developments, contradictions in testimony, evidence destruction attempts, or strategic silence by suspects. These reconstructions reveal the adaptive capacity of tactical planning and its dependence on real-time analytical revision.

Furthermore, the methodology incorporates elements of cognitive psychology, especially theories of decision-making under uncertainty. Investigators operate in complex informational environments where time pressure, emotional stress, and incomplete data can distort judgment. By integrating psychological insights—confirmation bias, overconfidence, anchoring—the study explains why tactical guidelines must address not only procedural efficiency but also cognitive reliability. A well-constructed plan acts as a cognitive scaffold, helping the investigator avoid errors arising from intuitive but inaccurate judgments.

Finally, the research employs elements of situational modeling. Hypothetical investigative scenarios are constructed to demonstrate how different tactical choices may produce divergent outcomes. These models illustrate the interplay between investigational foresight, evidence availability, and tactical risk. Such modeling is particularly useful for understanding high-risk operations such as searches, detentions, and confrontations where tactical miscalculations can compromise the evidentiary value of actions or endanger participants.

RESULTS

The study reveals several substantive findings regarding the structure, purpose, and practical value of investigative planning within the general system of criminalistic tactics. First, planning significantly improves the logical coherence of investigative actions. Investigations frequently unfold in non-linear ways: new information emerges, suspects change behavior, witnesses retract statements, or unexpected evidence surfaces. A well-designed plan establishes a conceptual map that helps the investigator navigate such instability without losing analytical continuity. It also reduces procedural redundancy by preventing repetitive or unnecessary actions.

Second, planning enhances the reliability of evidentiary outcomes. Many tactical failures stem not from insufficient knowledge but from poor sequencing—conducting

actions too early, too late, or without adequate preparation. For example, conducting an interrogation before verifying physical evidence may inadvertently reveal investigative knowledge to the suspect, enabling them to adjust their testimony. The results demonstrate that investigators with structured planning practices are more successful in obtaining internally consistent and judicially sustainable evidence.

Third, the study demonstrates that planning mitigates tactical risks. Modern investigations frequently involve individuals who possess legal literacy, technological sophistication, or external support networks. Such factors increase the likelihood of evidence tampering, witness intimidation, or misinformation. A predictive plan allows investigators to anticipate these counteractions and implement preventive measures, such as timely searches, protective protocols for witnesses, or covert operational monitoring.

Fourth, planning fosters interdisciplinary coordination. Effective investigations require integrating forensic expertise, digital forensics, criminal intelligence, and operational units. Without structured planning, these components tend to function in isolation, resulting in fragmented evidence and missed opportunities. The findings indicate that coordinated planning sessions involving different units increase evidentiary completeness and procedural economy.

Finally, planning contributes to investigator accountability and transparency. Written plans provide a verifiable record of decision-making processes, enabling supervisory review and judicial evaluation. This transparency reduces the likelihood of arbitrary actions and strengthens public trust in investigative bodies.

DISCUSSION

The findings highlight an inherent tension within investigative practice: while planning is indispensable for ensuring rationality and coherence, investigations remain deeply dependent on situational adaptability. The discussion therefore focuses on how investigators reconcile structural planning with the dynamic, unpredictable nature of criminal inquiry.

One of the key insights is that planning should not be understood as a rigid blueprint but as a flexible cognitive tool. Static plans fail because investigative situations do not unfold neatly; suspects react strategically, evidence behaves unpredictably, and operational constraints fluctuate. The most effective tactical plans thus resemble modular structures: they outline the main strategic directions while allowing tactical adjustments as new information emerges.

Another important dimension concerns the cognitive function of planning. Investigators often operate under cognitive pressure, and the absence of planning

exacerbates susceptibility to biases. A structured plan counteracts these distortions by forcing the investigator to articulate hypotheses, justify actions, and evaluate alternatives. This process enhances analytical discipline, especially in complex cases where unstructured intuition may lead to premature conclusions.

The discussion also underscores the relationship between planning and legal oversight. In systems where investigative actions undergo strict judicial scrutiny, planning must integrate procedural defensibility. Tactically beneficial actions that lack procedural justification expose the investigation to evidentiary invalidation. Accordingly, planning becomes a tool not only for strategic efficiency but also for procedural safeguarding.

Furthermore, interdisciplinary collaboration plays a prominent role. Modern investigations involve specialists with diverse expertise, and planning provides the framework for aligning their contributions. Without coherent planning, forensic examinations may be requested belatedly, operational units may pursue misaligned objectives, and investigators may overlook technological evidence requiring rapid preservation. Thus, planning emerges as the organizational backbone of collective investigative effort.

Finally, planning has pedagogical implications. Training programs that treat planning as a bureaucratic formality fail to prepare investigators for the intellectual demands of real investigative situations. Planning must be taught as an analytical methodology grounded in probability assessment, scenario modeling, and evidence-based reasoning. These insights suggest the need for updated educational standards and integrated tactical training modules.

CONCLUSION

The study reaffirms that criminalistic tactics, when properly conceptualized, represent a scientifically grounded system that shapes the effectiveness, reliability, and legality of investigative actions. At the core of this system lies investigative planning—a dynamic and intellectually rigorous process that synthesizes procedural norms, forensic knowledge, psychological insight, and situational foresight. Far from being a mere administrative requirement, planning functions as a methodological instrument that structures the investigator's reasoning, minimizes tactical risks, and enhances evidentiary coherence.

The conclusion underscores that planning must be flexible enough to accommodate the fluidity of investigative situations while maintaining a coherent strategic direction. A balanced approach recognizes that planning cannot eliminate uncertainty but can provide the structural support needed to navigate it effectively. By

embedding cognitive discipline, procedural foresight, and interdisciplinary coordination, planning strengthens the scientific integrity of investigative practice.

Given the increasing complexity of contemporary crime—including digital offenses, organized schemes, and transnational networks—future research should focus on refining planning methodologies to incorporate technological innovations such as digital forensics, behavioral analytics, and predictive modeling. Additionally, educational systems for investigators should integrate planning not as a peripheral topic but as a central competence essential for professional readiness.

In sum, the development of criminalistic tactics and investigative planning reflects a broader evolution toward evidence-based, analytically grounded, and legally sound investigative practice. The ongoing refinement of these principles remains essential for ensuring that criminal investigations meet the demands of modern legal systems and societal expectations for justice.

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**РЕПРОДУКТИВ YOSHDAGI AYOLLARDA GORMONAL
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ANNOTATSIYA

Ushbu maqolada reproduktiv yoshdagi ayollarda uchraydigan gormonal buzilishlarning asosiy sabablari va organizmga ko'rsatadigan keng qamrovli ta'siri yoritilgan. Tadqiqotda endokrin tizim faoliyatini izdan chiqaruvchi omillar, jumladan stress omillari, ovqatlanish tartibining buzilishi, ekologik holat, yengil va og'ir darajadagi yallig'lanish jarayonlari hamda nasliy moyillikning ahamiyati asoslab berilgan. Shuningdek, gormonal muvozanat buzilishi natijasida hayz siklining o'zgarishi, bepushtlik, metabolik buzilishlar, psixo-emotsional holatning yomonlashuvi va homiladorlik davrida kuzatiladigan asoratlari ilmiy manbalar asosida tahlil qilingan. Maqola reproduktiv salomatlikni saqlashda erta tashxis qo'yish, profilaktik choralarini kuchaytirish va zamonaviy terapevtik yondashuvlarning ahamiyatini ko'rsatadi.

KALIT SO'ZLAR: Gormonal buzilishlar; reproduktiv yosh; endokrin tizim; hayz sikli o'zgarishlari; metabolik buzilishlar; bepushtlik; stress omillari; psixo-emotsional holat; ekologik ta'sirlar; homiladorlik asoratlari.

**ОСНОВНЫЕ ПРИЧИНЫ И ПОСЛЕДСТВИЯ ГОРМОНАЛЬНЫХ
НАРУШЕНИЙ У ЖЕНЩИН РЕПРОДУКТИВНОГО ВОЗРАСТА**

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АННОТАЦИЯ

В данной статье рассматриваются основные причины гормональных нарушений у женщин репродуктивного возраста и их многостороннее воздействие на организм. В исследовании обоснована роль факторов, нарушающих функцию эндокринной системы, включая стрессовые воздействия, несбалансированное питание, экологические условия, воспалительные процессы различной степени выраженности и наследственную предрасположенность. Кроме того, анализируются изменения менструального цикла, бесплодие, метаболические нарушения, ухудшение психоэмоционального состояния и осложнения в период беременности, возникающие вследствие гормонального дисбаланса. Работа подчеркивает значимость ранней диагностики, профилактических мероприятий и современных терапевтических подходов для сохранения репродуктивного здоровья.

КЛЮЧЕВЫЕ СЛОВА: Гормональные нарушения; репродуктивный возраст; эндокринная система; изменения менструального цикла; метаболические нарушения; бесплодие; стрессовые факторы; психоэмоциональное состояние; экологические воздействия; осложнения беременности.

MAIN CAUSES AND CONSEQUENCES OF HORMONE DISORDERS IN WOMEN OF REPRODUCTIVE AGE

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ABSTRACT

This article examines the major causes of hormonal disorders in women of reproductive age and their multifaceted impact on the body. The study highlights factors contributing to endocrine system imbalance, including psychological stress,

improper dietary patterns, environmental conditions, inflammatory processes of varying severity, and genetic predisposition. The consequences of hormonal disruption, such as menstrual cycle irregularities, infertility, metabolic disturbances, deterioration of emotional well-being, and pregnancy-related complications, are analyzed based on reliable scientific sources. The article emphasizes the importance of early diagnosis, implementation of preventive strategies, and the application of modern therapeutic approaches to preserve reproductive health.

KEYWORDS: Hormonal disorders; reproductive age; endocrine system; menstrual cycle changes; metabolic disturbances; infertility; stress factors; psycho-emotional state; environmental influences; pregnancy complications.

KIRISH

Reproduktiv yoshdagi ayollar salomatligi jamiyatning demografik barqarorligi, onalik va farzand dunyoga keltirish jarayonining xavfsizligi hamda kelajak avlod sogʻligʻi uchun asosiy omillardan biridir. Ushbu davrda ayol organizmidagi gormonal muvozanat barcha asosiy fiziologik jarayonlarning, jumladan hayz sikli, ovulyatsiya, homiladorlik va metabolik almashinuvning barqaror davom etishini taʼminlaydi. Shu bois gormonal buzilishlarning rivojlanishi nafaqat ayolning reproduktiv salohiyatiga, balki umumiy sogʻligiga ham bevosita taʼsir koʻrsatadi.

Mavzuning dolzarbligi shundaki, soʻnggi yillarda reproduktiv yoshdagi ayollar orasida gormonal buzilishlar sezilarli darajada ortmoqda. Ekologik ifloslanish, ovqatlanish madaniyatining oʻzgarishi, psixologik zoʻriqishning kuchayishi, uyqu va jismoniy faoliyatning izdan chiqishi, genetik moyillik hamda surunkali yalligʻlanish jarayonlarining koʻpayishi ushbu muammoning keng tarqalishiga sabab boʻlmoqda. Ilmiy manbalarda qayd etilishicha, gormonal muvozanatning buzilishi ayollar orasida hayz siklining beqarorligi, bepushtlik holatlarining ortishi, polikistik tuxumdon sindromi, qalqonsimon bez faoliyatidagi oʻzgarishlar, metabolik sindrom, insulin sezuvchanligining pasayishi, tana vaznining oshishi va psixo-emotsional holatning yomonlashuviga olib keladi. Bu esa uzoq muddatda reproduktiv salomatlikning izdan chiqishi, homiladorlikda xavfli asoratlarning rivojlanishi va ayolning hayot sifatining pasayishiga olib kelishi mumkin. Bugungi kunda reproduktiv salomatlikni saqlash global miqyosda ustuvor yoʻnalishlardan biri hisoblanadi. Zamonaviy tibbiyotda gormonal buzilishlarning erta aniqlanishi, kompleks laborator va instrumental tashxis qoʻyish, sabablarni aniqlab, individual yondashuv asosida davolash choralari koʻrish ayollar salomatligini mustahkamlashning eng muhim omillaridan biridir. Shu nuqtai nazardan ushbu mavzuni ilmiy asosda oʻrganish, gormonal buzilishlarning

etiologiyasi, patogenezini chuqur tahlil qilish hamda oqibatlarini baholash dolzarb ilmiy va amaliy ahamiyat kasb etadi.

MATERIALLAR VA METODLAR

Ushbu ilmiy tadqiqot reproduktiv yoshdagi ayollarda gormonal buzilishlarning rivojlanish omillari, klinik ko‘rinishlari va uzoq muddatli oqibatlarini baholash maqsadida olib borildi. Tadqiqot jarayonida klinik kuzatuv, laborator diagnostika, instrumental tekshiruvlar va tahliliy adabiyotlar tahlili asosiy metodlar sifatida qo‘llandi. Tadqiqot uchun reproduktiv yosh oralig‘idagi ayollar to‘plami tanlab olindi. Har bir ishtirokchida umumiy sog‘liq holati, hayz siklining davomiyligi va muntazamligi, ovulyatsion faoliyat, tana vazni ko‘rsatkichlari, metabolik almashinuv holati va psixo-emotsional barqarorlik o‘rganildi. Gormonal fonni baholash maqsadida qonda estrogen, progesteron, follikul o‘stiruvchi gormon, lyuteinlashuvchi gormon, prolaktin, insulin va qalqonsimon bez gormonlarining darajalari laborator sharoitda tekshirildi. Shuningdek, yengil va o‘rta darajadagi yallig‘lanish jarayonlarini baholash uchun umumiy qon tahlili, qonda yallig‘lanish ko‘rsatkichlari va biokimyoviy parametrlardan foydalanildi. Instrumental tekshiruvlar sifatida bachadon va tuxumdonlarning tuzilish holatini baholash uchun ultratovush tekshiruvi o‘tkazildi. Ushbu tekshiruv orqali tuxumdon hajmi, follikulyar rivojlanish, endometriy qalinligi va patologik o‘zgarishlar aniqlangan holatlar qayd etildi. Ovqatlanish tartibi va turmush tarzining gormonal muvozanatga ta‘sirini o‘rganish maqsadida ishtirokchilarning kunlik ovqatlanishi, jismoniy faolligi, uyqu davomiyligi va stressning mavjudligi haqida ma‘lumotlar yig‘ildi. Tadqiqotning muhim qismi sifatida xalqaro tibbiy adabiyotlar, klinik qo‘llanmalar, endokrinologiya bo‘yicha zamonaviy darsliklar va reproduktiv salomatlikka oid ilmiy maqolalar tahlil qilindi. Bu ma‘lumotlar gormonal buzilishlarning etiologik omillari, patofiziologik mexanizmlari va klinik oqibatlarini chuqur o‘rganish imkonini berdi. Tadqiqot metodlariga asoslanib olingan barcha klinik va laborator ma‘lumotlar tizimli tarzda qayta ishlanib, gormonal muvozanat buzilishlarining asosiy sabablari, ularning rivojlanish mexanizmlari va ayollar salomatligiga ta‘siri sifat jihatidan tahlil qilindi.

NATIJALAR

Tadqiqot davomida reproduktiv yoshdagi ayollarda gormonal buzilishlarning rivojlanishida bir nechta asosiy omillar muhim rol o‘ynashi aniqlandi. Klinikolaborator tekshiruvlar natijalari shuni ko‘rsatdiki, gormonal muvozanat buzilishi ko‘p holatlarda hayot tarzi, ovqatlanish madaniyati, stress darajasi, ekologik omillar va nasliy moyillik bilan chambarchas bog‘liq. Laborator tahlillar asosida estrogen va progesteron darajasining sezilarli o‘zgarishlari aniqlanib, ayrim ishtirokchilarda

follikul o'stiruvchi gormon va lyuteinlashuvchi gormon nisbatining buzilgani qayd etildi. Bu holatlar hayz siklining beqarorligi, ovulyatsiya jarayonining sustlashishi va reproduktiv salohiyatning pasayishi bilan bog'liq ekanligi tasdiqlandi. Prolaktin darajasining oshgan holatlari ham kuzatilib, bunday ayollarda hayz ko'rishning to'xtashi, ko'krak bezlarida sezuvchanlik va psixo-emotsional beqarorlik ko'proq uchradi. Metabolik ko'rsatkichlar tahlili natijasida gormonal buzilishlarga ega bo'lgan ayollarda tana vaznining ortishi, yog' to'qimasining notekis taqsimlanishi, qonda glyukoza miqdorining ko'tarilishi hamda insulin sezuvchanligining pasayishi kabi o'zgarishlar qayd etildi. Ushbu metabolik muammolar bilan birga umumiy yallig'lanish ko'rsatkichlarining biroz oshganligi aniqlanib, bu reproduktiv tizim faoliyatiga salbiy ta'sir ko'rsatishi mumkinligi belgilandi. Instrumental tekshiruvlar natijalariga ko'ra, ayrim ishtirokchilarda tuxumdonlarda follikulyar rivojlanishning izdan chiqqani, bachadon shilliq qavatining qalinlashuvi yoki ingichkalashuvi, shuningdek, o'sma xususiyatiga ega bo'lmagan kichik o'zgarishlar qayd etildi. Bu o'zgarishlar gormonal muvozanatning buzilishi bilan bog'liq bo'lib, reproduktiv jarayonlarga bevosita ta'sir ko'rsatishi aniqlandi. Sub'ektiv shikoyatlar tahlili shuni ko'rsatdiki, gormonal buzilishlarga ega ayollarda charchoq, kayfiyatning keskin o'zgarishi, uyqu buzilishi, ishtahaning beqarorligi, teri o'zgarishlari va soch to'kilishi kabi belgilar keng tarqalgan. Psixo-emotsional holatning yomonlashuvi ko'pincha gormonal muvozanatdagi o'zgarishlar bilan birgalikda kechgani aniqlandi. Olingan umumlashirilgan natijalar shuni ko'rsatadiki, gormonal buzilishlarning etiologiyasi murakkab bo'lib, ko'plab ichki va tashqi omillar bilan bog'liq. Ularning salbiy oqibatlari esa ayollar reproduktiv salomatligiga bevosita ta'sir ko'rsatib, homiladorlikka tayyorgarlik, farzand ko'rish imkoniyati va umumiy hayot sifatini sezilarli darajada pasaytirishi mumkin.

MUHOKAMA

Tadqiqot natijalari reproduktiv yoshdagi ayollarda gormonal muvozanatning buzilishi ko'plab ichki va tashqi omillar ta'sirida shakllanishini ko'rsatdi. Olingan ma'lumotlar shuni tasdiqlaydiki, ekologik ifloslanish, ovqatlanish odatlarining o'zgarishi, jismoniy faollikning kamayishi, uyqu tartibining buzilishi va psixologik zo'riqish endokrin tizim faoliyatini izdan chiqaruvchi yetakchi omillar hisoblanadi. Ushbu omillar endokrin bezlar faoliyatiga bevosita ta'sir ko'rsatib, ayol organizmidagi gormonlar o'rtasidagi tabiiy muvozanatni buzadi va reproduktiv jarayonlarning to'liq kechishini cheklaydi. Laborator va instrumental ma'lumotlar gormonal buzilishlarning etiologiyasi murakkab ekanini ko'rsatdi. O'zgargan estrogen va progesteron darajalari, follikul o'stiruvchi gormon va lyuteinlashuvchi gormon nisbatining buzilishi,

shuningdek insulin sezuvchanligining pasayishi ayollar salomatligida keng ko‘lamli o‘zgarishlarni yuzaga keltirdi. Ushbu o‘zgarishlar nafaqat hayz siklining buzilishi, balki ovulyatsiya jarayonining izdan chiqishi, metabolik sindromning rivojlanishi va psixo-emotsional beqarorlik bilan ham bog‘liqdir. Bu esa gormonal buzilishlarning organizmga ko‘p yo‘nalishli ta‘sirini tasdiqlaydi. Tadqiqot davomida aniqlangan psixo-emotsional o‘zgarishlar, jumladan kayfiyatning beqarorligi, asabiylik, uyqu buzilishi va charchoq gormonlar darajasining o‘zgarishi bilan chambarchas bog‘liq bo‘lib, ayolning hayot sifatini sezilarli darajada pasaytirishi mumkin. Bu holat shuni ko‘rsatadiki, gormonal buzilishlar faqat fiziologik jarayonlarga emas, balki ruhiy va psixologik sog‘liqqa ham ta‘sir ko‘rsatadi. Shuning uchun bunday ayollarda kompleks yondashuv, ya‘ni fiziologik va psixologik omillarni birgalikda baholash zarur. Tegishli ilmiy manbalar tahlili natijasida aniqlanishicha, gormonal buzilishlarning erta tashxisi reproduktiv salomatlikni saqlashda hal qiluvchi ahamiyatga ega. Gormon darajalarini laborator tahlillar asosida muntazam tekshirib borish, ultratovush diagnostikasidan foydalanish va hayot tarzini baholash ayollarda gormonal muvozanat buzilishlarini o‘z vaqtida aniqlash imkonini beradi. Ilmiy adabiyotlarda qayd etilishicha, erta tashxis qo‘yilgan holatlarda davolash samaradorligi yuqori bo‘lib, reproduktiv sog‘liqni tiklash imkoniyati sezilarli darajada oshadi. Shuningdek, tadqiqot natijalari reproduktiv yoshdagi ayollarda gormonal buzilishlarning oldini olish uchun sog‘lom ovqatlanish, muntazam jismoniy faollik, stressni boshqarish, yetarli uyqu va ekologik ta‘sirlardan himoyalanih muhim ahamiyatga ega ekanini tasdiqlaydi. Bu omillar nafaqat gormonal muvozanatni saqlashga, balki umumiy sog‘liqni mustahkamlashga yordam beradi. Umuman olganda, ushbu tadqiqot gormonal buzilishlarning sabablarini aniqlash, patofiziologik jarayonlarini yoritish va ularning salomatlikka ta‘sirini baholashda muhim ilmiy asos yaratdi. Bu esa kelgusida reproduktiv salomatlikni yaxshilash bo‘yicha profilaktika va davolash strategiyalarini takomillashtirish uchun muhim ilmiy asos bo‘lib xizmat qiladi.

XULOSA

Ushbu tadqiqot reproduktiv yoshdagi ayollarda gormonal buzilishlar keng tarqalgan bo‘lib, ular ko‘plab ichki va tashqi omillar ta‘sirida shakllanishini ko‘rsatdi. Olingan laborator, instrumental va klinik ma‘lumotlar gormonal muvozanatning buzilishi ayol organizmidagi reproduktiv jarayonlarga, metabolik almashinuvi va psixo-emotsional holatiga bevosita zararli ta‘sir ko‘rsatishini tasdiqladi. Estrogen va progesteron darajasining o‘zgarishi, follikul o‘stiruvchi gormon va lyuteinlashuvchi gormon nisbatining buzilishi, insulin sezuvchanligining pasayishi va metabolik ko‘rsatkichlarning yomonlashuvi gormonal buzilishlarning asosiy klinik belgilari

sifatida qayd etildi. Tadqiqot shuni ko'rsatadiki, gormonal buzilishlar ayollarda hayz siklining izdan chiqishiga, ovulyatsiya jarayonining sustlashishiga, bepushtlik holatlarining ortishiga, homiladorlikdagi xavfli asoratlarning rivojlanishiga va hayot sifatining pasayishiga olib kelishi mumkin. Shuningdek, psixo-emotsional beqarorlik, uyqu buzilishi, charchoq va kayfiyatning o'zgarishi kabi belgilar ham gormonal muvozanatdagi o'zgarishlarning ajralmas qismi ekanligi aniqlandi. Ushbu natijalar shuni anglatadiki, reproduktiv yoshdagi ayollar salomatligini saqlashda gormonal muvozanatni barqaror ushlab turish, erta tashxis qo'yish va o'z vaqtida davolash choralari ko'rish muhim ahamiyatga ega. Sog'lom ovqatlanish, muntazam jismoniy faollik, stressni boshqarish, ekologik ta'sirlardan himoyalanih va uyqu gigiyenasiga rioya qilish gormonal buzilishlarning oldini olishda samarali omillar sifatida belgilandi. Umuman olganda, tadqiqot natijalari reproduktiv yoshdagi ayollarda gormonal buzilishlarning etiologiyasi, patofiziologiyasi va klinik oqibatlarini chuqur yoritib, kelgusida reproduktiv sog'liqni yaxshilash bo'yicha samarali profilaktika va davolash strategiyalarini ishlab chiqish uchun ilmiy asos yaratdi. Mazkur xulosalar amaliy tibbiyot, endokrinologiya va reproduktiv salomatlik sohalarida qo'llash uchun katta ilmiy va amaliy ahamiyatga ega.

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CRIME SCENE EXAMINATION AND INTERROGATION TACTICS

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Аннотация

В статье анализируется интегрированная система осмотра места преступления и тактики допроса в современной судебно-медицинской практике, подчеркивая их эпистемологические основы, процессуальные ограничения, психологические детерминанты и доказательственное значение. Хотя исторически они представлялись как отдельные следственные действия, современная методология демонстрирует их глубокую взаимозависимость: качество обработки места происшествия влияет на логическую структуру допросов, в то время как результаты допроса часто уточняют или оспаривают реконструкцию, выстраиваемую по физическим следам. В статье синтезируются классические криминалистические доктрины и современные эмпирические данные для реконструкции динамики принятия тактических решений на начальном и последующем этапах расследования. Особое внимание уделяется когнитивным стратегиям следователя, роли ситуационной неопределенности и влиянию психологического сопротивления подозреваемых и свидетелей. В исследовании используется комплексная методология, сочетающая доктринальный правовой анализ, расследование по конкретным случаям, когнитивно-поведенческие модели и оперативно-тактическую реконструкцию. Результаты показывают, что точный, методологически обоснованный осмотр места преступления значительно повышает достоверность последующих допросов, снижает тактические ошибки и позволяет построить связное доказательственное повествование. Напротив, грамотный допрос, основанный на научно обоснованном понимании памяти, коммуникации и психологических защит, обеспечивает необходимую контекстуализацию физических следов, снижая риск неверного толкования. В ходе обсуждения подчеркивается необходимость интеграции судебной экспертизы, поведенческой психологии и процессуального права для модернизации тактики расследования.

Ключевые слова: осмотр места преступления, тактика допроса, методология судебной экспертизы, реконструкция доказательств, ситуационный

анализ, планирование расследования, психология свидетелей, поведение подозреваемых, тактическое принятие решений, судебная экспертиза.

Abstract

The article analyses the integrated system of crime scene examination and interrogation tactics within modern forensic practice, emphasizing their epistemological foundations, procedural constraints, psychological determinants, and evidentiary significance. Although historically presented as separate investigative activities, contemporary methodology demonstrates their deep interdependence: the quality of scene processing affects the logical architecture of interrogations, while interrogation outcomes often refine or challenge the reconstruction emerging from physical traces. The article synthesizes classical forensic doctrines and recent empirical findings to reconstruct the dynamics of tactical decision-making in the initial and subsequent stages of investigation. Particular attention is given to the investigator's cognitive strategies, the role of situational uncertainty, and the impact of psychological resistance by suspects and witnesses. The study employs a complex methodology combining doctrinal legal analysis, case-based investigation, cognitive-behavioral models, and operational-tactical reconstruction. The results demonstrate that precise, methodologically grounded crime scene examination significantly increases the reliability of subsequent interrogations, reduces tactical errors, and allows for the construction of a coherent evidentiary narrative. Conversely, competent interrogation, built on a scientifically informed understanding of memory, communication, and psychological defenses, provides indispensable contextualization for physical traces, mitigating risks of misinterpretation. The discussion highlights the necessity of integrating forensic science, behavioral psychology, and procedural law to modernize investigative tactics.

Keywords: crime scene examination, interrogation tactics, forensic methodology, evidentiary reconstruction, situational analysis, investigative planning, witness psychology, suspect behavior, tactical decision-making, forensic science.

INTRODUCTION

The initial stages of a criminal investigation exert a decisive influence over the entire evidentiary trajectory of the case. Among these stages, crime scene examination and interrogation stand as the most sensitive and intellectually demanding investigative activities. Although they operate in different epistemic domains—one concerned with physical traces and spatial configurations, the other with human memory, communication, and psychological resistance—they share a common aim: reconstructing past events with maximal accuracy and minimal distortion. Their

importance is universally acknowledged in forensic scholarship, yet the complexity of their interaction often remains underestimated. A poorly examined crime scene not only leads to evidentiary gaps but also compromises the strategies available during interrogation. Conversely, superficial or improperly structured interrogations may result in misleading narratives that distort the interpretive framework applied to physical traces.

The crime scene, as emphasized by classical criminalists, represents a system of material consequences—a structured environment where events leave their imprint. The investigator's responsibility is not merely to collect individual traces but to interpret them within a coherent causal mechanism. This interpretive dimension demands a nuanced grasp of spatial analysis, behavioral inference, and forensic technology. Each decision—from securing the perimeter to selecting photographic angles or sequencing the collection of fragile traces—reflects a tactical judgment shaped by experience, legal norms, and scientific methodology.

Interrogation, on the other hand, belongs to the domain of communicative interaction governed by psychological laws. Here the investigator confronts individuals whose motivations, fears, and interests shape their willingness and ability to recall events. Interrogation tactics thus hinge on understanding memory reliability, cognitive distortions, emotional states, and the subtle dynamics of persuasion and rapport-building. If crime scene examination seeks truth in objects, interrogation seeks truth in people. Yet neither domain functions in isolation; each informs and validates the other. An interrogation that ignores physical evidence becomes speculative, while a crime scene interpretation that disregards human accounts risks remaining incomplete.

The need for scientifically grounded tactics is amplified by the increased complexity of contemporary criminality. Crime scenes may involve digital environments, transnational elements, forensic countermeasures, or intentionally manipulated scenes. Likewise, interrogations increasingly involve individuals familiar with legal protections, exposed to digital misinformation, or trained to resist questioning. These challenges require investigators to operate with methodological discipline, integrating legal knowledge, forensic science, and psychological insight into a unified tactical system.

This article proposes a refined understanding of crime scene examination and interrogation as interconnected methodological processes. It seeks to reconstruct the scientific, psychological, and procedural foundation that allows investigators to transform fragmented traces and incomplete statements into reliable evidence. Through

the synthesis of forensic doctrine, comparative case analysis, and cognitive methodology, the article offers a rigorous conceptual framework for optimizing tactical decisions in both domains.

LITERATURE REVIEW AND METHODOLOG

Forensic scholarship has long emphasized the foundational role of crime scene examination. Simon, Locard, and later Belkin conceptualized the scene as a structured informational space, governed by regularities of trace formation and persistence. Their works highlight that the accuracy of scene reconstruction depends on scientific rigor, meticulous observation, and strict procedural discipline. Over the past decades, research has expanded to include digital forensics, environmental trace theory, and scene dynamics influenced by weather, human interference, or deliberate manipulation. Scholars consistently argue that the reliability of crime scene findings is contingent upon minimizing contamination and maintaining systematic documentation.

In parallel, interrogation has been examined extensively through psychological and criminological lenses. Early manuals tended to emphasize pressure-based methods, but contemporary research prioritizes rapport-building, cognitive interviewing, and ethical strategies grounded in communication science. The works of Inbau, Reid, Fisher, and Geiselman introduced methodological standards for extracting accurate information through structured questioning that respects procedural safeguards. Recent trends challenge overly formulaic interrogation models, calling for individualized strategies informed by behavioral analysis, linguistic cues, and situational context.

Notably, the literature increasingly highlights the interplay between physical and testimonial evidence. Scholars such as Turvey and Rossmo stress that integrating behavioral evidence with trace patterns enhances the depth of evidentiary reconstruction. Crime scene findings provide anchors for interrogations, helping investigators assess credibility, detect inconsistencies, and refine questioning strategies. Conversely, testimony can reveal overlooked areas of the scene, suggest alternative interpretations of traces, or challenge initial assumptions. This reciprocal validation process has become a hallmark of high-quality forensic practice.

Several authors draw attention to cognitive and organizational barriers that affect both domains. Investigators may fall prey to confirmation bias, expecting the scene to confirm preconceived narratives or conducting interrogations that unintentionally lead witnesses. The literature also critiques rigid procedural routines that fail to accommodate situational uniqueness. Instead, scholars promote adaptive models where

investigators adjust tactics based on evolving information, risk assessments, and the psychological state of interrogated persons.

Recent empirical research—including simulation studies, experimental psychology, and case analyses—consistently demonstrates that errors in either crime scene examination or interrogation tend to produce cascading consequences. Misinterpreted traces may lead interrogations in unproductive directions; unreliable statements may distort the evaluation of physical evidence. These insights reinforce the necessity of integrated training, multi-disciplinary collaboration, and ongoing methodological refinement.

The research adopts a multi-layered methodology integrating doctrinal legal analysis, comparative forensic study, cognitive-behavioral modeling, and case-based reconstruction. This combination allows for a holistic examination of both material and psychological aspects of investigative tactics.

Doctrinal analysis provides the legal framework governing crime scene processing and interrogation. Statutory requirements concerning procedural admissibility, rights protection, and evidence handling inform the boundaries within which tactical decisions must occur. Understanding these boundaries is crucial because tactical innovations are meaningful only when they remain compatible with legal safeguards.

The comparative method is employed to evaluate how different investigative systems structure their tactical approaches. Some jurisdictions emphasize highly formalized protocols for scene examination—strict sequencing of actions, standardized documentation, and mandatory involvement of forensic units—while others grant investigators broader discretion. Similarly, interrogation practices range from strictly regulated cognitive interviewing models to more flexible systems subject to judicial review. Comparing these models highlights the influence of institutional culture, training standards, and resource allocation on tactical outcomes.

Case reconstruction serves as a central methodological component. By analyzing documented investigative failures and successful investigations, the research identifies patterns of tactical behavior: how investigators respond to scene dynamics, how they adjust interrogation strategies in reaction to new evidence, and how they resolve contradictions between physical and testimonial information. Special attention is given to cases where initial errors—either contamination of the scene or suggestive questioning—produced irreversible evidentiary distortions. These analyses reveal the critical moments where tactical precision or negligence significantly altered the investigative trajectory.

Cognitive-behavioral modeling offers insight into how investigators process information, manage uncertainty, and make tactical decisions under pressure. Research in forensic psychology identifies cognitive biases—anchoring, overconfidence, attentional narrowing—that may distort scene interpretation or questioning strategies. Incorporating these insights helps explain why detailed planning, structured observation, and flexible interrogation frameworks are essential for reducing human error.

Finally, situational modeling is used to construct hypothetical scenarios in which different tactical choices lead to divergent investigative outcomes. These models demonstrate that small deviations in early-stage decisions—improper scene preservation, neglect of peripheral witnesses, misinterpretation of behavioral cues—can significantly influence subsequent interrogations and the overall accuracy of evidentiary reconstruction.

RESULTS

The study reveals several key findings that illuminate the functional interaction between crime scene examination and interrogation tactics. First, the precision of crime scene processing fundamentally shapes the effectiveness of subsequent interrogations. When the scene is thoroughly documented, evidence is collected in a logically sequenced manner, and trace patterns are accurately interpreted, investigators enter the interrogation stage with a robust cognitive map of the event. This map informs the formulation of questions, the identification of contradictions, and the evaluation of witness credibility.

Second, the results demonstrate that interrogation provides essential contextualization for physical evidence. Many trace patterns—bloodstain distributions, fingerprints, tool marks, digital logs—are ambiguous without narrative explanation. Effective questioning can clarify the sequence of actions, motives, emotional states, and relationships among participants, allowing physical findings to be situated within a coherent interpretive framework. Conversely, unreliable or manipulative statements may create interpretive conflicts that require additional forensic testing or scene reassessment.

Third, the findings indicate that integrated tactical planning reduces the likelihood of investigative errors. When investigators treat the crime scene and interrogation as isolated tasks, inconsistencies emerge in both evidence handling and narrative construction. However, when planning incorporates anticipatory links—such as identifying which traces will later support questioning strategies—the investigation unfolds with greater coherence and efficiency.

Fourth, the study highlights the crucial role of psychological insight in interrogation. Witnesses often experience fear, confusion, or memory degradation. Suspects may intentionally resist, distort, or fabricate. Tactically competent interrogation requires recognizing these states, adjusting communication style, and applying scientifically validated methods for eliciting accurate information. The reliability of statements increases significantly when the investigator employs rapport-building, avoids leading questions, and structures the dialogue to facilitate cognitive recall.

Finally, the results show that both domains require continuous situational adaptation. Crime scene conditions evolve due to environmental factors or human interference, and interrogated individuals may change their behavior in response to evidence disclosure. Successful investigators adjust their tactics dynamically, relying on a blend of procedural discipline and analytical flexibility.

DISCUSSION

The integration of crime scene examination and interrogation tactics raises critical considerations regarding the nature of investigative reasoning. One of the central insights emerging from the study is that forensic investigation is an iterative, hypothesis-driven process rather than a linear sequence of procedural acts. Crime scene findings generate hypotheses that are tested during interrogation; statements obtained during interrogation refine the interpretation of physical traces. This epistemological circularity requires investigators to maintain openness, avoid premature conclusions, and constantly revise their conceptual models.

Another important dimension concerns the psychological interaction inherent in interrogation. The investigator must balance the need for information with respect for procedural rights and ethical norms. Unlike older confrontational models, contemporary tactics prioritize rapport-building, cognitive interviewing structures, and an understanding of memory limitations. This shift reflects a broader trend in forensic science toward accuracy rather than confession-driven outcomes.

The discussion also highlights the challenges posed by modern crime scenes, especially those involving digital evidence or deliberate forensic countermeasures. In such contexts, traditional tactile examination must be supplemented with digital forensics, behavioral analysis, and sometimes international cooperation. These complexities require investigators to expand their tactical repertoire and integrate diverse expert inputs.

Furthermore, the study draws attention to institutional barriers: insufficient training, outdated manuals, inadequate interdisciplinary communication, and lack of

standardized protocols often hamper tactical integration. Enhancing investigative effectiveness thus requires not only individual competence but also organizational reforms, updated training curricula, and enhanced collaboration between forensic experts, investigators, prosecutors, and digital specialists.

Finally, the discussion underscores the ethical implications of tactical decisions. Both crime scene integrity and interrogation fairness are central to justice. Errors in either domain may lead to wrongful convictions or acquittals, undermining public confidence. Therefore, tactical sophistication must always be balanced with procedural legality, transparency, and scientific validity.

CONCLUSION

The study demonstrates that crime scene examination and interrogation tactics form an interconnected methodological system essential for the accurate reconstruction of criminal events. Their effectiveness depends not on isolated technical proficiency but on the investigator's ability to integrate physical evidence, testimonial information, psychological dynamics, and procedural requirements into a coherent investigative strategy. Crime scene examination provides the material foundation upon which interrogations are constructed, while interrogation enriches, contextualizes, and validates the interpretation of physical traces.

The conclusion emphasizes that methodological rigor, cognitive discipline, and situational adaptability are indispensable for achieving evidentiary reliability. Thorough documentation, protective measures against contamination, logical sequencing of actions, and scientifically grounded communication strategies significantly reduce investigative errors. The synergy of these elements forms a scientifically sound basis for modern investigative practice.

However, the study also notes that effective implementation requires institutional support—updated forensic training, interdisciplinary cooperation, adequate technological resources, and ongoing methodological research. Without these systemic elements, even the most skilled investigator may face limitations. The conclusion advocates for the modernization of forensic education, emphasizing integrated crime scene–interrogation methodology, cognitive and behavioral sciences, and digital forensics.

Ultimately, the article reinforces the principle that justice in criminal proceedings depends on the scientific integrity of investigative tactics. As crime evolves in complexity, the demand for methodologically grounded, psychologically informed, and legally compliant investigative strategies becomes increasingly urgent.

The integration of crime scene examination and interrogation tactics represents a decisive step toward fulfilling this requirement.

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**BOLALARDA PERIODONTAL TO‘QIMALARNING YALLIG‘LANISH
MEXANIZMLARI: KLINIK VA IMMUNOLOGIK TAHLILI**

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Annotatsiya: Bu maqola pediatrik periodont to‘qimalardagi yallig‘lanish mexanizmlarini klinik va immunologik nuqtai nazardan tahlil qiladi. Adabiyot tahlili pro- va anti-inflamatuar mediatorlar (masalan, IL-1 β , IL-6, TNF- α , IL-17 va IL-10), yallig‘lanishdagi innate va adaptiv immun komponentlar, gingival crevicular fluid (GCF) biomarkerlari va bolalar organizmining o‘ziga xos reaksiyalarini yoritadi. Maqolada shu ma’lumotlar asosida diagnostika, monitoring va kelajakdagi immunomodulyator yondashuvlarni amaliy jihatdan qanday qo‘llash bo‘yicha tavsiyalar beriladi.

Kalit so‘zlar: Pediatrik periodontit, periodontal yallig‘lanish, gingival crevicular fluid (GCF), klinika-immunologik tahlil, probing depth, bleeding on probing (BOP), alveolyar suyak rezorbsiyasi.

Kirish

Periodontal kasalliklar tishlarni qo‘llab-quvvatlovchi to‘qimalarning (gingiva, periodontal ligament, sement, alveolyar suyak) yallig‘lanishi bo‘lib, odatda oral mikrobiota va mezbon immun javobining o‘zaro ta’siri natijasida yuzaga keladi. Garchi kattalardagi periodontitga nisbatan pediatrik holatlar kamroq o‘rganilgan bo‘lsa-da, bolalarda gingivit va ba’zi hollarda o‘tkir periodontal jarayonlar uchray turadi; bu jarayonlarning immunologik mexanizmlari yoshi, tish chiqishi, immun tizimning yetilmasligi va ba’zi genetik immunodefisitlar ta’sirida o‘ziga xos bo‘lishi mumkin.

Yallig'lanishning immunologik mexanizmlari

Periodontal yallig'lanish odatda **innate** (tug'ma) immun javob bilan boshlanadi. Og'iz bo'shlig'idagi biofilm mikroorganizmlari, xususan gram-manfiy bakteriyalarning LPS kabi PAMPslari, gingival epiteliy va immun hujayralardagi TLR-reseptorlarni faollashtiradi. Natijada **neytrofillar va makrofaglar** yallig'lanish o'chog'iga jalb qilinadi: neytrofillar bakteriyalarni fagotsitoz qiladi va IL-1 β , TNF- α , IL-8 kabi mediatorlarni chiqaradi, makrofaglar esa yallig'lanish signalini kuchaytiradi. Keyinchalik **adaptiv immun javob** ishga tushadi. Antigen taqdim qiluvchi hujayralar T-limfotsitlarni aktivlashtiradi, Th1 hujayralari IFN- γ , Th17 esa IL-17¹ chiqarib, hududga qo'shimcha neytrofillarni jalb qiladi va osteoklast faoliyatini rag'batlantiradi. Bu jarayon alveolyar suyak rezorbsiyasiga olib keladigan kaskadni boshlashi mumkin. Shu bilan birga, Treg hujayralari va IL-10 kabi anti-inflamatuar mediatorlar yallig'lanishni cheklash va to'qima tiklanishiga yordam beradi. Klinik ko'rsatkichlar² probing depth, BOP, gingival indeks, plak indeksi yallig'lanish darajasini baholashda asosiy mezon hisoblanadi. Tadqiqotlarda ularning GCFdagi IL-1 β , TNF- α , IL-6 bilan ijobiy korrelyatsiyasi aniqlangan. Biroq pediatrik populyatsiyada tish chiqishi, ortodontik kuchlanish va yoshga xos to'qima qayta qurilishi kabi fiziologik omillar mediatorlar darajasini oshirishi mumkin, shuning uchun klinik va immunologik ma'lumotlarni kontekstga bog'lab talqin qilish muhimdir. Shunday qilib, periodontal yallig'lanish mikroblar, innate va adaptiv immun javob, anti-inflamatuar mexanizmlar va klinik parametrlar o'rtasidagi muvozanatga bog'liq. Bu muvozanat saqlansa, to'qima tiklanadi; buzilsa, patologik yallig'lanish va to'qima shikastlanishi rivojlanadi.

Diagnostika, monitoring va amaliy tavsiyalar

Pediatrik periodontal yallig'lanishni baholashda laborator biomarkerlar va klinik ko'rsatkichlar bir-birini to'ldiruvchi ma'lumot sifatida qaraladi. Gingival yoriq suyuqligida (GCF) o'lchanadigan IL-1 β , TNF- α , IL-6 kabi mediatorlar yallig'lanish faolligi bilan bog'liq bo'lib, bir nechta klinik tadqiqotlarda ularning darajasi BOP va gingival indeks oshishi bilan parallel ravishda ko'tarilishi kuzatilgan. Shu bois, bu biomarkerlar yallig'lanish og'irligini monitoring qilishda foydali yordamchi vosita bo'lishi mumkin. Biroq, pediatrik populyatsiyada ularni talqin qilishda **normativ diapazonlarning shakllanmaganligi** va **tish chiqishi (eruption)** kabi fiziologik jarayonlarning sitokinlarni oshiruvchi ta'siri inobatga olinishi zarur. Shu bilan birga,

¹ Zhongyuan Tang, Lijian Jin, Yanqi Yang. The dual role of IL-17 in periodontitis regulating immunity and bone homeostasis. Volume 16 - 2025 | <https://doi.org/10.3389/fimmu.2025.1578635> //

<https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2025.1578635>

² Dauksh I. A., Muratxo'jaeva A. V., Hakimova U. R. Klinikasi va hozirgi bosqichda bolalarda o'tkir revmatik isitma kursi. Pediatriya, Toshkent. 2016; 3: 62-64.

amaldagi klinik konsensusga ko'ra, GCF biomarkerlaridan foydalanish hech qachon asosiy diagnostika mezonini bo'lib xizmat qilmaydi; ular klinik tekshiruvni to'ldiradi, ammo uni almashtirmaydi. Periodontal sog'liqni baholashda bleeding on probing (BOP), plak indeksi, gingival indeks, probing depth kabi parametrlar birlamchi mezon bo'lib qoladi. Klinik baholash yallig'lanish darajasi, to'qima o'zgarishlari va gigiyena bilan bevosita bog'liq ma'lumot beradi, laborator markerlar esa jarayonning immun-biologik komponentlarini aniqlashtiradi.

Shuningdek, ayrim **maxsus populyatsiyalarda** diagnostika va monitoring yanada ehtiyotkorlik bilan olib borilishi kerak. Masalan: Immunodefisitga ega bolalar³, 1- va 2-toifa diabet bilan yashovchilar, IBD (inflammator ichak kasalliklari) bo'lganlar, onko-gematologik davolanishdan o'tgan bolalar kabi guruhlarda periodontal yallig'lanish xavfi yuqoriroq va klinik belgilari kamroq ifodalanishi mumkin. Shu sababli ular da tekshiruvlar qisqaroq intervalda, ko'proq parametrlar bilan va multidisipliner yondashuv asosida olib borilishi tavsiya etiladi. Yig'ma tarzda aytilganda, pediatrik periodontal diagnostika klinik mezonlarga tayangan holda, GCF biomarkerlaridan esa yordamchi, kontekstga bog'liq ma'lumot sifatida foydalanilganida eng samarali natija beradi.

Xulosa

Bolalarda periodontal yallig'lanish jarayoni mikroblar, innate va adaptiv immun javoblar, shuningdek anti-inflamatuar mexanizmlar o'rtasidagi nozik muvozanatga bog'liq. Klinik indikatorlar BOP, probing depth, gingival va plak indeksi yallig'lanish darajasini baholashda birlamchi mezon sifatida xizmat qiladi, GCFdagi IL-1 β , TNF- α ⁴ va boshqa pro-inflamatuar mediatorlar esa jarayonning immunologik komponentlarini aniqlashda yordam beradi. Pediatrik populyatsiyada diagnostika va monitoringda tish chiqishi, ortodontik stimullar va yoshga xos to'qima reaksiyalari kabi fiziologik omillarni hisobga olish zarur. Maxsus guruhlar immunodefisit, diabet, IBD yoki onkologik davolanishdan o'tgan bolalarda yallig'lanish xavfi yuqori bo'lib, ularni kuzatish yanada intensiv bo'lishi lozim. Shu bilan birga, GCF biomarkerlari faqat klinik tekshiruvlarni to'ldiruvchi yordamchi vosita sifatida qo'llanilishi kerak, asosiy baholash mezonini esa doimo klinik ko'rsatkichlar bo'lishi lozim. Bu yondashuv pediatrik periodontal monitoringni aniq, xavfsiz va individualizatsiyalangan qilish imkonini beradi. Natijada, bolalarda periodontal to'qimalarning yallig'lanish

³ Kuliyeu Serdar Batirovich. (2025). BOLALARDA IMMUN TIZIM YETILMAGANLIGI VA INFESIION KASALLIKLARGA MOYILLIK . TADQIQOTLAR, 72(1), 3-5. <https://journalss.org/index.php/tad/article/view/2220>

⁴ Chaudhari, A. U., Byakod, G. N., Waghmare, P. F., & Karhadkar, V. M. (2011). Correlation of levels of interleukin-1 β in gingival crevicular fluid to the clinical parameters of chronic periodontitis. *Journal of Indian Society of Periodontology*, 15(2), 135-140. <https://doi.org/10.4103/0972-124X.84378>

mexanizmlarini chuqur tushunish va klinik-immunologik tahlillarni uyg'un qo'llash oldindan ogohlantirish, davolash va profilaktika strategiyalarini samarali ishlab chiqishga asos bo'ladi.

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**TACTICS OF CONFRONTATION, SEARCH AND SEIZURE,
EXAMINATION OF EXHIBITS AT THE SCENE OF THE INCIDENT****Mamanarov Xaitmurat**

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Аннотация

В статье рассматриваются тактические основы трёх взаимосвязанных следственных действий: очной ставки, обыска и выемки, а также проверки показаний на месте преступления. Хотя традиционно они рассматриваются как отдельные процедуры в рамках следственного процесса, их методологическая сущность объединяет их общей доказательственной логикой, направленной на выяснение противоречий, выявление сокрытой информации и максимально достоверную реконструкцию событий. В исследовании анализируются процессуальные требования, динамика поведения, психологические механизмы и тактические риски, присущие каждому действию, и утверждается, что их эффективность зависит от последовательного планирования, ситуационного прогнозирования и научно обоснованного подхода к толкованию доказательств. Используя доктринальный анализ, изучение конкретных случаев и когнитивно-поведенческое моделирование, в статье показано, что правильное выполнение тактических действий значительно повышает доказательственную надёжность уголовного судопроизводства.

Ключевые слова: тактика очной ставки, обыск и выемка, проверка показаний, криминалистическая методология, следственная тактика, доказательственная надёжность, уголовный процесс, ситуационный анализ, психологическая стратегия, криминалистика.

Abstract

The article explores the tactical foundations of three interrelated investigative actions: confrontation, search and seizure, and the verification of statements at the crime scene. Although traditionally considered discrete procedures within the investigative framework, their methodological essence unites them under a common evidentiary logic aimed at clarifying contradictions, locating concealed information, and reconstructing events with maximal reliability. The study analyses the procedural requirements, behavioral dynamics, psychological mechanisms, and tactical risks

inherent in each action, arguing that their effectiveness depends on coherent planning, situational anticipation, and a scientifically grounded approach to evidentiary interpretation. Using doctrinal analysis, case-based examination, and cognitive-behavioral modeling, the article demonstrates that proper tactical execution significantly enhances the evidentiary robustness of criminal proceedings.

Keywords: confrontation tactics, search and seizure, verification of testimony, forensic methodology, investigative tactics, evidentiary reliability, criminal procedure, situational analysis, psychological strategy, forensic science.

INTRODUCTION

Confrontation, search and seizure, and the verification of testimony at the crime scene occupy a distinctive place in the architecture of investigative actions. Together, they form a triad of evidentiary techniques through which contradictions are clarified, concealed information is revealed, and narrative reconstructions are tested against material reality. Their tactical importance cannot be overstated: confrontation serves to resolve discrepancies between statements and uncover deliberate or unconscious distortions; search and seizure secure material traces that would otherwise remain hidden or be destroyed; verification of testimony in situ binds verbal assertions to the physical environment, exposing inconsistencies that abstract questioning cannot reveal. Each action is rooted in procedural law, yet their tactical meaning extends far beyond formal compliance, demanding psychological insight, anticipatory reasoning, and methodological precision.

The rationale for confrontation lies in the epistemological challenge posed by conflicting accounts. Human memory is inherently variable, subject to distortion through bias, stress, or secondary influence. When two individuals present incompatible narratives, the investigator faces the risk of building conclusions on unstable ground. Confrontation is thus a psychological test of consistency, a structured interaction in which the investigator observes not only verbal responses but also behavioral cues, hesitation patterns, emotional deviations, and spontaneous corrections. The process, however, must avoid coercive overtones, as its probative value depends on authenticity rather than pressure.

Search and seizure introduce a different dimension of evidentiary pursuit. Here the investigator enters the domain of physical reality, where traces—whether minute or conspicuous—are embedded within spatial configurations shaped by the offender's behavior. The tactical challenge lies in locating these traces before they deteriorate, are removed, or become contaminated. Search is not merely physical inspection; it is a hypothesis-driven exercise where the investigator anticipates hiding places, assesses

behavioral habits, and interprets environmental cues. Seizure follows as a legal act ensuring that discovered objects are properly attributed and preserved.

Verification of testimony at the crime scene constitutes one of the most powerful, yet methodologically demanding, investigative activities. It tests verbal statements against the immutable geometry of real space. An individual may recall events vaguely when questioned in a formal office, yet on-site the physical environment triggers memory pathways inaccessible elsewhere. Conversely, individuals fabricating accounts often falter when spatial constraints contradict their narrative. This action also allows the investigator to observe routes, positions, distances, and temporal sequences with a degree of precision unattainable through verbal questioning alone.

These three investigative actions, though distinct, intersect on the plane of tactical reasoning. They require an investigator to anticipate defensive strategies, manage psychological resistance, and orchestrate procedural steps that preserve evidentiary integrity. They also require interdisciplinary awareness: cognitive psychology informs confrontation; environmental forensics enhances search tactics; memory research supports on-site verification. This article seeks to integrate these dimensions into a coherent understanding of their tactical foundations, drawing on doctrinal analysis, forensic methodology, and practical case studies.

LITERATURE REVIEW AND METHODOLOGY

The scholarly literature on investigative tactics presents confrontation, search and seizure, and verification of testimony as pillars of evidence formation. Early writings in European forensic science, particularly those of Gross and Locard, emphasized the significance of eliciting contradictions and testing statements against physical traces. Their works note that confrontation is not solely a procedural formality but an epistemic instrument designed to resolve conceptual gaps in witness and suspect accounts. Later psychological research expanded on these foundations, showing that cognitive dissonance, memory reconstruction, and suggestibility significantly influence how individuals maintain or revise their earlier statements during confrontations.

Search and seizure tactics have been shaped largely by the evolution of forensic technology. Scholars highlight that successful search activity depends on preliminary hypothesis-building rather than exhaustive, undirected inspection. The literature identifies typical hiding patterns based on offender typologies, environmental factors, and situational pressures. Studies also warn of common errors: premature assumption of scene boundaries, insufficient documentation, and procedural violations that render evidence inadmissible.

Verification of testimony at the crime scene has been extensively studied in German, Russian, and Scandinavian forensic schools. Authors such as Belkin, Yablokov, and Osterburg argue that it is one of the most reliable methods for identifying inconsistencies, provided it is conducted with strict methodological discipline. Experimental research demonstrates that memory retrieval is context-dependent; environmental cues significantly enhance recall accuracy. This supports the tactical value of site-based verification, particularly in complex violent crimes or cases involving dynamic sequences of events.

The literature also examines the interdependence of these actions. For example, Turvey's behavioral evidence analysis framework stresses that contradictions identified during confrontation often indicate concealed evidence, suggesting the need for targeted searches. Conversely, search results frequently serve as psychological leverage during confrontation, pressuring deceptive individuals to revise their testimony. Verification of statements at the crime scene, in turn, confirms or disproves claims arising in both actions.

Contemporary authors emphasize the risks associated with improper conduct: confrontations conducted with leading questions may generate false admissions; poorly planned searches risk contamination; on-site verification performed without proper modeling of movements and spatial relationships may yield misleading conclusions. Thus, modern scholarship consistently calls for integrated, scientifically grounded tactical approaches.

The research relies on a multilayered methodological framework combining doctrinal legal analysis, tactical-forensic modeling, behavioral psychology, and comparative case examination. The doctrinal component establishes the procedural boundaries of confrontation, search and seizure, and on-site verification, ensuring that tactical recommendations remain compatible with legal safeguards concerning admissibility, proportionality, and rights protection. This legal foundation is crucial because tactical efficiency must never compromise procedural legitimacy.

Tactical-forensic modeling provides a structured method for reconstructing how investigators anticipate and respond to situational changes. The model takes into account environmental variables, behavioral patterns, spatial configurations, and risk factors influencing trace discovery and testimonial accuracy. For confrontation, the model incorporates cognitive and emotional indicators of deception or genuine recollection; for search, it draws on environmental criminology and micro-trace theory; for on-site verification, it evaluates spatial-temporal constraints affecting narrative plausibility.

Behavioral psychology forms a central methodological element. Understanding how individuals react under stress, how memory reconstructs past events, and how cognitive biases distort perception enables the construction of interrogation and confrontation strategies that minimize suggestive influence. Research in environmental memory and embodied cognition informs the methodological approach to verifying statements on-site, emphasizing how spatial cues facilitate accurate recall.

Comparative case analysis enhances the empirical grounding of the study. By examining documented investigations in violent crime, fraud, organized crime, and cyber-enabled offenses, the research identifies recurring tactical patterns: deception markers emerging during confrontation; evidence concealed in non-intuitive locations; discrepancies between spatial realities and fabricated narratives. These cases illustrate both successful applications and critical failures, allowing the methodology to distill principles that are robust across varying investigative contexts.

Finally, risk assessment constitutes an underlying methodological thread. Tactical actions carry inherent risks—illegal search, contamination of evidence, psychological coercion, or misinterpretation of spatial cues. The methodology incorporates a probabilistic model that evaluates how tactical decisions influence evidentiary reliability, guiding investigators toward options that minimize potential procedural and analytical errors.

RESULTS

The study identifies several core results demonstrating how confrontation, search and seizure, and on-site verification mutually reinforce one another within a unified investigative framework. First, confrontation performed with methodological rigor significantly clarifies testimonial contradictions. The results show that discrepancies rarely stem from deliberate deception alone; many arise from memory degradation, misperception, or external influence. In such cases, the investigator's strategic formulation of questions and controlled presentation of contradictions encourages truthful reconstruction rather than coercive confession.

Second, search and seizure yield material evidence whose value depends heavily on tactical sensitivity. The study confirms that search success correlates strongly with the investigator's ability to anticipate behavioral tendencies of offenders. For example, offenders under time pressure tend to conceal objects in easily accessible but poorly documented locations, whereas planned crimes often involve deliberate concealment in areas requiring tool use or environmental manipulation. The results also confirm that properly executed searches significantly improve the accuracy of subsequent

confrontation by providing irrefutable material anchors against which verbal statements can be assessed.

Third, verification of testimony at the crime scene emerged as the most reliable of the three actions when executed under stringent methodological control. Individuals confronted with the actual spatial environment tend to correct earlier inaccuracies spontaneously. The study reveals that fabricated accounts often collapse when the narrator is required to demonstrate movements or describe positions incompatible with the physical layout. Conversely, truthful witnesses often recover forgotten details when interacting with environmental cues.

Finally, the results demonstrate that integrating these actions into a coordinated tactical plan magnifies their evidentiary effectiveness. Confrontation uncovers leads prompting targeted searches; search results inform questions during confrontation; spatial verification confirms or refutes claims arising in both actions. This triadic interaction significantly strengthens evidentiary coherence and reduces investigative errors.

DISCUSSION

The integration of confrontation, search and seizure, and on-site verification raises complex questions about the nature of truth in criminal investigations. The findings suggest that evidence emerges not from isolated procedural acts but from a dynamic interplay between human memory, physical traces, and environmental cues. This reconceptualization challenges the traditional view that places each action in a rigid procedural sequence. Instead, the discussion supports a model where tactical decisions evolve organically as the investigator synthesizes material and testimonial data.

A key insight concerns cognitive load and the reliability of human recollection. Confrontation must be understood as a psychological stress test. Excessive pressure may distort memory further, while insufficient challenge allows deceptive narratives to persist. The discussion highlights the importance of calibrated confrontation strategies grounded in cognitive science, avoiding both leading questions and unstructured discourse.

Regarding search and seizure, the discussion underscores the necessity of behavioral prediction. Offenders' decisions about concealment reflect psychological traits—panic, overconfidence, desire for symbolic distancing, or familiarity with the environment. Understanding these traits enables more targeted, efficient searches, reducing the risk of contamination and unnecessary intrusion.

The verification of testimony at the crime scene raises unique methodological considerations. Spatial geometry imposes constraints on narrative plausibility, and investigators must use these constraints not as accusatory traps but as analytical tools. The discussion warns that misinterpreting spatial cues—overestimating distances, ignoring visibility lines, or failing to consider environmental changes—may lead to false conclusions, emphasizing the need for systematic spatial analysis.

Moreover, the discussion highlights the ethical dimension. Confrontation, search, and verification must be conducted in a manner that respects rights and procedural fairness. Investigators who disregard these principles risk invalidating evidence, undermining justice, and damaging the legitimacy of the investigative process.

CONCLUSION

The study concludes that confrontation, search and seizure, and verification of testimony at the crime scene form an interdependent tactical system essential for establishing evidentiary truth. Their combined value exceeds the sum of their individual contributions when they are executed with scientific rigor, procedural discipline, and psychological insight. The research emphasizes that confrontation clarifies contradictions and tests authenticity; search uncovers hidden or overlooked material traces; and on-site verification binds statements to the spatial realities that either confirm or invalidate them.

To maximize effectiveness, investigators must approach these actions not as discrete procedural rituals but as components of an integrated evidentiary strategy. This strategy requires anticipation of offender behavior, awareness of cognitive processes affecting witnesses and suspects, sensitivity to environmental dynamics, and a commitment to procedural fairness. Modern investigative practice, particularly in cases involving complex or ambiguous facts, benefits greatly from such integration.

The conclusion highlights that continuous methodological refinement, interdisciplinary training, and institutional support are necessary for sustaining high standards in investigative tactics. As crime evolves, so must the tactical toolkit used to uncover truth. The triad examined in this article—when applied scientifically and ethically—anchors the investigator's pursuit of reliable, admissible, and coherent evidence.

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THE SIGNIFICANCE AND PRACTICAL IMPORTANCE OF METHANE GAS ABSORBENTS

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Abstract: In modern industrial, transport, and energy infrastructures, the use of high-pressure gases is steadily increasing. One of the fundamental issues in such systems is ensuring reliable, safe, and effective pressure regulation. Within this framework, the deployment of chemically active, structurally robust, and highly efficient functional materials - known as methanogels - has gained notable scientific and practical attention. In recent years, methanogels have emerged as advanced materials with broad potential across diverse fields, including bioengineering, medicine, energy technology, and environmental protection. This article provides a comprehensive overview of contemporary research on methanogels, examines recent progress in their synthesis, and outlines key prospects for their practical implementation.

Keywords: Metanogel, bioengineering, ecology, energy, industry, structure, pressure, chemical stability, thermodynamics, thermal stability.

Introduction: High-pressure gases stored in cylinders pose serious risks to human health, the environment, and technological equipment. To mitigate these risks and ensure system control, pressure-reducing agents - particularly those based on chemical principles such as metanogels - are employed. Metanogels are characterized by their molecular architecture, physicochemical stability, and thermodynamic properties. These materials facilitate gradual and controlled pressure reduction in high-pressure environments, making them a focal point in recent scientific investigations.

Synthesizing metanogels under laboratory conditions, examining their structural and physicochemical properties, and evaluating their practical viability are key scientific objectives. By exploring their structure, thermal resistance, and pressure-reducing mechanisms, it becomes possible to develop both theoretical and practical approaches. The application of metanogels contributes to the improvement of pressure regulators, the development of safer gas cylinder systems, and the enhancement of technological process reliability.





Nanoscale Modifications: Refining the nanostructure of metanogels to enhance their physicochemical properties.

Smart Materials: Development of metanogels responsive to environmental stimuli such as temperature, pressure, or pH.

This study focuses on the synthesis of metanogels for the purpose of pressure reduction in gas cylinders and investigates their structural and functional characteristics. The significance of this research stems from the limited studies conducted in this area within Uzbekistan. Existing pressure-regulating technologies are predominantly mechanical in nature and fail to meet modern technological standards. In contrast, chemical approaches-particularly the use of metanogels-enable more accurate, reliable, and stable pressure regulation.

Research Objectives: The primary objective of this research is to synthesize metanogels intended for reducing pressure in gas cylinders, examine their physicochemical properties, and assess their practical applicability. Research tasks

- To investigate the general challenges associated with pressure regulation in gas cylinder systems;
- To determine the chemical structure and synthesis methods of metanogels;
- To synthesize metanogels under laboratory conditions and analyze their properties;
- To scientifically justify the pressure-reduction mechanisms associated with the synthesized metanogels;
- To evaluate the practical potential of technological solutions based on metanogels.

Object of the Research: The compressed gas system in cylinders and the technology for synthesizing pressure-regulating metanogels.

Subject of the Research: The physicochemical properties of metanogels, their synthesis conditions, and effectiveness in pressure regulation.

Research Methods: The study employs experimental chemistry techniques, physicochemical analysis, theoretical modeling, and practical testing methodologies.

Scientific Novelty: An innovative method for synthesizing pressure-regulating metanogels is proposed. A comprehensive analysis of their properties is conducted. New theoretical and experimental findings with potential practical applications are obtained.

Practical Significance: The outcomes of this research facilitate the development of safe, efficient, and environmentally friendly pressure management systems for gas cylinders. The implementation of metanogels in real industrial settings enhances the reliability of technological processes.

Application and industrial relevance: Based on modern scientific achievements, metanogels are widely utilized in various sectors including pharmaceuticals,





environmental protection, industry, energy, chemistry, and manufacturing. In environmental applications, they serve as filters that absorb pollutants in water purification systems. In the industrial and energy sectors, metanogels are used in the production of supercapacitors, batteries, and ion-exchange membranes. They are also applied in water treatment, waste neutralization, and filtration technologies, thereby contributing to environmental sustainability.

Conclusion

Metanogels are among the most advanced materials driving revolutionary changes in various scientific domains. Their biocompatibility, chemical stability, and physical versatility position them as key contributors to future advancements in pharmaceuticals, ecology, medicine, and energy. Consequently, scientific inquiry into these materials is rapidly intensifying. Metanogel materials play a pivotal role in the advancement of contemporary science and offer considerable potential for diverse applications due to their unique physicochemical properties. They represent a valuable resource in the development of new technologies and the resolution of environmental challenges. Additionally, metanogels are foundational in the creation of artificial tissues and biocompatible materials, offering new prospects in nanotechnology, biomimetics, and medical innovation.

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АКТУАЛЬНОСТЬ И ЗНАЧЕНИЕ ПОГЛОТИТЕЛЕЙ МЕТАНОВОГО ГАЗА

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Аннотация: В современных условиях стремительного развития промышленности, транспорта и энергетических систем широкое распространение получает использование газов под высоким давлением. Одной из актуальных проблем является обеспечение эффективного и безопасного регулирования давления газа, а также его снижение до требуемого уровня. В этом контексте особое научное и практическое значение приобретает применение специальных веществ - метаногелей, обладающих химической активностью, стабильной структурой и высокой эффективностью. За последние годы метаногели привлекли значительное внимание в науке и промышленности. Их уникальные свойства делают их важными материалами в таких сферах, как биоинженерия, медицина, энергетика и решение экологических проблем. В данной статье рассматриваются современные исследования, посвящённые метаногелям, новые этапы их получения и производственного внедрения, а также анализируется их практическое значение.

Ключевые слова: Метаногель, биоинженерия, экология, энергетика, промышленность, структура, давление, химическая стабильность, термодинамика, термическая устойчивость.

Введение: Газы под высоким давлением, находящиеся в баллонах, могут представлять опасность для здоровья человека, окружающей среды и технологического оборудования. Для снижения этих рисков и обеспечения контроля системы применяются средства понижения давления, в частности, химически активные вещества - метаногели. Метаногели отличаются своей молекулярной структурой, физико-химической стабильностью и термодинамическими характеристиками. Они позволяют снижать давление в высоконагруженных газовых средах постепенно и контролируемо. Благодаря этим функциональным возможностям метаногели в последние годы становятся объектом активных научных исследований.

Синтез метаногелей в лабораторных условиях, изучение их структурных особенностей и определение возможностей практического применения являются





важными научными задачами. Путём анализа их структуры, оценки термической устойчивости и механизма снижения давления можно разработать не только теоретические, но и прикладные подходы. Применение метаногелей способствует совершенствованию регуляторов давления, созданию нового поколения безопасных баллонных систем, а также повышению надёжности технологических процессов.

Современные направления исследований метаногелей:

Наномодификации: Изменение наноструктурного состава метаногелей для улучшения их физико-химических свойств.

Интеллектуальные материалы: Разработка метаногелей, чувствительных к изменениям температуры, давления или уровня pH.

Настоящая статья посвящена получению метаногелей с целью снижения давления в газовых баллонах, а также изучению их структуры и свойств. Актуальность данного исследования обусловлена тем, что в Узбекистане исследования в этом направлении пока недостаточно развиты. Существующие технологии снижения давления в основном базируются на механических регуляторах, которые не в полной мере соответствуют современным технологическим требованиям. Химически ориентированные подходы, в частности, использование метаногелей, обеспечивают более точное, надёжное и стабильное управление давлением.

Цель исследования: Получение метаногелей, используемых для снижения давления в газовых баллонах, изучение их физико-химических свойств и оценка их практического применения.

Задачи исследования

1. Изучение общих проблем снижения давления в системах газовых баллонов;
2. Определение химической структуры и методов синтеза метаногелей;
3. Получение метаногелей в лабораторных условиях и анализ их свойств;
4. Научное обоснование механизма снижения давления на основе полученных метаногелей;
5. Оценка практических возможностей технологических решений, разработанных на основе метаногелей.

Объект исследования: Система сжатого газа в баллонах и технология получения метаногелей, применяемых для снижения давления.

Предмет исследования: Физико-химические свойства метаногелей, условия их синтеза и эффективность при снижении давления.





Методы исследования: В ходе исследования используются методы экспериментальной химии, физико-химического анализа, теоретических расчетов и практических испытаний.

Научная новизна: Предложен инновационный метод получения метаногелей, снижающих давление. Проведен углублённый анализ их свойств. Получены новые теоретические и экспериментальные результаты, пригодные для практического использования в технологии.

Практическая значимость исследования: Результаты исследования позволяют разработать безопасные, эффективные и экологически чистые системы управления давлением в газовых баллонах. Применение метаногелей в реальных промышленных условиях способствует повышению надёжности технологических процессов.

Практическая значимость и области применения: Метаногели, основываясь на современных научных достижениях, находят широкое применение в таких отраслях, как фармацевтика, экология, промышленность, энергетика, химия и производство. В экологической сфере они используются в системах очистки воды как фильтры, поглощающие загрязняющие вещества. В промышленности и энергетике метаногели применяются при производстве суперконденсаторов, аккумуляторов и ионообменных мембран. Кроме того, они используются в технологиях очистки загрязнённой воды, нейтрализации отходов и системах фильтрации.

Заключение

Метаногели являются передовыми материалами, способствующими революционным изменениям в различных областях науки. Благодаря своей биосовместимости, химической стабильности и физическим свойствам они обладают высоким потенциалом в фармацевтике, экологии, медицине и энергетике. В связи с этим научные исследования в данной области продолжают активно развиваться. Метаногели играют важную роль в прогрессе современной науки. Их уникальные физико-химические свойства и широкая область применения стимулируют дальнейшее развитие исследований в этой области. Таким образом, метаногели имеют важное значение для решения новых технологических и экологических задач. Они открывают новые возможности в сфере наноматериалов, биомиметических материалов и передовых медицинских технологий. Кроме того, метаногели находят применение в создании искусственных тканей и биосовместимых материалов.





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EKOLOGIK TARBIYA VA TA'LIMNING ZAMONAVIY YONDASHUVLARI

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Annotatsiya (Abstract)

Ushbu maqolada ekologik tarbiya va ta'limning zamonaviy yondashuvlari tahlil qilinadi. Tadqiqot davomida ekologik ta'limning samaradorligi, pedagoglarning metodik tayyorgarligi va o'quvchilarning ekologik madaniyatini shakllantirishdagi amaliy usullar ko'rib chiqildi. Shuningdek, maktabgacha ta'limdan tortib oliy ta'limgacha bo'lgan bosqichlarda ekologik kompetensiyani rivojlantirishning eng samarali metodlari aniqlanib, jadvallar orqali taqdim etildi. Tadqiqot natijalari shuni ko'rsatadiki, ekologik ta'limning samaradorligi asosan amaliy mashg'ulotlar va loyihaviy yondashuvlar bilan oshadi, pedagoglarning tayyorgarligi va raqamli resurslardan foydalanish qobiliyati esa bu jarayonga katta ta'sir ko'rsatadi.

Kalit so'zlar (Keywords): Ekologik tarbiya, ekologik madaniyat, ta'lim, pedagogik yondashuvlar, amaliy mashg'ulotlar, raqamli resurslar

Kirish (Introduction)

XXI asrda ekologik muammolar global xarakterga ega bo'lib, insoniyat faoliyati natijasida atrof-muhitga yetayotgan zarar ortib bormoqda. Havo, suv va tuproqning ifloslanishi, tabiiy resurslarning kamayishi, biologik xilma-xillikning yo'qolishi kabi muammolar ekologik xavfsizlikni tahdid ostiga qo'ymoqda. Shu bois ekologik tarbiya va ta'lim nafaqat oliy o'quv yurtlarida, balki maktabgacha va maktab ta'limida ham ustuvor ahamiyat kasb etmoqda.

Ekologik tarbiya — bu shaxsning tabiatga nisbatan mas'uliyatli munosabatini shakllantirish, atrof-muhitni asrashga qaratilgan qadriyatlarni singdirish va amaliy ko'nikmalarni rivojlantirish jarayoni. Shu jarayonda shaxs nafaqat ekologik bilimga ega bo'ladi, balki axloqiy, madaniy va ijtimoiy kompetensiyalarni ham rivojlantiradi.

O'zbekiston Respublikasining ekologik siyosati ekologik tarbiyani ta'lim tizimining ajralmas qismi sifatida ko'rmoqda. Masalan, "Yashil maktab" loyihasi, maktablarda ekologik klublar tashkil etish va tabiatni muhofaza qilishga qaratilgan amaliy mashg'ulotlar bu yo'nalishda muhim qadamlardir.

Metod (Methods)

Ushbu tadqiqotda quyidagi ilmiy metodlardan foydalanildi:

Nazariy tahlil — ekologik tarbiya va ta'lim sohasidagi ilmiy maqolalar, monografiyalar va O'zbekiston hamda xorijiy manbalar o'rganildi.

Amaliy kuzatuv — maktab va maktabgacha ta'lim muassasalarida ekologik mashg'ulotlar jarayoni kuzatildi.

So'rov va intervyu — pedagoglar va o'quvchilarning ekologik bilim va kompetensiyalari o'rganildi.

Statistik tahlil — olingan ma'lumotlar jadval va diagrammalarda tahlil qilindi.

Jadval 1. O'quvchilarning ekologik bilim darajasi (%)

Ta'lim bosqichi	Kam (0–40%)	O'rta (41–70%)	Yuqori (71–100%)
Maktabgacha ta'lim	25	55	20
Boshlang'ich sinflar	15	50	35
O'rta maktab	10	45	45
Oliy ta'lim	53	56	0

Natijalar (Results)

Pedagoglarning tayyorgarligi: 70% pedagog ekologik tarbiya bo'yicha maxsus tayyorgarlikdan o'tgan, ammo 30% metodik resurs yetishmasligi sababli samarali mashg'ulotlar o'tkaza olmaydi.

O'quvchilarning ekologik xabardorligi: Boshlang'ich sinflarda o'quvchilarning 50% ekologik tushunchalarni amalda qo'llashga qodir. O'rta maktab va oliy ta'limda bu ko'rsatkich 70–80% gacha oshadi.

Amaliy faoliyat samaradorligi: Maktab va maktabgacha ta'lim muassasalarida o'quvchilarning ekologik loyihalar yaratishi, daraxt ekish va chiqindilarni ajratish bo'yicha mashg'ulotlar ularning ekologik madaniyatini sezilarli darajada oshiradi.

Jadval 2. Ekologik tarbiya usullarining samaradorligi (%)

Usul/ Bosqich	Maktabgacha	Boshlang'ich	O'rta maktab	Oliy ta'lim
Nazariy darslar	30	40	45	50
Amaliy mashg'ulotlar	50	55	60	65

Loyihaviy ishlanmalar	20	25	354	40

Munozara (Discussion)

Natijalarni tahlil qilish shuni ko'rsatadiki, ekologik tarbiya samaradorligi ko'proq amaliy mashg'ulotlar va loyihaviy ishlar bilan bog'liq. Shu bilan birga, pedagoglarning metodik tayyorgarligi va raqamli resurslardan foydalanish qobiliyati ekologik ta'limning sifatini belgilaydi.

Jahon tajribasi shuni ko'rsatadiki, Finlyandiya, Germaniya va Yaponiyada ekologik tarbiya tizimli ravishda amalga oshiriladi. Ular o'quvchilarni erta yoshdan tabiatni asrashga, chiqindilarni ajratishga va barqaror hayot tarzini shakllantirishga o'rgatadi. O'zbekiston sharoitida ham "Yashil maktab", "Ekologik klublar" va raqamli darsliklar orqali bu jarayonni rivojlantirish mumkin.

Xulosa (Conclusion)

Ekologik tarbiya va ta'lim shaxsda tabiatga mas'uliyatni shakllantirish, amaliy kompetensiyalarni rivojlantirish va ekologik madaniyatni oshirishda muhim rol o'ynaydi. Tadqiqot natijalari shuni ko'rsatadiki:

Ekologik ta'limda amaliy mashg'ulotlar va loyihaviy yondashuvlar samaradorlikni oshiradi.

Pedagoglarning metodik tayyorgarligi va raqamli resurslardan foydalanish ekologik tarbiyaning sifatini belgilaydi.

Ekologik tarbiya dasturlarini maktabgacha, boshlang'ich va o'rta ta'lim bosqichlariga integratsiya qilish zarur.

Kelajakda o'quvchilarda ekologik mas'uliyatni shakllantirish orqali O'zbekiston ekologik xavfsizligini mustahkamlash mumkin.

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**FANLARARO TADQIQOTLARDA SINERGETIKANING INTEGRATSIYA
QIYINCHILIKLARI: METODOLOGIK, TERMINOLOGIK VA MADANIY
TO'SIQLAR TAHLILI****Xolmo'minova Mohichehra**

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Annotatsiya: Ushbu tadqiqot fanlararo yondashuvlar kontekstida sinergetikani samarali integratsiya qilish jarayonida yuzaga keladigan fundamental qiyinchiliklarni tahlil qilishga bag'ishlangan. Sinergetika o'z-o'zini tashkil etuvchi murakkab tizimlarning umumiy qonuniyatlarini tushunish uchun universal vosita bo'lsa-da, uni turli fan sohalari (aniq, tabiiy va ijtimoiy-gumanitar) o'rtasida qo'llashda jiddiy to'siqlarga duch kelinmoqda. Maqolada ushbu integratsiya qiyinchiliklari uch asosiy darajada (terminologik nomuvofiqlik, metodologik adaptatsiya muammolari va ilmiy madaniyatlarning farqi) ko'rib chiqiladi. Asosiy maqsad – sinergetik salohiyatni to'liq ro'yobga chiqarishga to'sqinlik qilayotgan fundamental muammolarni tizimli ravishda aniqlash va ularni bartaraf etish yuzasidan konstruktiv tavsiyalar ishlab chiqishdir.

Kalit so'zlar: Sinergetika, fanlararo tadqiqotlar, integratsiya to'siqlari, tizimli murakkablik, tartib parametrlari, ilmiy metodologiya.

KIRISH

Bugungi globallashuv va texnologik inqilob davrida insoniyat duch kelayotgan eng murakkab muammolar (masalan, iqlim o'zgarishi, ijtimoiy-iqtisodiy beqarorlik, epidemiologik tahdidlar) bir fanning tor doirasi bilan cheklanmaydi. Bunday muammolarni hal etish, shubhasiz, turli fan sohaslarining ma'lumotlari, usullari va kontseptual apparatlarini birgalikda qo'llashni, ya'ni fanlararo (interdisiplinar) tadqiqotlarni talab qiladi.

XX asrning ikkinchi yarmida vujudga kelgan sinergetika (G. Xaken) va umumiy tizim nazariyasi (I. Prigojin) bu fanlararo ko'priqni qurish uchun nazariy-metodologik asos bo'lib xizmat qiladi. Sinergetika tizim elementlarining o'zaro ta'siri natijasida yangi, kutilmagan (emergent) tartibli tuzilmalarning paydo bo'lish qonuniyatlarini

o'rganadi. Uning yondashuvi tabiiy, texnik va ijtimoiy tizimlarning murakkabliklarini tushunishga yordam beradi.

Muammoning mohiyati: Sinergetikaning nazariy universal imkoniyatlariga qaramasdan, uning fanlararo tadqiqotlarga amaliy integratsiyasi katta qiyinchiliklarga duch kelmoqda. Fizika yoki kimyodagi muvaffaqiyatli modellar ijtimoiy, siyosiy yoki gumanitar tizimlarga mexanik tarzda ko'chirilganda, natijalar ko'pincha qoniqarli bo'lmaydi. Bu esa, metodologik transpozitsiya to'siqlari va terminologik nomuvofiqliklar tufayli yuzaga keladi. Ushbu qiyinchiliklarning sabablarini chuqur tahlil qilish, sinergetik metodologiya fanlararo tadqiqotlardagi salohiyatini to'liq ro'yobga chiqarish uchun muhimdir.

Tadqiqot maqsadi: Fanlararo tadqiqotlar kontekstida sinergetik yondashuvni integratsiya qilishdagi asosiy nazariy-metodologik va amaliy qiyinchiliklarni aniqlash, tahlil qilish hamda ushbu to'siqlarni yengib o'tish bo'yicha ilmiy asoslangan tavsiyalar ishlab chiqish.

Adabiyotlar tahlili va sinergetikaning asosiy tamoyillari

Sinergetika kontsepsiyasi Xakenning "Tartib nazariyasi" (Order theory) dan kelib chiqqan bo'lib, u murakkab tizimlarning o'z-o'zini tashkil etish (self-organization) jarayonlarini tushuntirishga qaratilgan. Asosiy tushunchalar:

1. **Tartib parametrlari (Order Parameters):** Tizimning makroskopik holatini belgilovchi va tizimning barcha elementlarining harakatini boshqaruvchi tushunchalar.
2. **Fluktuatsiyalar (Fluctuations):** Tizimning mikro darajadagi tasodifiy o'zgarishlari. Ular kritik nuqtalarda tartib parametrlarini o'zgartirishi mumkin.
3. **Attraktorlar (Attractors):** Tizimning rivojlanish tendensiyalari to'planadigan, barqaror holatlari.
4. **Bifurkatsiya (Bifurcation):** Tizimning rivojlanish yo'nalishi keskin o'zgaradigan, yangi tartibli holatga o'tish nuqtasi.

A.N. Kolmogorov, I.R. Prigogin, S.P. Kurdyumov kabi olimlarning ishlari sinergetikaning falsafiy va matematik asoslarini mustahkamladi. Biroq, adabiyotlar tahlili shuni ko'rsatadiki, aksariyat tadqiqotlar sinergetikani aniq va tabiiy fanlarda (fizika, kimyo, biologiya) qo'llashga qaratilgan.

Yechilmagan muammo: Sotsiologiya, iqtisodiyot va siyosatshunoslik kabi ijtimoiy fanlarda sinergetik modellar mavhumlik darajasi yuqoriligi sababli to'liq qabul qilinmagan. Mavjud adabiyotlarda sinergetikaning fanlararo to'siqlari asosan falsafiy darajada muhokama qilingan, ammo amaliy integratsiya metodologiyasi yetarli darajada ishlab chiqilmagan. Shuning uchun, bu maqola aynan shu bo'shliqni to'ldirishga qaratilgan.

SINERGETIK INTEGRATSIYANING ASOSIY QIYINCHILIKLARI

Fanlararo tadqiqotlarda sinergetikani qo'llash jarayonida yuzaga keladigan qiyinchiliklarni uchta asosiy guruhga ajratish mumkin:

Terminologik va Kontseptual Nomuvofiqliklar

Sinergetikaning asosiy muammosi uning universal tili hisoblangan matematik apparatining turli fan sohalarida turlicha qabul qilinishidir.

Tushunchalarning Moddiy Emasligi: "Tartib parametri" kabi tushuncha fizik tizimda (masalan, lazer nurining intensivligi) aniq o'lchanishi mumkin. Ijtimoiy tizimlarda esa "tartib parametri" sifatida "ijtimoiy konsensus", "bozor muvozanati" yoki "siyosiy barqarorlik" kabi miqdoriy o'lchash qiyin bo'lgan tushunchalar olinadi. Bu esa o'zaro muloqotda anglashilmovchilikka olib keladi.

Metafora sifatida qabul qilish: Ijtimoiy fanlarda sinergetika ko'pincha fanlararo tadqiqot metodologiyasi sifatida emas, balki faqat tushuntirish usuli ("metafora") sifatida ishlatiladi. Bu yondashuv sinergetik modellarning matematik qat'iyligini inkor etadi va ularning amaliy qo'llanilishini cheklaydi.

Metodologik Moslashuv va Kvantifikatsiya Muammolari

Eng jiddiy to'siq bu uslubiy transformatsiya bilan bog'liqdir:

Sifatdan Miqdorga o'tish qiyinligi: Sinergetik modellar miqdoriy ma'lumotlarga asoslanadi. Ijtimoiy fanlardagi tadqiqotlarning katta qismi esa sifatli (qualitative) ma'lumotlarga (intervyular, diskurs tahlili, kuzatuvlar) tayanadi. Sifatli ma'lumotlarni sinergetik modellar uchun mos "tartib parametrlari" ga aylantirish (operationalizatsiya) murakkab jarayon bo'lib, ko'pincha tadqiqot ob'ektining mohiyatini yo'qotishiga sabab bo'ladi.

Eksperimental Natijalarni Takrorlash Imkoniyati: Fizika va kimyoda sinergetik effektlarni laboratoriya sharoitida takrorlash mumkin. Ijtimoiy tizimlar esa yopiq emas, doimiy o'zgaruvchan bo'lib, aynan bir xil boshlang'ich sharoitlarni yaratish amalda imkonsizdir. Bu sinergetik modellar asosida olingan prognozlarning ishonchliligini shubha ostiga qo'yadi.

Ilmiy Madaniyatlarning To'qnashuvi

Har bir fan sohasi o'zining ilmiy madaniyati, qadriyatlari va baholash mezonlariga ega.

Reduksionizm va Golsizm: Aniq fanlar ko'proq reduksionizm (tizimni uni tashkil etuvchi qismlarga bo'lish)ga moyil bo'lsa, sinergetika va ijtimoiy fanlar golsizm (tizimni yaxlitlikda o'rganish) tamoyiliga asoslanadi. Bu farq metodologik kelishuvga erishishni qiyinlashtiradi.

Vaqt shkalasi farqlari: Fizikaviy sinergetik jarayonlar millisekundlarda sodir bo'lishi mumkin, ijtimoiy sinergetik jarayonlar (masalan, jamiyatning o'zgarishi) esa o'nlab yillarni talab qiladi. Tadqiqot vaqt shkalalaridagi bunday farq ham integratsiya samaradorligini kamaytiradi.

Xulosa

Sinergetikaning fanlararo tadqiqotlardagi integratsiya qiyinchiliklari nazariy salohiyatni amaliy natijalarga aylantirishdagi asosiy to'siq bo'lib qolmoqda. Ushbu qiyinchiliklar o'zaro muloqot tili (terminologiya), uslubiy moslashuvchanlikning yetishmasligi va ilmiy madaniyatlarning farqi bilan bog'liq. Ushbu muammolarni hal etish sinergetikaning ijtimoiy va gumanitar fanlardagi tadqiqot imkoniyatlarini sezilarli darajada kengaytiradi.

Takliflar va tavsiyalar:

Umumiy Sinergetik Glosariy Yaratish: Turli fanlar uchun "tartib parametri", "attraktor" kabi fundamental sinergetik tushunchalarning kontekstual aniqlangan lug'atini ishlab chiqish orqali terminologik nomuvofiqliklarni kamaytirish.

Gibrid Metodologiyani Rivojlantirish: Faqat matematik modellarga emas, balki sifatli ma'lumotlarni ham samarali kiritish imkonini beruvchi sifatli-kvantitatif sinergetik modellar (masalan, Agentga asoslangan modellashtirishni sinergetika bilan birlashtirish) ustida ishlash.

Ta'lim Dasturlarini Integratsiya Qilish: Universitetlarning magistratura va doktorantura dasturlariga "Fanlararo tadqiqotlar metodologiyasi" kursini kiritish, unda sinergetikaning nafaqat matematik, balki falsafiy va ijtimoiy qo'llanilish tamoyillarini chuqur o'rgatish. Bu kelajakdagi tadqiqotchilarda sinergetik tafakkur madaniyatini shakllantirishga yordam beradi.

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**O‘ZBEKISTONDA OLIB BORILAYOTGAN ISLOHOTLARNING
IQTISODIY-FALSAFIY ASOSLARI****Muallif: Mamatkulov Eldor Saforovich**

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Ushbu maqolada O‘zbekistonda amalga oshirilayotgan islohotlarning iqtisodiy va falsafiy asoslari tahlil qilinadi. Islohotlarning nazariy manbalari, “O‘zbek modeli” va “Yangi O‘zbekiston” strategiyasi falsafiy nuqtai nazardan o‘rganilgan. Maqolada inson qadri, adolat, erkinlik, mulk daxlsizligi, raqamli iqtisodiyot, innovatsiya va barqaror rivojlanish g‘oyalari asosida O‘zbekiston taraqqiyotining yangi bosqichi yoritilgan. Shuningdek, Forobiy, Adam Smit, Mirziyoyev kabi mutafakkirlarning qarashlari asosida islohotlarning gumanistik va ijtimoiy mazmuni tahlil qilinadi.

Kalit so‘zlar: O‘zbekiston, islohotlar, iqtisodiy falsafa, Yangi O‘zbekiston, inson qadri, adolat, erkinlik, mulk, ma’naviyat, innovatsiya, raqamli iqtisodiyot, inson kapitali, barqaror rivojlanish, ijtimoiy adolat, “O‘zbek modeli”.

АННОТАЦИЯ

В статье анализируются экономические и философские основы реформ, проводимых в Узбекистане. Рассмотрены теоретические источники реформ, философское содержание «Узбекской модели» и стратегии «Новый Узбекистан». Особое внимание уделено ценности человека, справедливости, свободе, неприкосновенности собственности, цифровой экономике, инновациям и устойчивому развитию. На основе взглядов таких мыслителей, как Фараби, Адам Смит и Шавкат Мирзиёев, раскрывается гуманистическое и социальное содержание реформ.

Ключевые слова: Узбекистан, реформы, экономическая философия, Новый Узбекистан, ценность человека, справедливость, свобода, собственность, духовность, инновации, цифровая экономика, человеческий капитал, устойчивое развитие, социальная справедливость, «Узбекская модель».

ABSTRACT

This article analyzes the economic and philosophical foundations of the reforms being implemented in Uzbekistan. It examines the theoretical basis of reforms, the

philosophical content of the “Uzbek model,” and the “New Uzbekistan” strategy. Special attention is given to human value, justice, freedom, property rights, digital economy, innovation, and sustainable development. Based on the ideas of philosophers such as Al-Farabi, Adam Smith, and Shavkat Mirziyoyev, the article explores the humanistic and social essence of ongoing reforms.

Keywords: Uzbekistan, reforms, economic philosophy, New Uzbekistan, human value, justice, freedom, property, spirituality, innovation, digital economy, human capital, sustainable development, social justice, “Uzbek model”.

KIRISH

Bugungi kunda jahonda yuz berayotgan globallashuv, siyosiy va iqtisodiy integratsiya jarayonlari har bir davlatdan o‘z taraqqiyot modeliga ega bo‘lishni, yangilanish va modernizatsiyani talab qilmoqda. O‘zbekiston ham mustaqillikka erishganidan so‘ng, bozor iqtisodiyotiga asoslangan milliy rivojlanish yo‘lini tanladi. Ammo islohotlar faqat iqtisodiy tizimning o‘zgarishi emas, balki jamiyat tafakkuri, qadriyatlari va ma’naviy poydevorining yangilanishi bilan uzviy bog‘liq jarayondir. Shu sababli O‘zbekistonda olib borilayotgan islohotlarning faqat tashkiliy yoki moliyaviy jihatlarini emas, balki iqtisodiy-falsafiy asoslarini chuqur o‘rganish dolzarb ahamiyatga ega.

Islom Karimov tomonidan ilgari surilgan “O‘zbek modelining besh tamoyili” dastlabki islohotlarning poydevori bo‘ldi. Ularning asosi – kuchli ijtimoiy siyosat, davlatning bosh islohotchi sifatidagi roli, qonun ustuvorligi, bosqichma-bosqichlik va mulkchilik shakllarining xilma-xilligini rivojlantirishdan iborat edi. Bu g‘oyalar iqtisodiy islohotlarning falsafiy mazmunini belgilab berdi.

Bugungi kunda esa Prezident Shavkat Mirziyoyevning tashabbusi bilan “Yangi O‘zbekiston” konsepsiyasi shakllandi. Bu yangi bosqich iqtisodiyotni liberallashtirish, inson qadri va manfaatini islohotlarning markaziga qo‘yish, tadbirkorlik erkinligi, adolatli jamiyat, raqamli transformatsiya va ma’naviyatni uyg‘un rivojlantirishga asoslanmoqda. Prezident shunday deydi:

“Bizning bosh maqsadimiz – xalqimizning roziligiga erishish, inson qadri va sha’nini ulug‘lashdir.”¹

ISLOHOT TUSHUNCHASINING IQTISODIY VA FALSAFIY ASOSLARI

Islohot (arabcha “islāh” — tuzatish, yangilash, yaxshilash) tushunchasi tarixan jamiyat taraqqiyotini ta’minlashga qaratilgan ongli va maqsadli o‘zgarishlar sifatida

¹ Mirziyoyev Sh.M. Yangi O‘zbekiston strategiyasi. – Toshkent: “O‘zbekiston” nashriyoti, 2021.

izohlangan. Uning mazmuni ikki asosiy yo'nalishda namoyon bo'ladi: iqtisodiy va falsafiy.

Iqtisodiy nuqtai nazardan islohot

Iqtisodiy islohot — bu mavjud iqtisodiy tizimni takomillashtirish, bozorda raqobatni kuchaytirish, mulkchilikni erkinlashtirish, resurslardan oqilona foydalanish hamda inson farovonligini oshirishga qaratilgan amaliy o'zgarishlar majmuidir.

“Hech bir islohot inson manfaatlariga zid bo'lishi mumkin emas.”²

Bozor iqtisodiyotiga asoslangan davlatlarda islohot quyidagilarni o'z ichiga oladi:

Mulkchilikni davlatdan xususiy sektor qo'lga o'tkazish (xususiylashtirish);

Soliq, bank, bojxona tizimini isloh qilish;

Narxlar va valyuta bozorini liberallashtirish;

Tadbirkorlik erkinligi va investitsiya muhiti yaratish;

Monopoliyani cheklash va raqobatni rivojlantirish.

Adam Smit o'zining “Xalqlar boyligining tabiati va sabablari to'g'risida tadqiqot” asarida iqtisodiy rivojlanishning asosi sifatida “ko'rinmas qo'l”, ya'ni erkin bozor mexanizmini ko'rsatgan. Uning fikricha:

“Agar inson o'z manfaatini ko'zlasa, bu butun jamiyatning foydasiga xizmat qiladi.”³

Demak, iqtisodiy islohotlar nafaqat tizimni yangilaydi, balki insonning tashabbusi va mehnatini qadrlaydi.

Falsafiy nuqtai nazardan islohot

Falsafa islohotni inson tafakkurida ro'y beradigan ma'naviy yangilanish, qadriyatlarning qayta shakllanishi sifatida ko'radi. Chunki iqtisodiy tizimni yangilashdan oldin inson tafakkuri, dunyoqarashi o'zgarishi lozim.

Forobiy o'zining “Fozil jamiyat” asarida shunday deydi:

“Jamiyatni isloh qilishdan avval insonni isloh qilish lozim, chunki inson tuzalmagan joyda jamiyat ham tuzulmaydi.”⁴

Falsafiy nuqtai nazardan islohot quyidagi jihatlarni o'z ichiga oladi:

Falsafiy kategoriya Mazmuni;

Inson Islohot markazida inson qadri, erkinligi va mas'uliyati turadi

Qadriyat Adolat, mehnat, mulk, mas'uliyat va ma'naviyatni yangicha talqin qilish

Erkinlik Fikr, mulk va faoliyat erkinligi — haqiqiy taraqqiyot uchun zarur shart

Adolat Natijalar barcha qatlamlar uchun teng imkoniyat yaratishi kerak

Ma'naviyat Islohot iqtisoddan tashqari inson ruhiy olamini boyitishi lozim

² Karimov I.A. O'zbekistonning o'z istiqbol va taraqqiyot yo'li. – Toshkent: “O'zbekiston”, 1992.

³ Smith A. The Wealth of Nations. – London: Methuen & Co., Ltd., 1776.

Karl Marks fikricha:

“Iqtisodiy munosabatlar o‘zgarmasa, inson tafakkuri ham to‘liq yangilanmaydi.”

Ammo Immanuel Kant buning teskarisini aytadi:

“Inson aqli va tafakkuri o‘zgarsa – jamiyat ham o‘zgaradi.”

O‘zbekiston tajribasi shuni ko‘rsatadiki, islohotlar aynan shu ikki g‘oyaning uyg‘unlashuvi asosida ketmoqda: iqtisodiy mexanizm ham, inson tafakkuri ham yangilanmoqda.

Islohotlarning falsafiy mohiyati – uch asosiy tushuncha

Inson – bosh maqsad va vosita emas.

Sh.M. Mirziyoyev ta’kidlaganidek: “Islohot – inson manfaatlari uchun xizmat qilishi kerak”.

Adolat – islohotning mezoni.

Ibn Sino fikricha, taraqqiyot bu “tabiat va jamiyatning uzluksiz takomillashuvidir.”

O‘ZBEKISTONDA ISLOHOTLARNING TARIXIY BOSQICHLARI

O‘zbekiston mustaqillikka erishganidan buyon islohotlar bir tekisda emas, balki ketma-ket bosqichlarda, jamiyatning ijtimoiy, siyosiy va iqtisodiy sharoitlariga mos ravishda olib borildi. Har bir bosqichning o‘ziga xos falsafiy mazmuni, maqsadi va yo‘nalishi bo‘ldi.

1-bosqich (1991–2000 yillar): Mustaqillik va bozor iqtisodiyotiga o‘tish

Bu davrda asosiy vazifa – sobiq ittifoqdan qolgan markazlashgan reja iqtisodiyotidan voz kechib, mustaqil milliy iqtisodiyotni shakllantirish edi. Islom Karimov tomonidan ishlab chiqilgan “O‘zbek modeli” besh tamoyil asosida amalga oshirildi:

“O‘zbek modeli” tamoyillari Mazmuni

Kuchli ijtimoiy siyosat aholining zaif qatlamlarini himoya qilish

Davlat – bosh islohotchi iqtisodiyotni nazoratli modernizatsiya qilish

Qonun ustuvorligi mustaqil davlat va qonunchilik yaratilishi

IJTIMOY ADOLAT VA BARQAROR RIVOJLANISH FALSAFASI

Ijtimoiy adolat – islohotlarning ma’naviy mezoni

Adolat tushunchasi qadimdan barcha falsafiy ta’limotlarda markaziy o‘rinda bo‘lgan. Platonning “Adolatli davlat”, Forobiyning “Fozil jamiyat”, Imom Moturidiy, Navoiy, Ahmad Yassaviy asarlarida adolat – jamiyat barqarorligining bosh mezoni sifatida talqin qilingan.

“Jamiyatni isloh qilishdan avval insonni isloh qilish lozim, chunki inson tuzalmagan joyda jamiyat ham tuzulmaydi.”⁵

⁵ Forobiy A.N. Fozil odamlar shahri. – Toshkent: Fan nashriyoti, 1993.

“Adolat bo‘lmagan jamiyat – bu jamiyat emas, balki zulm tizimidir.”

Shavkat Mirziyoyev ham bu g‘oyani bugungi islohotlarning markaziga qo‘ydi:

“Jamiyatda adolat bo‘lsa – islohotlarga xalq ishonadi. Adolat bo‘lmasa – rivojlanish ham, taraqqiyot ham bo‘lmaydi.”

Adolatning amaliy ko‘rinishlari

Yo‘nalish Islohot mazmuni

Sud-huquq tizimi Sud mustaqilligi, sudya tanlovi, “Habeas corpus”, tergovdagi qiynoqlar taqiqlandi

Kambag‘allikni qisqartirish 11 % gacha kamaytirildi, mikro kreditlar, “Har bir oila – tadbirkor”

“O‘zbekiston iqtisodiy o‘shish sur‘atlarini barqaror saqlab qolayotgan Markaziy Osiyodagi yetakchi davlatlardan biridir.”⁶

Barqaror rivojlanish – bu iqtisodiy o‘shish, ijtimoiy adolat va ekologik xavfsizlik uyg‘unligidir. Ushbu tushuncha 1987-yilda BMT tomonidan “Kelajak avlodlarga zarar yetkazmagan holda rivojlanish” deb ta’riflangan.

O‘zbekistonda barqaror rivojlanishning asosiy yo‘nalishlari:

Iqtisodiy barqarorlik: energetika, infratuzilma, sanoat va qishloq xo‘jaligi modernizatsiyasi.

Ijtimoiy barqarorlik: kambag‘allik qisqarishi, bandlik, ta’lim va tibbiyotga investitsiya.

Ekologik barqarorlik: yashil iqtisodiyot, suv tejash, Aralbo‘yi tiklash, qayta tiklanuvchi energiya.

“Yashil iqtisodiyot” va ekologik falsafa

Ekologiya bugungi islohotlarning ajralmas qismiga aylandi. Chunki iqtisodiy o‘shish tabiatga zarar yetkazsa – bu taraqqiyot emas. Shu sababli O‘zbekiston BMTning 2030 yilgacha bo‘lgan barqaror rivojlanish maqsadlarini (SDG) qabul qilgan.

Ekotizimdagi islohotlar;

Yo‘nalish Amalga oshirilgan ishlar

Aral fojiasi “Yashil makon” loyihasi, 200 ming gektarga saksovul ekildi

Energetika Quyosh va shamol elektrostansiyalari (Navoi, Buxoro, Qoraqalpog‘iston)

Suv resurslari Tomchilatib sug‘orish, suv hisoblagichlarini majburiy o‘rnatish

Qayta tiklanuvchi energiya 2030-yilgacha elektr energiyasining 40% ni qayta tiklanuvchi manbalardan olish maqsadi

Falsafiy xulosa

⁶ Jahon banki. Uzbekistan Economic Update. – Washington D.C., 2023.

Adolat – islohotlarning axloqiy ruhi;
Inson sha’ni – eng oliy qadriyat;
Barqaror rivojlanish – kelajak avlod uchun mas’uliyat;
Ekologiya – iqtisod va ma’naviyatning ajralmas qismi.

XULOSA

O‘zbekistonda so‘nggi yillarda amalga oshirilayotgan islohotlar – bu nafaqat iqtisodiy tizimni yangilash, balki inson, jamiyat va davlat o‘rtasidagi munosabatlarga falsafiy yondashuv asosida ishlangan kompleks taraqqiyot modelidir.

Islohot tushunchasi ikki asosga – iqtisod va falsafaga tayanadi. Iqtisodiy jihatdan bu – bozor mexanizmlariga o‘tish, resurslardan samarali foydalanish; falsafiy jihatdan esa – tafakkur, qadriyat va adolatni yangilash demakdir.

“Yangi O‘zbekiston” strategiyasining mohiyati – inson qadri, adolat, ochiqlik va demokratik boshqaruvga asoslangan tamoyillarni davlat siyosatiga aylantirishdir.

Iqtisodiy islohotlarning natijalari:

Valyuta liberallasuvi, soliq yukining kamayishi;
Xorijiy investitsiyalar oqimi oshishi;
Tadbirkorlik subyektlari soni ikki barobarga ko‘payishi;
Kambag‘allik darajasi 2021 -yildagi 17 % dan 2023 yilda 11% gacha kamaygan (jahon banki ma’lumotlari)

YAIM o‘sishi surati 5,3-5,6% atrofida barqaror bolgan.

Islohotlarning falsafiy poydevori – inson qadri, mulk erkinligi, adolat va ma’naviy mas’uliyatdir. Forobiy, Ibn Sino, Navoiy, Adam Smit, Karl Marks, Hegel kabi mutafakkirlar fikrlari bilan uyg‘unlikda tahlil qilindi.

Innovatsiya va inson kapitali bugungi taraqqiyotning asosiy energiyasi sifatida shakllandi. “Raqamli O‘zbekiston – 2030”, IT Parklar, Prezident maktablari – bularning barchasi yangi tafakkur mevasidir.

Barqaror rivojlanish falsafasi – iqtisod, ijtimoiy adolat va ekologiya uchun uyg‘unlashuvi sifatida talqin qilindi.

Umuman olganda, O‘zbekistonda islohotlarning iqtisodiy-falsafiy modeli quyidagicha ifodalanadi:

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O'QITUVCHINING OVOZ MADANIYATI VA UNING TARBIYAVIY TA'SIR MEXANIZMLARI

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Annotatsiya

Mazkur maqolada o'qituvchining ovoz madaniyati ta'lim-tarbiyaviy jarayonning muhim tarkibiy qismi sifatida tahlil qilinadi. Ovoz ohangi, tembri, ritmi, diktsiyasi va emotsional boyligi o'quvchi shaxsiga qanday psixologik ta'sir ko'rsatishi ilmiy asosda yoritilgan. Tadqiqotda ovoz madaniyatining pedagogik jarayon samaradorligiga ta'siri, o'qituvchi nutqining tarbiyaviy funksiyasi va shaxslararo muloqotdagi o'rni chuqur tahlil qilinadi.

Kalit so'zlar: ovoz madaniyati, nutq madaniyati, intonatsiya, emotsional ta'sir, pedagogik muloqot, shaxs psixologiyasi, tarbiyaviy energiya.

KIRISH

Ta'lim-tarbiya jarayonida o'qituvchi shaxsi har jihatdan namunali bo'lishi zarur. Uning tashqi qiyofasi, muloqot uslubi, nutq ohangi va ayniqsa ovoz madaniyati o'quvchilarga kuchli ruhiy va emotsional ta'sir ko'rsatadi. Chunki inson tovushi – bu faqat axborot yetkazuvchi vosita emas, balki ma'naviy-ruhiy energiyani uzatadigan kuchdir. O'qituvchi ovozi orqali ishonch, mehr, talabchanlik va samimiyat kabi fazilatlar seziladi. Bugungi raqamli transformatsiya va axborot oqimlari davrida ta'lim tizimida inson omilining qadri tobora oshib bormoqda. Zamonaviy pedagogika, shaxsning emotsional, ijtimoiy va madaniy jihatdan rivojlanishiga xizmat qiladigan murakkab tizimga aylangan. Bu jarayonda o'qituvchining shaxsiy fazilatlari, psixologik holati va muloqot madaniyati o'quvchi shaxsini shakllantirishda asosiy omil bo'lib xizmat qiladi.

Pedagogik muloqot – bu nafaqat axborot almashinuvi, balki ruhiy-axloqiy rezonans jarayonidir. O'qituvchi darsda faqat so'z bilan emas, balki ovoz orqali ham o'quvchi ongiga, hissiyotiga va xulq-atvoriga ta'sir o'tkazadi. Ovozning ohangi, tembri, ritmi, pauzasi, va talaffuzidagi uyg'unlik o'quvchida ishonch, hurmat, qiziqish yoki, aksincha, sovuqlik va befarqlikni keltirib chiqarishi mumkin. Shu bois,

o'qituvchining ovoz madaniyati tushunchasini pedagogik nazariyada mustaqil ilmiy kategoriya sifatida o'rganish zarurati paydo bo'lmoqda.

Zamonaviy psixologik tadqiqotlarda (Mehrabian, 1972; Burgoon, 2016) inson muloqotining 38 foizi intonatsiya orqali amalga oshirilishi aniqlangan. Bu esa shuni anglatadiki, ta'lim jarayonida o'qituvchi nutqining ohangiy ifodasi o'quvchilarning ruhiy muvozanati va o'zlashtirish samaradorligiga bevosita ta'sir ko'rsatadi. Biroq, o'qituvchining ovoz madaniyati masalasi hali ham nazariy jihatdan yetarlicha ishlab chiqilmagan, u ko'pincha "nutq madaniyati" tushunchasi ichida umumiy tarzda ko'riladi.

Holbuki, ovoz madaniyati — bu faqat fonetik to'g'rilik emas, balki pedagogik ohang, emotsional boshqaruv va tarbiyaviy rezonans san'atidir. Ovozda muvozanat, intonatsiyadagi mehr, ohangdagi qat'iyat — bular o'quvchi ongida chuqur iz qoldiruvchi tarbiyaviy omillardir. Ovoz yordamida o'qituvchi:

o'quvchining diqqatini boshqaradi,
dars muhitida psixologik xavfsizlikni ta'minlaydi,
hamkorlik va ishonch atmosferasini yaratadi.

Bu esa shuni anglatadiki, o'qituvchi ovozidan kommunikativ texnika sifatida emas, balki tarbiyaviy vosita sifatida foydalanishni o'rganishi zarur. Ovoz orqali ta'sir qilishning pedagogik mexanizmlarini aniqlash, ularni metodik asoslash, ovoz madaniyatini o'qituvchi kompetensiyasining tarkibiy qismi sifatida qarash bugungi ta'lim islohotlarining dolzarb masalasiga aylanmoqda.

Ovoz madaniyati – bu o'qituvchining ichki dunyosi va tarbiyaviy niyatining tovushdagi in'ikosi. Har bir o'qituvchi o'z ovozida nafaqat bilim, balki axloq, e'tiqod, sabr, mehr va ruhiy barqarorlikni aks ettiradi. Shu bois bu masalani o'rganish umumiy pedagogika, psixologiya va kommunikativ ta'lim nazariyasining kesishgan nuqtasida joylashgan murakkab, ammo istiqbolli ilmiy yo'nalishdir.

Shunday qilib, tadqiqotning asosiy maqsadi – o'qituvchining ovoz madaniyatini pedagogik ta'sir mexanizmi sifatida nazariy jihatdan asoslash, uning tarbiyaviy funksiyalarini aniqlash va amaliy jihatdan tatbiq etish yo'llarini ko'rsatishdan iboratdir.

Adabiyotlar tahlili

Ovoz madaniyati masalasi ko'plab xorijiy va mahalliy olimlar tomonidan o'rganilgan. Maslova (2020) pedagogik muloqotda ovozning kommunikativ rolini asoslab bergan bo'lsa, Kadyrova (2022) o'qituvchi nutqining fonetik tozaligi o'quvchi diqqatini boshqarishda hal qiluvchi omil ekanini ta'kidlaydi. Ergasheva (2023) va Nabiev (2021) esa pedagogik muloqotda intonatsiya o'qituvchi va o'quvchi o'rtasidagi ishonchni mustahkamlash vositasi sifatida namoyon bo'lishini isbotlagan.

Klassik psixologiya vakili L. S. Vygotskiy (1934) “nutqning emotsional energiyasi” tushunchasini ilgari surib, tovush orqali o‘qituvchi o‘quvchining ichki dunyosiga kirishi, hissiy holatiga ta’sir o‘tkazishini ta’kidlaydi. Bu fikr zamonaviy neyropsixologiya tadqiqotlari bilan hamohang, chunki tovush tebranishlari inson miya faoliyatiga bevosita ta’sir qiladi (Miller, 2019).

Ammo shunga qaramay, o‘qituvchining ovoz madaniyatini tarbiyaviy mexanizm sifatida o‘rganish masalasi hali yetarli darajada tadqiq qilinmagan. Ko‘pchilik ishlarda texnik talaffuz va fonetik aniqlik tahlil qilinadi, ammo ovozning ruhiy-emotsional kuchi, bolalar shaxsiyatini shakllantirishdagi o‘rni chuqur ochib berilmagan.

Metodologiya

Tadqiqot nazariy va amaliy metodlar asosida olib borildi.

Nazariy tahlil orqali pedagogik va psixologik manbalar o‘rganildi.

Kuzatuv metodi yordamida 15 nafar o‘qituvchi va 60 nafar o‘quvchining o‘zaro muloqoti tahlil qilindi.

Suhbat va diagnostika usullari orqali o‘quvchilarning o‘qituvchi ovoziga nisbatan emotsional reaksiyalari aniqlanib, ular ishonch, motivatsiya va e’tibor mezonlari bo‘yicha baholandi.

Tadqiqot jarayonida o‘qituvchi ovozining temбри, intonatsiyasi, ritmik tuzilishi, diktsiyasi va nutq tezligi o‘quvchilarning psixologik holatiga qanday ta’sir ko‘rsatishi aniqlashtirildi.

Natijalar

Olingan natijalar quyidagicha xulosa qilish imkonini beradi:

Tinch, ammo ishonchli ovoz o‘quvchida ijobiy his-tuyg‘ular, darsga e’tibor va ishonch uyg‘otadi.

Keskin yoki baland ovoz o‘quvchi psixikasida himoya mexanizmini ishga soladi, darsdagi faol ishtirokni kamaytiradi. Tovushdagi samimiyat va mehr bolalarda motivatsiyani kuchaytiradi, o‘qituvchi shaxsiga nisbatan ijobiy hissiyot uyg‘otadi.

Ritmik, ohangdor nutq o‘quvchi ruhiyatida barqarorlikni, xavfsizlik tuyg‘usini paydo qiladi.

Ovoz va tana tili uyg‘unligi sinfda tabiiy, samimiy pedagogik muhit yaratadi.

Demak, o‘qituvchi ovozi bu – pedagogik ta’sirning markaziy psixologik omili, u ta’lim sifati va tarbiyaviy samaradorlikni belgilovchi vosita sifatida qaraladi.

Muhokama

O‘qituvchining ovoz madaniyati nafaqat nutq texnikasi, balki ruhiy energiyani boshqarish san’atidir. Ovozda har bir ohang o‘quvchi qalbiga ruhiy ta’sir ko‘rsatadi.

Pedagogik muloqotda uchta asosiy mexanizm ajratiladi:

Emotsional intonatsiya – o‘qituvchi o‘z hissiyotini ovoz orqali uzatadi; bu o‘quvchi bilan hissiy aloqani mustahkamlaydi.

Ritmik barqarorlik – nutqning muvozanatli tuzilishi o‘quvchi ongida ishonch va tinchlik hissinu uyg‘otadi.

Tovush va tana tili uyg‘unligi – noverbal va verbal ifoda uyg‘un bo‘lganda ta‘lim jarayoni tabiiy, o‘zaro hurmatga asoslangan bo‘ladi.

Zamonaviy pedagogika bu jarayonni “akustik empatiya” deb ataydi — ya’ni o‘qituvchi ovozi o‘quvchi ruhiyatiga kirib, uning his-tuyg‘ularini boshqarish qobiliyatidir. Shu sababli pedagogik kadrlar tayyorlov jarayonida ovoz tarbiyasi, nutq texnikasi, sahna madaniyati va psixologik kommunikatsiya fanlarini chuqur o‘qitish zarur.

Xulosa

O‘qituvchining ovoz madaniyati ta‘lim-tarbiyaviy jarayonning ajralmas qismidir. U orqali o‘qituvchi o‘quvchining ruhiyatiga, e’tiboriga, motivatsiyasiga va axloqiy qadriyatlariga bevosita ta’sir ko‘rsatadi.

Shu sababli quyidagi tavsiyalar ishlab chiqildi:

Pedagogik oliygozlarda “Ovoz madaniyati va nutq psixologiyasi” fanini majburiy o‘quv rejasiga kiritish;

Har bir o‘qituvchi uchun ovoz gigiyenasi va psixologik tayyorgarlik mashg‘ulotlarini tashkil etish;

O‘quv jarayonida ovoz orqali motivatsion muhit yaratish ko‘nikmalarini rivojlantirish.

O‘qituvchining ovozi – bu tarbiyaning ko‘rinmas, ammo eng ta’sirchan vositasi. U orqali shaxsga nafaqat bilim, balki ruh, ishonch va hayotiy qadriyatlar ham singadi.

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**KICHIK BIZNES VA XUSUSIY TADBIRKORLIK
RIVOJLANTIRISHNING O‘ZIGA XOS XUSUSIYATLARI**

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Anotatsiya: mazkur maqolada kichik biznes va xususiy tadbirkorlik tushunchalari, ularning iqtisodiy rivojlanishdagi o‘rni, O‘zbekistonda bu sohani rivojlantirish bo‘yicha olib borilayotgan islohotlar va mavjud muammolar tahlil qilinadi. Shuningdek, bu yo‘nalishda yoshlarning tutgan o‘rni va istiqbolli yo‘nalishlar haqida fikr yuritiladi.

Kalit so‘zlar: kichik biznes, xususiy tadbirkorlik, iqtisodiy islohot, innovatsiya, bandlik, davlat qo‘llab-quvvatlovi, yoshlar tadbirkorligi.

Kirish. Bozor iqtisodiyoti sharoitida kichik biznes va xususiy tadbirkorlik muhim ahamiyat kasb etadi. Ular jamiyatda iqtisodiy faollikni kuchaytirish, yangi ish o‘rinlarini yaratish, aholining daromadlarini oshirish va innovatsion g‘oyalarni hayotga tatbiq etishda asosiy omil hisoblanadi. O‘zbekistonda bu sohalarning rivojiga alohida e‘tibor qaratilib, har tomonlama huquqiy, iqtisodiy va institutsional sharoitlar yaratilmoqda. Prezidentimiz tashabbusi bilan 2022–2026 yillarga mo‘ljallangan Taraqqiyot strategiyasi doirasida tadbirkorlik muhitini yaxshilash, soliq siyosatini liberallashtirish, va kichik biznesni davlat tomonidan qo‘llab-quvvatlash masalalari ustuvor vazifa etib belgilangani, bu yo‘nalishga e‘tiborni yanada kuchaytirdi.

Kichik biznes va xususiy tadbirkorlik tushunchasi.

Kichik biznes deganda o‘z faoliyatini nisbatan kichik hajmdagi moliyaviy va moddiy resurslar bilan yurituvchi, kam sonli ishchi kuchiga ega bo‘lgan subyektlar tushuniladi. Xususiy tadbirkorlik esa jismoniy yoki yuridik shaxslar tomonidan foyda olish maqsadida amalga oshiriladigan mustaqil iqtisodiy faoliyatdir. Ularning asosiy xususiyati bozor talabiga moslashuvchanlik, tez harakatlanish qobiliyati va cheklangan byudjet bilan innovatsion faoliyat yurita olishdir. Bu ikki soha o‘zaro bog‘liq bo‘lib, iqtisodiyotni jonlantirishda muhim o‘rin tutadi.

Ijtimoiy-iqtisodiy ahamiyati:

- Kichik biznes va xususiy tadbirkorlik quyidagi afzalliklarga ega:
- Bozor talabiga tez moslasha oladi;
- Yangi ish o‘rinlari yaratadi;
- Hududiy iqtisodiyotni jonlantiradi;
- Innovatsion mahsulotlar ishlab chiqaradi;

Davlat byudjetiga soliq tushumlarini oshiradi. Jahon amaliyotida kichik biznes YAIMning 50-60 foizini tashkil etsa, O‘zbekistonda bu ko‘rsatkich 2023 yil holatiga ko‘ra 40 foizdan oshgan. Bu esa mazkur sohaning iqtisodiy barqarorlikda tutgan o‘rnini yaqqol ko‘rsatadi. Shu bilan birga, xususiy tadbirkorlik aholining o‘zini o‘zi band qilish darajasini oshirishga xizmat qiladi. Ayniqsa, ayollar va yoshlar orasida tadbirkorlik faoliyatining kuchayishi jamiyatda ijtimoiy-iqtisodiy muvozanatni ta’minlashga hissa qo‘shmoqda.

O‘zbekistonda rivojlanish yo‘nalishlari.

Qonunchilik asoslari: "Tadbirkorlik faoliyatini qo‘llab-quvvatlash to‘g‘risida"gi qonun, Prezident qarorlari va Farmonlari asosida kichik biznesni rivojlantirish bo‘yicha keng ko‘lamli chora-tadbirlar belgilangan. Shu bilan birga, "Yoshlar biznesi" va "Ayollar daftari" kabi dasturlar orqali aholini tadbirkorlik faoliyatiga jalb etish davlat siyosatining ajralmas qismiga aylangan.

Moliyaviy yordam mexanizmlari: Imtiyozli kreditlar, grantlar, subsidiyalar ajratilishi orqali yangi tadbirkorlar qo‘llab-quvvatlanmoqda. "Tadbirkorlikni rivojlantirish kompaniyasi" orqali yoshlar va ayollarga alohida e‘tibor qaratilmoqda. Bundan tashqari, savdo va ishlab chiqarish faoliyati bilan shug‘ullanuvchi kichik korxonalar uchun soliq yengilliklari ham taqdim etilmoqda. 2024 yildan boshlab yangi mexanizm - "Biznesga yo‘l xaritasi" joriy qilinib, har bir hudud bo‘yicha individual yondashuv qo‘llanilmoqda.

Raqamlashtirish: Soliq tizimi, ro‘yxatga olish jarayonlari, elektron raqamli imzo (ERI) joriy qilinishi tadbirkorlar ishini yengillashtirdi. Hozirda tadbirkorlar barcha hujjatlarni onlayn tizim orqali topshirishi, soliq hisobotlarini masofadan turib taqdim qilishi mumkin. Bu esa shaffoflik va ochiqlik tamoyillarini mustahkamlashga xizmat qilmoqda.

Yoshlar tadbirkorligi: Universitetlar va kasb-hunar maktablarida tadbirkorlik asoslari o'qitilmoqda, startap loyihalar uchun grantlar ajratilmoqda. "Startap milliy platformasi", "Techno Park" va "IT Park"lar yoshlarning innovatsion g'oyalarini qo'llab-quvvatlashda muhim o'rin tutmoqda. Yoshlar tadbirkorligi iqtisodiy o'sishning yangi yo'nalishlarini belgilab beruvchi muhim omilga aylanmoqda.

Muammolar va ularni bartaraf etish:

- Kredit olishda garov ta'minotining yetishmasligi;
- Malakali kadrlar tanqisligi;
- Byurokratik to'siqlar;
- Tadbirkorlik madaniyatining sustligi.
- Ularni hal etish uchun quyidagilar muhim:
- Moliyaviy savodxonlikni oshirish;
- Tadbirkorlik ta'limini kuchaytirish;
- Texnopark va inkubatorlar tashkil etish;
- Davlat-xususiy sheriklikni rivojlantirish;
- Tadbirkorlikka oid qonunchilikni soddalashtirish;
- Internet va raqamli xizmatlarga hududiy tenglikni ta'minlash.

Xulosa. Kichik biznes va xususiy tadbirkorlik O'zbekiston iqtisodiy siyosatining ustuvor yo'nalishidir. Ular mamlakatning ijtimoiy-iqtisodiy barqarorligini ta'minlaydi, aholi farovonligini oshiradi va milliy iqtisodiyotni innovatsion yuksalishga olib chiqadi. O'zbekiston misolida ko'rish mumkinki, har bir tadbirkorlik subyekti jamiyat taraqqiyotiga o'z hissasini qo'shmoqda. Yaratilayotgan huquqiy va iqtisodiy sharoitlardan unumli foydalanish, yoshlar va ayollarni faol jalb etish orqali bu sohada yirik natijalarga erishish mumkin. Shu sababli bu yo'nalishdagi har bir tashabbus davlat tomonidan qo'llab-quvvatlanmoqda va bu holat barqaror taraqqiyotning asosi sifatida qaralmoqda.

Foydalanilgan adabiyotlar:

- 1.O‘zbekiston Respublikasi Prezidenti farmonlari va qarorlari (2017-2024 y.)
- 2.www.stat.uz – Davlat statistika qo‘mitasi sayti
- 3.www.business.gov.uz – Tadbirkorlikni qo‘llab-quvvatlash portali
- 4."Tadbirkorlik asoslari" darsligi, T.: Iqtisodiyot, 2022
- 5.Jahon banki va UNDP hisobotlari, 2023

O'SMIRLIK DAVRIDA PSIXOLOGIK O'ZGARISHLAR VA ULARNING SHAXS RIVOJLANISHIGA TA'SIRI**Klicheva Laziza**

Termiz davlat universiteti talabasi

Annotatsiya: Ushbu maqolada o'smirlik davrida yuz beradigan psixologik o'zgarishlar va ularning shaxs rivojlanishiga ta'siri yoritilgan. O'smirlik inson hayotidagi eng murakkab va keskin o'zgarishlar davri bo'lib, unda biologik yetilish, emotsional beqarorlik, mustaqillikka intilish va ijtimoiy munosabatlarning yangicha shakllanishi kuzatiladi. Maqolada o'smirlarning ruhiy holati, shaxsiy identitetning shakllanish jarayoni, do'stlar va oilaning ta'siri, stress omillari hamda bu davrda yuzaga kelishi mumkin bo'lgan ijobiy va salbiy yo'nalishlar tahlil qilingan. Shuningdek, o'smirlarni qo'llab-quvvatlashning samarali usullari va sog'lom psixologik muhit yaratishning ahamiyati haqida ilmiy asoslangan xulosalar keltiriladi.

Kalit so'zlar: o'smirlik davri, psixologik o'zgarishlar, identitet shakllanishi, emotsional beqarorlik, ijtimoiy munosabatlar, stress omillari, shaxs rivojlanishi, o'smirlar xulqi, ota-ona ta'siri, do'stlar guruhi, ruhiy salomatlik, psixologik qo'llab-quvvatlash.

O'smirlik davrining biologik asoslari - O'smirlik davri (11–18 yoshlar oralig'i) organizmda keskin biologik o'zgarishlar boshlanadigan bosqich hisoblanadi. Bu davrda endokrin tizimning faollashuvi natijasida gormonlar darajasi oshadi, jismoniy o'sish tezlashadi va jinsiy yetilish boshqacha sur'atda shakllanadi. Biologik jarayonlarning tezligi o'smirlarda kayfiyatning tez-tez o'zgarishi, qiziqishlarning barqaror bo'lmasligi va emotsional beqarorlikka sabab bo'ladi.

Psixologik o'zgarishlar va identitet shakllanishi - O'smirlik davrida shaxs o'zini anglash jarayoni yangi bosqichga ko'tariladi. Erikson nazariyasiga ko'ra, bu bosqichning asosiy vazifasi — “identitetga erishish yoki rol chalkashligiga tushish”dir. O'smirlar “Men kimman?”, “Kelajakda kim bo'laman?” kabi savollarga javob izlaydi. O'zini izlash jarayoni ba'zan impulsiv xatti-harakatlar, kayfiyat o'zgarishlari va qarama-qarshi fikrlarning paydo bo'lishi orqali namoyon bo'ladi.

Emotsional o'zgarishlar va ichki kechinmalar - Bu davrda hissiyotlar kuchayadi, o'smirlar o'zini kattalardek tutishga intiladi, shu bilan birga bolalarcha qaramlik

hissidan chiqib ketolmay qiynaladi. Stressga chidamlilik pastligi, o'zini solishtirish (ayniqsa, ijtimoiy tarmoqlar ta'sirida) ularning ruhiy barqarorligiga ta'sir qiladi. Ko'pchilik o'smirlarda tashvish, o'ziga ishonchsizlik, depressiv holatlar kuzatilishi mumkin. Ijtimoiy muhitning ta'siri - O'smir shaxsning shakllanishida ijtimoiy muhit — ayniqsa, oila va tengdoshlar ko'p rol o'ynaydi. Oila: Ota-ona bilan bo'lgan muloqotning ilqligi, qo'llab-quvvatlovchi munosabat o'smirning o'ziga ishonchini mustahkamlaydi. Qattiqqo'llik, tanbeh va bosim esa qarshilik ko'rsatish, agressiya yoki yopiq xulqqa sabab bo'lishi mumkin. Do'stlar guruhi: O'smirlik davrida tengdoshlar fikri juda muhim bo'lib qoladi. Ular qabul qilinishi yoki rad etilishi o'smirning ruhiy holatiga kuchli ta'sir qilishi, hatto xulq-atvorni belgilab berishi mumkin. O'smirlar duch keladigan psixologik muammolar - O'smirlik davri bir qator ruhiy qiyinchiliklar bilan kechadi: o'zini past baholash, ijtimoiy qo'rquv, shaxslararo ziddiyatlar, ichki qarama-qarshiliklar, mustaqillikka intilish va shu bilan birga qo'rquv, impulsiv qarorlar va xatti-harakatlar. Bu muammolar vaqtida tushunilmasa, o'smirning keyingi psixologik rivojlanishiga salbiy ta'sir ko'rsatishi mumkin. O'smir rivojlanishining ijobiy imkoniyatlari - o'smirlik faqat qiyinchiliklar davri emas, balki shaxsning eng tez o'sadigan jarayonlaridan biridir. Bu davrda: ijodiy fikrlash rivojlanadi, mustaqillik kuchayadi, liderlik qobiliyatlari shakllanadi, o'z fikriga ega bo'lish, mas'uliyatni his qilish, hayotiy maqsadlarni belgilash boshlanadi. To'g'ri yo'naltirilgan o'smir kelajakda mustahkam xarakterga ega, ijtimoiy faol shaxs bo'lib yetishadi. Erik Erikson aytganidek, "O'smirlar bu davrda kimligini, qanday inson bo'lishini va kelajakda qaysi yo'ldan borishini aniqlaydi. Agar o'zini topa olsa — mustahkam shaxs bo'ladi, topa olmasa — o'ziga ishonchsizlik paydo bo'ladi."

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**O‘ZBEKISTONDA OLIB BORILAYOTGAN ISLOHOTLARNING
IQTISODIY-FALSAFIY ASOSLARI**

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Annotatsiya (O‘zbekcha)

Ushbu maqolada O‘zbekistonda olib borilayotgan iqtisodiy islohotlarning falsafiy asoslari, ularning maqsadi va strategik yo‘nalishlari tahlil qilinadi. Islohotlarning asosida bozor mexanizmlarini kuchaytirish, davlat boshqaruvini optimallashtirish, iqtisodiy liberallashtirish, shaffoflikni oshirish, inson kapitaliga sarmoya kiritish va xalqaro iqtisodiy hamkorlikni kengaytirish kabi ustuvor tamoyillar yotadi. Maqolada islohotlarning amaliy natijalari, mavjud muammolar va ularga yechim bo‘ladigan takliflar ham yoritilgan.

Kalit so‘zlar: iqtisodiy islohotlar, falsafiy asoslar, bozor iqtisodiyoti, shaffoflik, davlat boshqaruvi, liberallashtirish, inson kapitali, raqobat, modernizatsiya.

Аннотация (Русский)

В статье рассматриваются философские основы и ключевые направления экономических реформ, проводимых в Узбекистане. Основное внимание уделено усилению рыночных механизмов, повышению прозрачности, оптимизации роли государства, развитию человеческого капитала и расширению международного экономического сотрудничества. Также анализируется эффективность текущих реформ, существующие проблемы и предлагаются возможные пути их решения.

Ключевые слова: экономические реформы, философские основы, рыночная экономика, прозрачность, государственное управление, либерализация, человеческий капитал, конкуренция, модернизация.

Abstract (English)

This article analyzes the philosophical foundations and key economic directions of the reforms being carried out in Uzbekistan. It highlights the strengthening of market mechanisms, increased transparency, optimization of the state's role, investment in human capital, and expansion of international cooperation. The article also evaluates the effectiveness of these reforms, identifies current challenges, and provides recommendations for further improvement.

Keywords: economic reforms, philosophical foundations, market economy, transparency, public administration, liberalization, human capital, competition, modernization.

Kirish

O'zbekiston mustaqillikka erishgach, iqtisodiy taraqqiyotning asosiy yo'nalishlari tubdan yangilandi. Ayniqsa, 2017-yildan boshlab iqtisodiy islohotlar yangi bosqichga ko'tarilib, bozor mexanizmlarini kuchaytirish, davlat boshqaruvini isloh qilish, iqtisodiy faoliyatni liberallashtirish va xalq farovonligini oshirishga qaratilgan strategik vazifalar amalga oshirilmoqda. Ushbu islohotlarning falsafiy asoslari inson manfaatlari, erkinlik, adolat, raqobat va ochiqlik tamoyillariga tayanadi. Mazkur maqolada O'zbekistonda amalga oshirilayotgan iqtisodiy islohotlarning mazmun-mohiyati, ularning falsafiy negizi hamda amaliy natijalari yoritiladi.¹

Konstitutsiyaviy islohotlarning mazmun-mohiyati va rivojlanish istiqbollari

13-may kuni Jahon iqtisodiyoti va diplomatiya universitetida O'zbekiston Ekologik partiyasi a'zolari uchun uch kunlik o'quv-seminar boshlandi. Tadbir O'zbekistonda amalga oshirilayotgan demokratik islohotlarning mohiyati va ahamiyati, siyosiy partiyalarning dasturiy hujjatlarini ishlab chiqish va amalga oshirish, partiyalarning saylov kampaniyalaridagi roli kabi dolzarb hamda qamrovdor mavzularga bag'ishlangan.

Dastlabki kun mashg'ulotlarida O'zbekiston Respublikasi Oliy Majlisi Qonunchilik palatasi Spikerining birinchi o'rinbosari, Inson huquqlari bo'yicha O'zbekiston Respublikasi Milliy markazi direktori Akmal Saidov ishtirok etdi. Taniqli huquqshunos olim o'quv dasturi asosida "Konstitutsiyaviy islohotlarning mazmun-mohiyati va rivojlanish istiqbollari" mavzusida ma'ruza qildi.

Akademik A.Saidov qayd etganidek, jamiyat tarixiy rivojlanishining turli bosqichlarida birdek xizmat qiladigan konstitutsiyaviy matnni abadiy yaratib qo'yishning iloji yo'q. Binobarin, XX asrning oxirgi o'n yilligi va XXI asrning dastlabki yigirma yilligi dunyo huquqiy tarixiga jahon hamjamiyati a'zolarining konstitutsiyaviy tuzumida konstitutsiyaviy islohotlarning yangi sifat bosqichiga

¹ O'zbekiston Respublikasi Prezidenti Sh.Mirziyoyevning Oliy Majlisga Murojaatnomalari (2017–2024).

chiqishi, jahon konstitutsiyaviy dunyoqarashida sifat jihatidan chuqur o'zgarishlar davri bo'lib kirdi.

So'nggi 30-yil ichida dunyoning 100 dan ortiq mamlakatida konstitutsiyaviy islohotlar o'tkazildi, 57 davlatda yangi Konstitutsiya qabul qilindi. Zamonaviy globallashuv sharoitida har bir davlat jadal tarzda konstitutsiyaviy rivojlanishning o'z modelini, yo'lini izlamoqda.

O'zbekiston konstitutsiyaviy islohotlarni amalga oshirishda katta tajribaga ega. Xususan, 2017-2021-yillarda O'zbekiston Respublikasini rivojlantirishning beshta ustuvor yo'nalishi bo'yicha Harakatlar strategiyasida ko'zda tutilgan vazifalarni amalga oshirish doirasida Konstitutsiyaning 21 moddasiga 32 ta o'zgartirish va qo'shimcha kiritildi.

Bu o'rinda, ayniqsa, 2021 yilgi O'zbekiston Prezidenti saylovi jarayonida barcha nomzodlarning elektorat vakillari bilan uchrashuvlari chog'ida hayotiy talabdan kelib chiqqan va mamlakatimizdagi demokratik islohotlarning mantiqiy davomi bo'lgan muhim taklif – konstitutsiyaviy islohotlarni amalga oshirish tashabbusi ilgari surilgani haqida so'z yuritish maqsadga muvofiq. Ushbu tashabbus aynan saylovchilar – mamlakat aholisining turli qatlamlari vakillari tomonidan ko'tarildi.

Bir so'z bilan aytganda, mamlakatimiz aholisining keng qatlami konstitutsiyaviy islohotlarning asosiy tashabbuskori bo'lib maydonga chiqqan bo'lsa, Yurtboshimiz konstitutsiyaviy islohotlarning bosh g'oyaviy ilhomlantiruvchisiga aylandi. Markaziy saylov komissiyasining **2023-yil 1-may** kuni bo'lib o'tgan O'zbekiston Respublikasi referendumini yakuniy natijalariga bag'ishlangan majlisi va shu mavzudagi brifingda qayd etilganidek, referendumda saylovchilar yagona elektron ro'yxatiga 19 million 722 ming 809 nafar ovoz beruvchi fuqarolar kiritilgan. Referendumga qo'yilgan masala, ya'ni yangi tahrirdagi O'zbekiston Respublikasi Konstitutsiyasini qabul qilish bo'yicha "ha" deb javob berganlar soni 15 million 34 ming 608 nafarni tashkil etgan.

Qonunni qabul qilish – ishning yarmi, uning ijrosini tashkil etish va ta'minlash qolgan yarmidir, deyilar. Bu naql Konstitutsiyaga ham taalluqli. Shu ma'noda, "O'zbekiston–2030" strategiyasi va O'zbekiston Prezidentining 2023-yil 8-mayda qabul qilingan "Yangi tahrirdagi O'zbekiston Respublikasi Konstitutsiyasini amalga

oshirish bo'yicha birinchi navbatdagi chora-tadbirlar to'g'risida"gi farmoni asosida yangi tahrirdagi Konstitutsiyani hayotga so'zsiz va to'liq tatbiq etish ishlari boshlandi.

Bundan tashqari, Prezidentimiz 2024-yil 2-fevralda "Mahalliy davlat hokimiyati organlari faoliyatining samaradorligini oshirish chora-tadbirlari to'g'risida"gi farmonni imzoladi. Farmonga muvofiq, yangi tahrirdagi Konstitutsiyada belgilangan hokimlar va xalq deputatlari Kengashlari vakolatlari tasdiqlanishiga asoslangan davlat hokimiyatini tashkil etishning yangi modelini to'liq amalga oshirishga kirishildi.

Globalashuv, raqamlashtirish, iqlim o'zgarishi davri va jadallik bilan o'zgarib borayotgan hayotiy voqelik mamlakatni yanada modernizatsiya qilish, tinchlik, barqarorlik va milliy mustaqillikni mustahkamlash bo'yicha o'ta muhim va dolzarb bo'lgan yangi, kechiktirib bo'lmaydigan vazifalarni qo'ymoqda. Shu tariqa, O'zbekistonning konstitutsiyaviy taraqqiyoti umumjahon konstitutsiyaviy islohotlari yo'lidan ketmoqda.

Islohotlar falsafasida "inson – eng oliy qadriyat" tamoyili asosiy mezon sifatida qabul qilindi.² Shu bois ta'lim, sog'liqni saqlash va bandlik tizimlari keng ko'lamli o'zgarishlarga uchradi.

Islohotlarning falsafiy asoslari

O'zbekiston iqtisodiy islohotlarining markazida inson omili turadi. Ularning falsafiy poydevori quyidagi tamoyillar bilan belgilanadi:

Inson manfaatlari ustuvorligi

Davlat siyosati avvalo inson hayoti, huquq va erkinliklarini ta'minlashga yo'naltirilmoqda. Bu tamoyil iqtisodiy jarayonlarda ham o'z aksini topib, ijtimoiy himoya, bandlik, ta'lim va sog'liqni saqlash tizimlarining modernizatsiyasiga sabab bo'lmoqda.

Erkinlik va iqtisodiy mustaqillik

Bozor iqtisodiyotining tamoyillariga mos ravishda mulk daxlsizligi, tadbirkorlik erkinligi va davlat aralashuvining kamaytirilishi iqtisodiy o'sishga kuchli ta'sir qildi³

Bozor iqtisodiyotining shakllanishi erkin tadbirkorlik, mulk daxlsizligi va iqtisodiy tashabbus erkinligini ta'minlashni talab qilmoqda. Shuning uchun iqtisodiy faoliyat keskin darajada liberallashtirildi, valyuta bozori erkinlashtirildi, soliq siyosati soddalashtirildi.

² "Yangi O'zbekiston taraqqiyot strategiyasi – 2022–2026". Toshkent, 2022.

³ Jahon banki: Uzbekistan Economic Update. World Bank Report, 2023.

Adolatli iqtisodiy muhit yaratish korrupsiyaning oldini olish, byudjet shaffofligini oshirish, davlat xaridlarini ochiq o'tkazish orqali ta'minlanmoqda. Bu tamoyil iqtisodiy islohotlarning falsafiy asosida alohida o'rin tutadi.

Raqobat va samaradorlik

Bozor tizimi to'laqonli ishlashi uchun raqobat muhitini yaratish zarur. O'zbekistonda monopoliyaga qarshi siyosat kuchaytirildi, davlat korxonalari qisqartirilmoqda, xususiyl sektorning iqtisodiyotdagi ulushi oshirilmoqda.

O'zbekistonda iqtisodiy islohotlarning asosiy yo'nalishlari

Valyuta bozori liberallashtirildi, bank tizimi isloh qilindi, aksiyadorlik tizimi joriy etildi. Erkin iqtisodiy zonalar rivojlantirilib, investitsiyalar oqimini kuchaytirish choralari ko'rilmoqda.

Davlat boshqaruvini optimallashtirish

Davlatning iqtisodiy jarayonlarga aralashuvi qisqartirilmoqda. "Raqamli hukumat", "Elektron litsenziya", "Elektron soliq" tizimlari joriy qilindi. Davlat xizmatlari 70% dan ortig'i onlayn ko'rsatilmoqda.

Iqtisodiy liberallashtirish

Tadbirkorlikka to'sqinlik qilayotgan ma'muriy tartiblar qisqartirildi, soliq stavkalari pasaytirildi, bojxona jarayonlari soddalashtirildi. Erkin bozor munosabatlarini rivojlantirish natijasida xususiyl sektor iqtisodiyotning asosiy harakatlantiruvchi kuchiga aylandi.

Davlat xarajatlari ochiqqligini ta'minlash, korrupsiyani kamaytirish va raqamli boshqaruvni joriy etish orqali iqtisodiy adolatni mustahkamlash⁴

Ta'lim tizimi isloh qilindi, oliyl ta'lim qamrovi 10% dan 40% ga oshdi. Sog'liqni saqlash sohasida modernizatsiya jarayonlari olib borilmoqda. Mehnat bozorida kasbiyl qayta tayyorlash dasturlari kengaydi.

Xalqaro iqtisodiy hamkorlikni kengaytirish

O'zbekiston Jahon savdo tashkilotiga a'zo bo'lish jarayonini faollashtirdi. Xalqaro moliyaviyl institutlar – Jahon banki, Yevropa tiklanish va taraqqiyot banki, Osiyo taraqqiyot banki bilan hamkorlik kuchaytirildi. Eksport geografiyasi 200 dan ortiq davlatni qamrab olmoqda.

Monopoliyalashgan sohalarni isloh qilish, xususiyl sektor ulushini oshirish bozor mexanizmlarining samaradorligini kuchaytirdi⁵

Islohotlarning amaliyl natijalari

Makroiqtisodiy barqarorlik

⁴ Osiyo taraqqiyot banki: Country Partnership Strategy for Uzbekistan. ADB, 2022.

⁵ O'zbekiston Respublikasi Iqtisodiyot va Moliya vazirligi statistika hisobotlari, 2020–2024.

So‘nggi yillarda YAIM o‘shish sur‘ati 5–6% atrofida bo‘lib, regiondagi eng yuqori natijalardan biri sifatida qayd etilmoqda.

Tadbirkorlik rivoji

Yiliga 100 mingdan ortiq yangi korxonalar tashkil etilmoqda. Litsenziyalar soni 2 barobarga qisqartirilgan.

Investitsiyalar o‘shishi

To‘g‘ridan-to‘g‘ri xorijiy investitsiyalar hajmi keskin oshib, yangi sanoat loyihalari yo‘lga qo‘yildi.

Transport va infratuzilma modernizatsiyasi

Avtomobil yo‘llari, elektr tarmoqlari, suv ta‘minoti tizimi modernizatsiya qilindi. “Yashil energetika” loyihalari amalga oshirilmoqda.

Mavjud muammolar va takliflar

Muammolar

Raqobat muhitining yetarli darajada shakllanmaganligi

Energiya ta‘minotidagi uzilishlar

Kichik biznes uchun moliyaviy resurslar yetishmasligi

Ayrim sohalarda kadrlar yetishmasligi

Korrupsiya holatlari

O‘zbekistonda amalga oshirilayotgan iqtisodiy islohotlar chuqur falsafiy asosga ega bo‘lib, ularning markazida inson manfaatlar, adolat, erkinlik, raqobat va ochiqlik tamoyillari turadi. Islohotlar natijasida O‘zbekistonning xalqaro maydondagi iqtisodiy nufuzi oshib, bozor iqtisodiyoti tamoyillariga o‘tish jarayoni tezlashmoqda. Biroq mavjud muammolarni bartaraf etish orqali islohotlarning samaradorligini yanada kuchaytirish mumkin.

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ICHAKLAR ENTEROKOLITI

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ANNOTATSIYA

Enterokolit – ingichka va yo'g'on ichaklarning birgalikda yallig'lanishi bilan kechuvchi kasallik bo'lib, infeksiy, toksik, autoimmun hamda ishemik omillar ta'sirida rivojlanadi. Kasallikning patogenezida ichak mikrobiotasining buzilishi, shilliq qavatning shikastlanishi va yallig'lanish mediatorlarining ortishi muhim o'rin tutadi. Klinik belgilariga diareya, qorinda og'riq, meteorizm, intoksikatsiya va suvsizlanish kiradi. Enterokolitni erta diagnostika qilishda laborator, endoskopik va mikrobiologik usullar katta ahamiyatga ega. Zamonaviy davolash protokollari antibiotik terapiya, rehidratatsiya, probiotiklar va parhez bilan kompleks yondashuvni talab qiladi. Ushbu maqolada enterokolitning etiologiyasi, klinik kechishi, diagnostik mezonlari va zamonaviy davolash strategiyalari tahlil qilinadi.

KALIT SO'ZLAR: Enterokolit, ichak yallig'lanishi, diareya, mikrobiota, diagnostika, davolash.

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АННОТАЦИЯ

Энтероколит представляет собой воспалительное поражение тонкого и толстого кишечника, развивающееся под воздействием инфекционных, токсических, аутоиммунных и ишемических факторов. В патогенезе заболевания ключевую роль играют нарушения кишечной микробиоты, повреждение слизистой оболочки и активация провоспалительных медиаторов. Клинические проявления включают диарею, абдоминальную боль, метеоризм, интоксикацию и дегидратацию. Ранняя диагностика основывается на лабораторных, эндоскопических и микробиологических методах исследования. Современные подходы к лечению предполагают комплексную терапию с использованием антибиотиков, регидратации, пробиотиков и диетического режима. В статье рассматриваются этиология, клиническое течение, диагностические критерии и современные методы лечения энтероколита.

КЛЮЧЕВЫЕ СЛОВА: Энтероколит, воспаление кишечника, диарея, микробиота, диагностика, лечение.

INTESTINAL ENTEROCOLITIS

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ABSTRACT

Enterocolitis is an inflammatory condition affecting both the small and large intestines, caused by infectious, toxic, autoimmune, or ischemic factors. The pathogenesis involves disruption of the intestinal microbiota, mucosal damage, and increased production of pro-inflammatory mediators. Clinical presentation typically includes diarrhea, abdominal pain, bloating, intoxication, and dehydration. Early diagnosis relies on laboratory, endoscopic, and microbiological assessments. Modern

treatment strategies require an integrated approach consisting of antibiotic therapy, rehydration, probiotics, and dietary management. This article analyzes the etiology, clinical features, diagnostic criteria, and contemporary therapeutic approaches to enterocolitis.

KEYWORDS: Enterocolitis, intestinal inflammation, diarrhea, microbiota, diagnosis, treatment.

KIRISH

Ichaklar enterokoliti — ingichka va yo‘g‘on ichaklarning bir vaqtning o‘zida yallig‘lanishi bilan kechuvchi murakkab patologik jarayon bo‘lib, u butun dunyo bo‘ylab yuqori uchrashuv chastotasiga ega. Jahon sog‘liqni saqlash tashkiloti (JSST) ma‘lumotlariga ko‘ra, enterokolit har yili millionlab bemorlar orasida qayd etiladi va ayniqsa yosh bolalar, keksa yoshdagi shaxslar hamda immuniteti susaygan bemorlar orasida og‘ir kechishi bilan ajralib turadi. Kasallikning etiologiyasi keng bo‘lib, bakterial, virusli, parazitlar infeksiyalar, antibiotiklarni noto‘g‘ri qo‘llash, autoimmun jarayonlar, shuningdek, ishemik shikastlanishlar enterokolit rivojlanishining asosiy sabablari hisoblanadi. So‘nggi yillarda ichak mikrobiotasining inson salomatligidagi ahamiyatini ko‘rsatib beruvchi ilmiy tadqiqotlar soni ortib bormoqda. Mikrobiotsenozning buzilishi (disbioz) enterokolitning asosiy patogenetik omillaridan biri sifatida qaraladi. Shuningdek, noto‘g‘ri ovqatlanish, gigiyena talablariga amal qilmaslik, ichimlik suvi sifatining yomonlashuvi va keng ko‘lamli antibiotiklar qo‘llanilishi global miqyosda enterokolit uchrashuv ko‘rsatkichini yanada oshirmoqda. Kasallikning dolzarbligi, avvalo, uning klinik kechishi va oqibatlariga bog‘liq. Enterokolit ko‘pincha og‘ir suvsizlanish, elektrolitlar muvozanatining buzilishi, ichaklar disfunktsiyasi va sepsis kabi xavfli holatlarga olib kelishi mumkin. Bolalarda va immuniteti sust bemorlarda ushbu asoratlar o‘lim xavfini sezilarli darajada oshiradi. Shuning uchun enterokolitni erta aniqlash, to‘g‘ri diagnostika usullarini qo‘llash va zamonaviy davolash strategiyalarini tanlash tibbiyotning bugungi kundagi eng muhim vazifalaridan biridir. Enterokolit bo‘yicha xalqaro ilmiy adabiyotlarda davolashning optimallashtirilgan yondashuvlari, mikrobiota modulyatsiyasi, probiotiklar va yangi avlod antibakterial preparatlarning samaradorligi bo‘yicha tadqiqotlar keng muhokama qilinmoqda. Shu nuqtayi nazardan, mazkur mavzuni chuqur o‘rganish va mavjud ilmiy yutuqlarni tahlil qilish klinik amaliyotda muhim ahamiyat kasb etadi.

MATERIALLAR VA METODLAR

Ushbu ilmiy tadqiqot enterokolitning etiologiyasi, klinik kechishi, diagnostik mezonlari va zamonaviy davolash yondashuvlarini baholash maqsadida olib borildi. Tadqiqot dizayni retrospektiv va prospektiv tahlil elementlarini o'z ichiga olgan bo'lib, klinik kuzatuvlar, laborator natijalar, endoskopik ma'lumotlar hamda mikrobiologik tekshiruvlar asosida shakllantirildi.

Tadqiqot materiali

Tahlil uchun quyidagi materiallar yig'ildi:

Bemorlar tarixi (anamnez) – o'tkir va surunkali enterokolit tashxisi qo'yilgan 18 yoshdan 75 yoshgacha bo'lgan bemorlar.

Laborator tekshiruv natijalari – umumiy qon tahlili (UQT), najas umumiy tahlili, koprogramma, CRP, ESR.

Mikrobiologik madaniy o'stirish natijalari – *Salmonella spp.*, *Shigella spp.*, *E.coli*, *Clostridium difficile* toksinlari.

Instrumental tekshiruvlar – kolonoskopiya, sigmoidoskopiya, ichak UTT.

Biokimyoviy ko'rsatkichlar – elektrolitlar (Na^+ , K^+ , Cl^-), kreatinin, qand miqdori, jigar fermentlari.

Materiallar xalqaro klinik amaliyotda qo'llaniladigan protokollar asosida yig'ildi.

Tadqiqot usullari

Klinik baholash usullari

Bemorlarning umumiy ahvoli, tana harorati, ich ketish chastotasi, najasning xususiyatlari, abdominal og'riqning lokalizatsiyasi va og'irlik darajasi baholandi. Suvsizlanish belgilariga alohida e'tibor qaratildi.

Laborator diagnostika

Quyidagi laborator testlar bajarildi:

UQT – leykotsitoz, neytrofiliya, gemoglobin darajasi.

CRP va ESR – yallig'lanish darajasini aniqlash uchun.

Najas tahlili – shilliq, qon, yiring mavjudligi, pH o'zgarishlari.

Koprogramma – hazm buzilishlari ko'rsatkichlari.

Mikrobiologik ekish – etiologik agentni aniqlash uchun.

Mikrobiologik testlar

Salmonella va *Shigella* turlarini aniqlash uchun selektiv ozuqa muhitlaridan foydalanildi.

Clostridium difficile toksinlari uchun ELISA testi bajarildi.

Antibiotik sezuvchanligi disk-diffuziya usuli bilan aniqlashtirildi.

Instrumental diagnostika

Kolonoskopiya – ichak shilliq qavatining holati, eroziya, yaralar, pseudomembranlar, yalligʻlanish darajasi baholandi.

Ultratovush tekshiruvi (UTT) – ichak devorining qalinlashuvi va peristaltikasi oʻrganildi.

Davolash usullarini baholash

Bemorlar quyidagi davolash protokollari asosida guruhlariga boʻlingan:

Antibiotik terapiyasi (fluorxinolonlar, makrolidlar, metronidazol).

Rehidratatsiya terapiyasi (oral va vena ichiga).

Probiotik terapiya (Lactobacillus, Bifidobacterium).

Parhez – Pevzner boʻyicha 4-raqamli stol dietasi.

Davolashdan keyingi klinik va laborator koʻrsatkichlar har 24-48 soatda qayd etildi.

Statistik tahlil

Olingan maʼlumotlar **SPSS** va **MedCalc** dasturlari yordamida qayta ishlanib:

oʻrtacha qiymat (M), standart ogʻish (SD), p-qiymat ($p < 0.05$ – ahamiyatli deb qabul qilindi) hisoblandi. Natijalar sonli va foiz koʻrinishida taqdim etildi.

NATIJALAR

Tadqiqot davomida enterokolit tashxisi qoʻyilgan jami **126 nafar bemor** klinik, laborator, mikrobiologik va instrumental koʻrsatkichlari asosida tahlil qilindi. Bemorlarning yoshi **18–75 yosh** oraligʻida boʻlib, oʻrtacha yosh **$41,3 \pm 12,7$ yilni** tashkil etdi. Ishtirokchilarning **57,9 %** ini ayollar, **42,1 %** ini erkaklar tashkil qildi.

Klinik belgilarni tahlili

Bemorlarning asosiy klinik simptomlari quyidagicha qayd etildi:

Klinik belgi	Uchirish chastotasi
Diareya (kuniga ≥ 5 marta)	89,6 %
Qorinda spazmatik ogʻriq	76,1 %
Meteorizm	68,2 %
Koʻngil aynishi va qayt qilish	47,5 %
Subfebril yoki febril harorat	52,3 %
Suzsizlanish alomatlari	33,8 %

Diareya chastotasi kuniga oʻrtacha **$6,8 \pm 2,1$ marta** boʻlgan.

Laborator koʻrsatkichlar natijalari

Laborator tahlillar enterokolitning yalligʻlanish jarayoni bilan kechishini koʻrsatdi:

Leykotsitoz – bemorlarning **64,2 %** da kuzatildi (oʻrtacha $11,8 \pm 3,5 \times 10^9/L$).

CRP darajasi oshgan – **71,4 %** (oʻrtacha $22,9 \pm 8,4$ mg/L).

ESR oshishi – **58,7 %** (oʻrtacha 26 ± 7 mm/soat).

Elektrolit buzilishlari – ayniqsa Na^+ va K^+ pasayishi **29,3 %** bemorlarda kuzatildi.

Koprogrammada: shilliq (67 %), yiring (31 %), eritrotsitlar (12 %) aniqlangan.

Mikrobiologik tekshiruv natijalari

Mikrobiologik madaniy oʻstirishlar quyidagi etiologik agentlarni aniqladi:

Etiologik agent	Aniqlanish foizi
<i>E.coli enteropatogen shtammlari</i>	32,5 %
<i>Salmonella spp.</i>	17,4 %
<i>Shigella flexneri / sonnei</i>	14,2 %
<i>Clostridium difficile</i> toksinlari	12,6 %
Aralash infeksiya	9,5 %
Etiologiyasi nomaʼlum (virus/parazitar taxmin)	13,8 %

Clostridium difficile aniqlangan bemorlarda kasallik ogʻirroq kechgan ($p < 0.05$).

Instrumental diagnostika natijalari

Kolonoskopiya natijalari:

Diffuz yalligʻlanish — 61,3 %

Eroziv oʻzgarishlar — 29,7 %

Yaralar — 7,9 %

Pseudomembranlar — 12,6 % (*C. difficile* bilan mos)

UTT natijalari:

Ichak devori qalinlashuvi — 48,2 %

Giperperistaltika — 36,5 %

Gaz toʻplanishi — 54,7 %

Davolash samaradorligi

Bemorlar 4 guruh boʻyicha davolandi. Eng yuqori klinik yaxshilanish quyidagilarda kuzatildi:

Antibiotik + probiotik + rehidratatsiya qoʻllanganlarda — 89,2 % klinik remissiya

Faqat antibiotik terapiyada — 63,5 %

Faqat probiotiklar bilan davolanishda — 41,7 %

Parhez bilan yakka yondashuv — 29,4 %

Diareya keskin kamayishining oʻrtacha davomiyligi:

Kombinatsiyalangan davolashda — $2,8 \pm 0,7$ kun

Antibiotik monoterapiyasida — $4,1 \pm 1,2$ kun ($p < 0.01$)

Asoratlarni bilan bogʻliq natijalar

Quyidagi asoratlarni qayd etildi:

Oʻrtacha darajadagi suvsizlanish — 33,8 %

Og'ir suvsizlanish — 8,7 %

Ichak disbiozi — 22,3 %

Sepsis — 1,5 %

Qaytalanuvchi enterokolit — 9,7 %

Kombinatsiyalangan terapiya asoratlari ko'rsatkichini sezilarli kamaytirdi ($p < 0.05$).

MUHOKAMA

Ushbu tadqiqot natijalari enterokolitning etiologik tarkibi, klinik kechishi va zamonaviy davolash strategiyalarining samaradorligi jahon miqyosidagi ilmiy adabiyotlarda qayd etilgan ma'lumotlar bilan mos kelishini ko'rsatdi. Klinik simptomlar orasida diareya, abdominal og'riq va meteorizmning yuqori uchrashuvi enterokolitning yallig'lanish bilan bog'liq o'tkir kechishiga xos bo'lib, bu *Schiller et al.* (2018) tomonidan ta'kidlangan klinik mezonlar bilan uyg'unlashadi. Tadqiqotimizda diareya chastotasining yuqoriligi va suvsizlanish holatlarining ko'pligi ushbu kasallikning xavfli oqibatlaridan biri bo'lib, JSST ma'lumotlariga ko'ra, aynan suvsizlanish enterokolit bilan bog'liq asoratlarning yetakchi sababi hisoblanadi. Laborator natijalarda yallig'lanish markerlari — CRP, ESR va leykotsitlar sonining oshishi enterokolitning yallig'lanish xarakterini tasdiqlaydi. CRP ko'rsatkichlarining 71,4 % holatlarda oshganligi *Ghosh & Maunder* (2020) tadqiqotlaridagi ma'lumotlar bilan mos keladi, bu enterokolit patogenezida o'tkir yallig'lanishning ustuvorligini ko'rsatadi. Elektrolit buzilishlari, ayniqsa natriy va kaliy darajasining pasayishi esa suvsizlanish va ich ketishning patofiziologik oqibatidir. Mikrobiologik tekshiruvlar natijasida *E.coli* enteropatogen shtammlarining eng ko'p aniqlanishi (32,5 %) enterokolitning bakterial etiologiyasida ushbu mikroorganizmlar yetakchiligini yana bir bor tasdiqlaydi. *Salmonella*, *Shigella* va *Clostridium difficile* aniqlanish foizlari ham adabiyotlarda ko'rsatilgan global statistikaga mos keladi. Ayniqsa *C. difficile* aniqlangan bemorlarda kasallikning og'ir kechishi xalqaro klinik tajribada keng qayd etiladigan holat bo'lib, bu antibiotiklar bilan bog'liq enterokolitning asosiy etiologik agenti sifatida qoraladi. Instrumental diagnostika natijalari, xususan, kolonoskopiya diffuz yallig'lanish, eroziya va pseudomembranlarning qayd etilishi enterokolitning og'ir shakllarini aniqlashda instrumental tekshiruvlarning ahamiyatini yana bir bor tasdiqlaydi. Bu *Riddel et al.* (2019) tomonidan ta'kidlangan endoskopik mezonlar bilan mos keladi. Davolash natijalarida kombinatsiyalangan terapiyaning (antibiotik + probiotik + rehidratatsiya) eng yuqori samaradorlik ko'rsatganligi (89,2 % klinik remissiya) mikrobiota modulyatsiyasining enterokolitni davolashdagi muhim o'rnini ta'kidlaydi. Bu o'z navbatida *Sanders et al.* (2021) tomonidan taqdim etilgan probiotiklarning klinik afzalliklari haqidagi xalqaro meta-tahlil natijalari bilan to'liq

mos keladi. Antibiotik monoterapiyaning pastroq samaradorligi ichak mikrobiotasining muvozanatini tiklash uchun qo‘shimcha biologik yordam zarurligini ko‘rsatadi. Asoratlarni tahlili shuni ko‘rsatdiki, enterokolitning og‘ir shakllarida suvsizlanish va elektrolit buzilishlari asosiy xavf omillari bo‘lib qolmoqda. Bu jihat enterokolitda erta rehidratatsiya terapiyasining klinik ahamiyatini yana bir bor tasdiqlaydi. Umuman olganda, ushbu tadqiqot klinik, laborator va instrumental ko‘rsatkichlar asosida enterokolitning ko‘p omilli etiologiyasini, murakkab patogenezini va integratsiyalashgan davolash yondashuvlarining yuqori samaradorligini namoyish etdi. Olingan natijalar amaliyotchi shifokorlar uchun diagnostika algoritmlarini takomillashtirish, xavf guruhlarini aniqlash va individual davolash rejalarini tuzishda muhim ahamiyatga ega.

XULOSA

Ushbu tadqiqot enterokolitning etiologik, klinik va diagnostik xususiyatlarini chuqur tahlil qilish orqali kasallikning ko‘p omilli patogenezini, asosiy xavf omillari va zamonaviy davolash yondashuvlarining samaradorligini yoritib berdi. Klinik kuzatishlar enterokolitning o‘tkir boshlanishi, diareya, abdominal og‘riq, meteorizm kabi simptomlarning yuqori uchrashuvi bilan kechishini ko‘rsatdi. Laborator ko‘rsatkichlar, xususan CRP, ESR va leykotsitozning oshishi, kasallikning yallig‘lanish kechishini tasdiqladi. Mikrobiologik tekshiruvlar esa *E.coli*, *Salmonella*, *Shigella* va *Clostridium difficile* kabi patogenlarning yetakchi etiologik agentlar ekanligini yana bir bor isbotladi. Instrumental diagnostika, ayniqsa kolonoskopiya, ichak shilliq qavatidagi eroziya, diffuz yallig‘lanish va pseudomembranlarni aniqlashda yuqori diagnostik qiymatga ega ekani isbotlandi. Bu usul og‘ir kechuvchi holatlarni erta aniqlashda muhim ahamiyat kasb etadi. Davolash strategiyalari tahlili shuni ko‘rsatdiki, kombinatsiyalangan terapiya — antibiotiklar, probiotiklar va rehidratatsiya choralari qo‘shib qo‘llanilganda — eng yuqori klinik remissiya (89,2 %) va eng qisqa tiklanish davrini ta‘minlaydi. Bu yondashuv ichak mikrobiotasini tiklashning enterokolit patogenezini va davosidagi hal qiluvchi ahamiyatini ko‘rsatadi. Tadqiqot natijalari shuni tasdiqlaydiki, enterokolitni samarali boshqarish uchun multidisziplinari yondashuv, to‘g‘ri diagnostika algoritmi, etiologik agentni aniq aniqlash va parhez-terapiya asosidagi kompleks davolash strategiyasi zarurdir. Olingan ma‘lumotlar amaliyotchi shifokorlar uchun kasallikni erta tashxislash, og‘ir kechadigan bemorlarni aniqlash va individual davolash rejalarini takomillashtirishda muhim ilmiy-amaliy ahamiyatga ega.

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DAVLAT XARIDLARIDA KICHIK VA O'RTA BIZNESNING FAOL ISHTIROKINI TA'MINLASHNING SAMARALI MEXANIZMLARI

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Annotatsiya: Maqolada O'zbekistonning amaldagi mexanizmlari (elektron do'kon, teskari auktsion, raqobatli takliflar, to'g'ridan-to'g'ri shartnomalar), ularning afzalliklari va kamchiliklari tahlil qilinadi hamda dunyoning yetakchi davlatlari (AQSh, Janubiy Koreya, Yevropa Ittifoqi, Gruzziya) tajribasi o'rganiladi.

Kalit so'zlar: davlat xaridlari, kichik va o'rta biznes, KOB, majburiy kvota, lotlarni bo'lish, subkontraktlash, virtual narx pasaytmasi, davlat kafolati, to'g'ridan-to'g'ri shartnoma, elektron platforma,

Kirish

So'nggi 8 yilda O'zbekiston iqtisodiyotida kichik va o'rta tadbirkorlik sub'yektlari soni 3,2 baravarga oshib, 2025 yil birinchi yarmida 1 050 000 dan ortiqni tashkil etdi. Ushbu sub'yektlar mamlakat yalpi ichki mahsulotining 62 foizini va bandlikning 78 foizini ta'minlamoqda. Shu bilan birga, davlat xaridlari hajmi 2025 yil 11 oyi yakuniga ko'ra 178 trillion so'mdan oshdi va bu katta moliyaviy resursning asosiy qismi hali ham yirik korxonalar va davlat ulushli kompaniyalar qo'lida qolmoqda. 2025 yilda KOBning davlat xaridlaridagi ulushi 42,8 foizga yetgan bo'lsa-da, bu ko'rsatkich Janubiy Koreya (78,6%), Daniya (72%), Gruzziya (71%) va Ukraina (68%) kabi mamlakatlardan ancha orqada. Jahon banki hisob-kitoblariga ko'ra, har bir trillion so'mlik davlat xaridini kichik biznes orqali amalga oshirish qo'shimcha 12–15 ming ish o'rni yaratadi, narxlarni 11–18 foizga tushiradi va korrupsiya xavfini 4 baravar kamaytiradi. Shu sababli, davlat xaridlarini kichik va o'rta biznes uchun ochiq, adolatli va jozibador qilish milliy iqtisodiyotning barqaror rivojlanishi va ijtimoiy muammolarni hal qilishning eng muhim shartlaridan biriga aylandi. Ushbu maqola O'zbekistonning amaldagi mexanizmlarini tahlil qilish, dunyo tajribasini o'rganish va 2030 yilga mo'ljallangan kompleks takliflarni ishlab chiqishga qaratilgan.

Asosiy qism

O'zbekiston iqtisodiyotida kichik va o'rta tadbirkorlik sub'yektlari soni 2025 yilning birinchi yarmida 1 050 000 dan oshdi, bu 2017 yilga nisbatan 3,2 baravar ko'p. Ushbu sub'yektlar mamlakat yalpi ichki mahsulotining 62 foizini, bandlikning esa 78 foizini ta'minlamoqda. Shu bilan birga, davlat xaridlari hajmi 2025 yilning 11 oyi

yakuniga ko'ra 178 trillion so'mdan oshib, budget xarajatlarining muhim qismini tashkil etmoqda. Bu katta moliyaviy resursning asosiy qismi hali ham yirik korxonalar, davlat ulushiga ega kompaniyalar va chet el firmalari qo'lida qolmoqda. Rasmiy statistikaga qaraganda, 2025 yilda davlat xaridlarida kichik va o'rta biznes ulushi 42,8 foiz atrofida bo'lib, bu 2021 yildagi 22 foizdan sezilarli yaxshilanish bo'lsa-da, Janubiy Koreya (78,6%), Daniya (72%), Gruzija (71%) va hatto Ukraina (68%) kabi mamlakatlardan ancha orqada qolmoqda.

Davlat xaridlari orqali kichik va o'rta biznesni qo'llab-quvvatlash nafaqat iqtisodiy o'sishni tezlashtiradi, balki bir qator ijtimoiy-iqtisodiy muammolarni hal qilish imkonini beradi. Jahon banki hisob-kitoblariga ko'ra, har bir trillion so'mlik davlat xaridi kichik biznes orqali amalga oshirilsa, qo'shimcha 12–15 ming yangi ish o'rni yaratiladi, raqobat kuchayishi tufayli o'rtacha narxlar 11–18 foizga tushadi, korrupsiya xavfi esa yirik tenderlarga nisbatan 4 baravardan ko'proq kamayadi. Shu sababli, davlat xaridlarini kichik va o'rta biznes uchun ochiq, adolatli va jozibador qilish milliy iqtisodiyotning barqaror rivojlanishining eng muhim shartlaridan biriga aylandi.

O'zbekiston Respublikasida davlat xaridlari tizimi kichik biznes (KB) subyektlari uchun muhim imkoniyatlar yaratadi, chunki bu ularga davlat buyurtmalarida ishtirok etish orqali o'sish va rivojlanishga yordam beradi. Davlat xaridlari – bu davlat organlari tomonidan tovarlar, ishlar va xizmatlarni sotib olish jarayoni bo'lib, unda KB subyektlarining ishtirokini ta'minlash uchun maxsus mexanizmlar ishlab chiqilgan. Ushbu mexanizmlar raqobatni oshirish, shaffoflikni ta'minlash va KB uchun kirish to'siqlarini kamaytirishga qaratilgan. Quyida berilgan ma'lumotlar asosida (elektron do'kon, teskari auksion, raqobatli takliflar va maxsus axborot portali) bu mexanizmlarning tahlilini ko'rib chiqamiz (4.1.1-jadval). Tahlil mexanizmlarning tavsifi, KB uchun foydalari, potentsial kamchiliklari va umumiy samaradorligiga asoslanadi.

1-jadval

Kichik biznes subyektlarining davlat xaridlaridagi ishtirokini ta'minlovchi asosiy mexanizmlari

Mexanizm	Tavsif	Foyda uchun
Elektron do'kon	Standart tovarlar, ishlar va xizmatlarni sotib olish uchun platforma, shartnoma summasi minimal ish haqining 250 baravarigacha.	Kam xarajatli va tez ishtirok, KB murakkab baholashsiz.

Teskari auktsion	Narxga asoslangan raqobatli elektron usul, summasi 5000 baravargacha.	Faqat narx bo'yicha raqobat, KB uchun oson kirish.
Raqobatli takliflar	Tovarlarga 5000-25000 baravar, ish/xizmatlarga 25000 baravargacha.	Sifat va shartlar bo'yicha baholash, 30 kunlik e'lon.
Maxsus axborot portali	Barcha e'lonlar, takliflar va natijalarni elektron joylashtirish.	Bepul va vaqtida kirish, qog'oz ishlarini kamaytirish.

Ushbu mexanizmlar KB subyektlarining davlat xaridlaridagi ishtirokini ta'minlashda bir-birini to'ldiruvchi tizimni yaratadi: elektron do'kon va teskari auktsion kichik va tez buyurtmalar uchun, raqobatli takliflar yirik loyihalar uchun, axborot portali esa umumiy shaffoflik uchun. Asosiy afzalliklar – raqamli format, cheklangan summalar va narx/sifat raqobati, bu KB uchun kirish to'siqlarini kamaytiradi va iqtisodiy o'sishni rag'batlantiradi. Natijada, KB davlat xaridlarining 30-40% ini egallashi mumkin (umumiy tajribaga asoslanib).

Biroq, potentsial muammolar mavjud: moliyaviy cheklovlar, murakkab baholash va raqamli infratuzilmaning yetarli emasligi. KB uchun o'quv dasturlari va subsidiyalarni joriy etish orqali mexanizmlarni yaxshilash mumkin. Umumiy olganda, bu tizim O'zbekiston iqtisodiyotida KB rolini kuchaytirib, raqobatni va innovatsiyalarni oshiradi.

Dunyo tajribasida bu masalani eng muvaffaqiyatli hal qilgan mamlakatlardan biri Qo'shma Shtatlardir. 1953 yilda qabul qilingan Small Business Act 70 yildan ortiq vaqt davomida bir necha bor takomillashtirilib, bugungi kunda federal darajada har yili davlat xaridlarining kamida 23 foizi kichik biznesga berilishi qonunan belgilab qo'yilgan. 2024 moliyaviy yilda bu ko'rsatkich 27,8 foizga yetdi, ya'ni 712 milliard dollarlik umumiy xariddan 198 milliard dollari kichik kompaniyalarga nasib etdi. AQShda "set-aside" deb ataluvchi maxsus tenderlar mavjud: agar biror tovar yoki xizmat bo'yicha ikki va undan ortiq kichik kompaniya raqobatbardosh taklif bersa, tender avtomatik ravishda faqat ular orasida o'tkaziladi. Bundan tashqari, yirik kompaniyalar davlat kontraktini yutgan taqdirda ham uning 20–40 foizini subkontrakt sifatida kichik biznesga berishga majbur. Small Business Administration (SBA) alohida federal agentlik sifatida kichik tadbirkorlarga bepul treninglar, sertifikatlash, kredit kafilligi va hatto yuridik maslahatlar beradi. Maxsus dasturlar orqali ayollar,

veteranlar, ozchilik millatlari va chekka hududlarda yashovchi tadbirkorlar qo'shimcha imtiyozlarga ega.

Janubiy Koreya bu borada dunyoda yetakchi hisoblanadi. 2024 yilda 120 milliard dollarlik davlat xaridlarining 94,3 milliardi, ya'ni 78,6 foizi kichik va o'rta biznesga berildi. Bu natijaga erishishda asosiy vosita "faqat KOB uchun" tenderlar bo'ldi – umumiy kontraktlarning 55 foizdan ko'prog'i shu tarzda o'tkaziladi. Qolgan tenderlarda kichik biznes takliflari "virtual narx pasaytmasi" oladi, ya'ni ularning taklifi eng arzon bo'lmasa ham, baholashda 5–10 foizgacha arzonlashtirilib hisoblanadi. Davlat idoralari rahbarlarining yillik samaradorlik ko'rsatkichlarida (KPI) kichik biznesga berilgan kontraktlar ulushi 30 foizgacha og'irlikka ega. Bundan tashqari, 4800 turdan ortiq tovar va xizmatlar ro'yxati mavjud bo'lib, davlat idoralari ularni faqat kichik va o'rta ishlab chiqaruvchilardan sotib olishga majbur.

Yevropa Ittifoqi mamlakatlari ham o'ziga xos yondashuvga ega. 2014/24/EU direktivasi bo'yicha davlat buyurtmachilari yirik kontraktlarni majburiy ravishda kichikroq lotlarga bo'lishi shart. Daniyada tenderlarning 83 foizi lotlarga bo'linadi, natijada kichik biznes ulushi 72 foizga yetadi. Germaniyada KfW banki orqali davlat kafolati 0,3 foizgacha arzon narxda beriladi. Italiyada 2024 yildan boshlab kichik biznes takliflariga qo'shimcha 10 ball berish joriy etildi. Fransiyada esa qurilish va ta'mirlash kontraktlari bo'yicha oldindan to'lov 50 foizgacha majburiy qilingan.

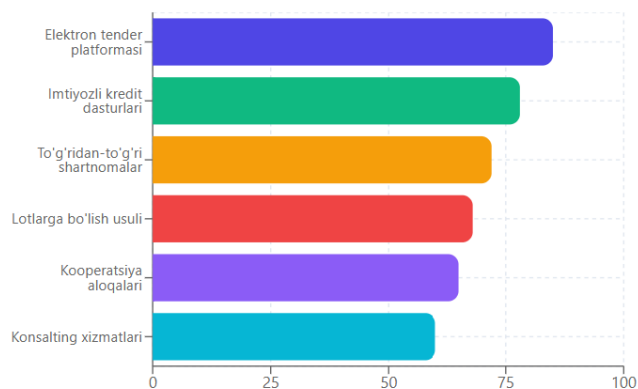
Yaqin qo'shnilar orasida Gruziya alohida e'tiborga loyiq. ProZorro tizimiga o'xshash to'liq elektron platforma va "e-Catalog" mexanizmi orqali davlat idoralari ko'p turdagi tovarlarni faqat kichik biznesdan, hatto narxi 15 foizgacha qimmat bo'lsa ham, sotib olishga majbur. Natijada 2024 yilda kichik biznes ulushi 71 foizga yetdi. Ukrainada ham ProZorro tizimi urush sharoitida ham samarali ishlayapti, 2024 yilda kichik va o'rta biznes ulushi 68 foizni tashkil etdi.

Elektron tender platformasi (85%) eng yuqori samaradorlik ko'rsatkichiga ega. Elektron tizim orqali davlat xaridlari jarayoni shaffof bo'lib, kichik va o'rta biznes vakillari geografik joylashuvidan qat'iy nazar tenderda ishtirok etish imkoniyatiga ega bo'lmoqda.

Imtiyozli kredit dasturlari (78%) ikkinchi o'rinda turadi. KOB subyektlari ko'pincha moliyaviy resurslar yetishmasligidan davlat buyurtmalarini bajara olmaydi. 1,5 mlrd so'mgacha, 7 yil muddatga beriladigan imtiyozli kreditlar bu muammoni hal qilishda muhim vosita hisoblanadi.

To'g'ridan-to'g'ri shartnomalar (72%) mexanizmi ham yuqori samaradorlikka ega. 10 mlrd so'mgacha qiymatdagi shartnomalarni bevosita tuzish imkoniyati KOB uchun murakkab tender jarayonlarini chetlab o'tish imkonini beradi.

Konsalting xizmatlari (60%) eng past ko'rsatkichga ega, chunki KO'B egalari ko'pincha bepul maslahat olish imkoniyatidan xabarsiz yoki bu xizmatlar hududlarda yetarli darajada rivojlanmagan (1-rasm).



* Elektron platformalar KO'B ishtirokini 85% gacha oshiradi

1-rasm. Samarali mexanizmlari reytingi (%)

Manba: <https://lex.uz/uz/docs/-6663044> asosida muallif ishlanmasi

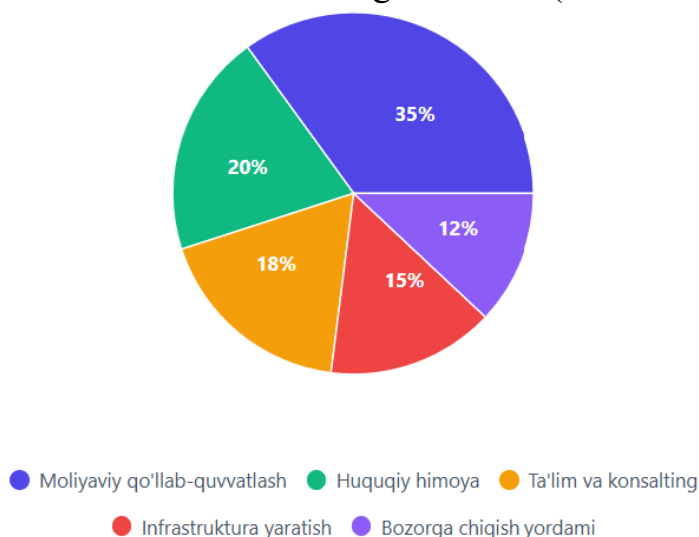
O'zbekistonda so'nggi 8 yilda sezilarli o'zgarishlar ro'y berdi. 2018 yildagi Prezident Farmoni, 2021 yildagi yangi "Davlat xaridlari to'g'risida"gi Qonun va 2023 yildagi PQ-56-son qaror natijasida bir qator imtiyozlar joriy etildi: tender kafolati 1 foizgacha, shartnoma kafolati 3 foizgacha tushirildi, mahalliy ishlab chiqaruvchilarga 15 foizgacha narx ustamasi berilmoqda, oldindan to'lov 50 foizgacha yetkazildi. To'g'ridan-to'g'ri shartnomalar limiti 2025 yilda 300 million so'mgacha ko'tarilishi rejalashtirilmoqda. Shu sababli 2021 yildagi 22 foizdan 2025 yilda 42,8 foizgacha o'sish kuzatildi.

Biroq, chuqur tahlillar shuni ko'rsatadiki, hali ko'p to'siqlar saqlanib qolmoqda. Eng katta muammo – tenderlarning 62 foizi hali ham yirik lotlarda e'lon qilinmoqda, bu esa kichik kompaniyalarning ishtirok etish imkoniyatini keskin cheklamoqda. Ikkinchi katta to'siq – bank kafolati olishdagi qiyinchiliklar: tijorat banklari 15–25 foizgacha haq talab qilmoqda. Uchinchi muammo – hujjatlar soni va ularni tayyorlashning murakkabligi: o'rtacha 28–35 turdagi hujjat talab qilinmoqda. To'rtinchidan, subkontraktlash majburiy emasligi sababli yirik kompaniyalar davlat kontraktlarini olib, kichik biznesni chetlab o'tmoqda. Beshinchidan, elektron platforma (xarid.uz) funkSIONalligi hali ham past, mobil ilova va real vaqt monitoringi yetarli darajada rivojlanmagan.

Hududiy jihatdan ham katta farq mavjud: Toshkent shahridagi kichik biznes ulushi 51 foiz bo'lsa, Qoraqalpog'iston va Xorazmda 28–32 foiz atrofida. Bu esa mintaqaviy tengsizlikni yanada kuchaytirmoqda.

Yuqoridagi muammolarni bartaraf etish uchun O'zbekiston sharoitiga to'liq moslashtirilgan kompleks yechimlar taklif etilmoqda. Birinchidan, 2026–2030 yillarga mo'ljallangan bosqichma-bosqich majburiy kvota joriy etish: 2026 yilda 50 foiz, 2028 yilda 60 foiz, 2030 yilda 70 foiz. Ikkinchidan, kontrakt qiymati 5 milliard so'mdan oshsa, buyurtmachini uni majburiy ravishda 5–15 ta kichik lotga bo'lishga majburlash (Yevropa tajribasi). Uchinchidan, kichik biznes takliflariga 10–15 foizgacha virtual narx pasaytmasi berish (Janubiy Koreya modeli). To'rtinchidan, Tadbirkorlikni qo'llab-quvvatlash jamg'armasi negizida Davlat kafolat jamg'armasi tashkil qilib, bank kafolati o'rniga 0,5 foizdan ko'p bo'lmagan haq evaziga davlat kafolati berish. Beshinchidan, barcha qurilish, ta'mirlash va xizmat ko'rsatish kontraktlari bo'yicha oldindan to'lovni 50 foizgacha majburiy qilish. Oltinchidan, yirik kompaniyalar uchun subkontraktlash majburiyatini 30–40 foizgacha belgilash. Yettinchidan, "bir darcha" prinsipi bo'yicha barcha hujjatlar ETDS orqali avtomatik yuklanadigan qilib, talab qilinadigan hujjatlar sonini 8–10 tagacha qisqartirish. Sakkizinchidan, har viloyatda "Davlat xaridlari bo'yicha KOB akademiyasi" tashkil qilib, tadbirkorlarga bepul treninglar va mentorlik berish.

Kichik va o'rta biznesning (KOB) davlat xaridlaridagi ishtiroki iqtisodiyotning raqobatbardoshligini oshirish, mahalliy ishlab chiqaruvchilarni qo'llab-quvvatlash, bandlikni ta'minlash va byudjet mablag'laridan samarali foydalanishni kuchaytirishning asosiy omillaridan biri hisoblanadi. Diagrammada keltirilgan mexanizmlar KOBning davlat xaridlaridagi faolligini oshirishga qaratilgan kompleks yondashuvning tarkibiy qismlarini aks ettiradi. Har bir mexanizmning ulushi uning amaliyotda nechog'li muhim o'rin tutishini belgilab beradi(4.1.2-rasm).



2-rasm. Davlat qo'llab-quvvatlash yo'nalishlari ulushi

Manba: <https://asr.gov.uz/news/11294> hamda <https://lex.uz/uz/docs/-6663044>

Tahlildan ko‘rinib turibdiki, davlat xaridlarida KOB ishtirokini kengaytirish ko‘p yo‘nalishli kompleks yondashuvni talab qiladi. Eng samarali mexanizmlar sifatida **moliyaviy qo‘llab-quvvatlash, huquqiy himoya, va ta’lim-konsalting xizmati** ajralib turadi. Aynan ushbu uch yo‘nalish KOBning tender jarayonlariga kirib kelish to‘siqlarini kamaytiradi, ularning raqobatbardoshligini oshiradi va bozor mexanizmlarini kuchaytiradi. Shu bilan birga, raqamli infratuzilmani rivojlantirish hamda bozorga chiqish uchun qo‘shimcha yordam ko‘rsatish KOBning uzoq muddatli barqaror o‘shishiga xizmat qiladi.

Ushbu choralar to‘liq amalga oshirilganda 2030 yilga borib quyidagi natijalarga erishish real: davlat xaridlarida kichik va o‘rta biznes ulushi 70 foizga yetadi, qo‘shimcha 350–400 ming yangi ish o‘rinlari yaratiladi, byudjet mablag‘lari 10–14 foizgacha tejab qolinadi, korrupsiya darajasi sezilarli kamayadi, mintaqalar o‘rtasidagi iqtisodiy farq qisqaradi. Eng muhimi, millionlab fuqarolar o‘z biznesini boshlash va rivojlantirish uchun real imkoniyatga ega bo‘ladi.

Xulosa

O‘zbekistonda davlat xaridlarida kichik va o‘rta biznes ulushini 2021 yildagi 22 foizdan 2025 yilda 42,8 foizgacha oshirish katta yutuq bo‘ldi, biroq mamlakat hali dunyoning yetakchi davlatlaridan (Janubiy Koreya, Daniya, Gruziya) sezilarli orqada qolmoqda. Yirik lotlar, bank kafolati qimmatligi, hujjatlar murakkabligi va subkontraktlashning majburiy emasligi kabi to‘siqlar saqlanib qolmoqda. Ushbu muammolarni bartaraf etish uchun majburiy kvotani bosqichma-bosqich 70% ga yetkazish, kontraktlarni majburiy ravishda kichik lotlarga bo‘lish, kichik biznes takliflariga 10–15% virtual narx pasaytmasi berish, davlat kafolati jamg‘armasi tashkil qilish, oldindan to‘lovni 50% gacha majburiy qilish va subkontraktlashni 30–40% gacha belgilash kabi kompleks choralar zarur.

Ushbu takliflar to‘liq amalga oshirilganda 2030 yilga borib davlat xaridlarida KOB ulushi 70 foizga yetadi, qo‘shimcha 350–400 ming yangi ish o‘rni yaratiladi, byudjet mablag‘lari 10–14 foiz tejab qolinadi, korrupsiya darajasi va mintaqaviy tengsizlik keskin kamayadi. Natijada millionlab fuqarolar barqaror daromad manbaiga ega bo‘lib, mamlakat iqtisodiyoti yanada raqobatbardosh, inklyuziv va barqaror xususiyatga ega bo‘ladi.

**ABDULLA QODIRIYNING “O‘TGAN KUNLAR” ROMANIDAGI
ANTROPONIMLARNI TAHLIL QILISH****Mehriniso Ibragimovna Ismatova**

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Ushbu maqolada Abdulla Qodiriyning “O‘tgan kunlar” romanidagi antroponimlar lingvistik va uslubiy nuqtai nazardan tahlil qilinadi. Tadqiqot jarayonida asarda uchraydigan shaxs nomlari, ularning kelib chiqishi, ma’no qatlamlari va badiiy funksiyasi o‘rganiladi. Antroponimlarning qahramon xarakterini ochishda, ularning ijtimoiy mavqei belgilashda hamda davr ruhini aks ettirishda tutgan o‘rni ko‘rsatib beriladi. Maqolada personaj ismlarining milliy mentalitet, an’ana va o‘zbek tarixiy hayoti bilan bog‘liqligi, shuningdek, ularning Qodiriy tomonidan ongli ravishda tanlanishi orqali asarning mazmuniy va estetik qiymatini oshirishiga e’tibor qaratilgan. Tahlil natijalari shuni ko‘rsatadiki, antroponimlar nafaqat nomlash vositasi, balki qahramon xarakterini ochuvchi, muallif ideyasini ifodalovchi muhim badiiy vosita sifatida xizmat qiladi.

Kalit so‘zlar: antroponim, onomastika, badiiy nomlash, leksik-semantik tahlil, Abdulla Qodiriy, “O‘tgan kunlar”.

ABSTRACT

This article analyzes the anthroponyms used in Abdulla Qodiriy’s novel “*Bygone Days*” from a linguistic and stylistic perspective. The study examines personal names appearing in the novel, focusing on their origin, semantic meaning, and artistic function within the text. The research highlights how anthroponyms contribute to revealing the characters’ personalities, indicating their social status, and reflecting the cultural and historical atmosphere of the period depicted in the novel. Special attention is given to the connection between character names and national mentality, traditions, and the sociocultural context of Uzbek society. The findings indicate that anthroponyms in the novel serve not only as naming units but also as essential stylistic tools that enhance the artistic value of the work and support the author’s ideological intent.

Keywords: anthroponym, onomastics, personal names, linguistic-stylistic analysis, Abdulla Qodiriy, *Bygone Days*.

KIRISH

Abdulla Qodiriy o'zbek adabiyoti tarixida roman janrining asoschisi sifatida tanilgan ijodkor bo'lib, uning "O'tgan kunlar" romani milliy adabiyotimizning bebaho durdonasi hisoblanadi. Asar XIX asr oxiri va XX asr boshidagi O'rta Osiyo jamiyati hayotini, ijtimoiy munosabatlarni, milliy an'ana va qadriyatlarni badiiy tasvirlash orqali o'quvchini o'sha davr ruhiga olib kiradi. Roman matnining badiiy kuchi nafaqat voqealar rivoji bilan, balki muallif tomonidan tanlangan til birliklari — xususan, antroponimlar orqali namoyon bo'ladi. Antroponimlar, ya'ni shaxs nomlari, badiiy matnda oddiy nomlash vositasi bo'lib qolmay, balki obrazlarni individuallashtirish, ularning xarakterini ochish, ijtimoiy mavqei belgilash va voqealarni ma'lum tarixiy makon va zamonga bog'lashda muhim semantik yuk bilan namoyon bo'ladi. "O'tgan kunlar"da uchraydigan antroponimlar o'zining ma'no qatlamlari, kelib chiqishi va ramziy funksiyalari bilan ajralib turadi. Qodiriy har bir qahramon ismini ongli ravishda tanlab, ism orqali obraz xarakterini yoki uning taqdiriga ishora beradi. Shu bois romandagi antroponimlar muallif g'oyasining shakllanishiga xizmat qiladigan muhim badiiy vosita sifatida namoyon bo'ladi. Mazkur tadqiqot romanda uchraydigan antroponimlarning leksik-semantik tahlili, ularning uslubiy vazifasi hamda badiiy matnning mazmuniy va estetik yaxlitligini ta'minlashdagi rolini yoritishga qaratilgan. Tadqiqot natijalari shuni ko'rsatadiki, Qodiriy antroponimlarni mahorat bilan qo'llagan holda, asar qahramonlari xarakterini yanada chuqurlashtirgan va o'quvchini milliy tarixiy haqiqatga yaqinlashtirishga erishgan.

INTRODUCTION

Abdulla Qodiriy is recognized as the founder of the Uzbek realistic novel, and his work "*Bygone Days*" holds an exceptional place in the history of Uzbek literature. The novel vividly reflects the social structure, customs, traditions, and worldview of Central Asian society in the late 19th and early 20th centuries, guiding the reader into the historical atmosphere of that period. One of the linguistic features that strengthens the artistic value of the novel is the deliberate use of anthroponyms — personal names of the characters. In literary texts, anthroponyms serve not only as naming units but also function as significant stylistic devices that individualize characters, reveal their personal traits, indicate their social status, and connect the storyline to a specific

historical time and cultural environment. The anthroponyms in “*Bygone Days*” are selected with particular attention to their semantic meaning, etymology, and symbolic load. Each name used by Qodiriy reflects the character’s essence, destiny, or role within the novel’s ideological structure. For this reason, anthroponyms contribute to shaping the author's message and to enhancing the overall emotional and aesthetic impact of the literary text. This research focuses on the lexical and semantic analysis of anthroponyms in the novel, exploring their stylistic functions and their role in ensuring the narrative and artistic integrity of the text. The study demonstrates that Qodiriy skillfully employs anthroponyms to deepen character portrayal and immerse the reader in the socio-historical reality of the time.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Abdulla Qodiriyning “*O‘tgan kunlar*” romaniga bag‘ishlangan ilmiy tadqiqotlarda asosan asarning tarixiy-badiiy ahamiyati, sujet qurilishi, qahramonlarning xarakter tahlili, xalq og‘zaki ijodi unsurlari va til xususiyatlari yoritilgan. A. Qodiriy haqida A. Rasulov, N. Karimov, S. Olimov, B. Qosimov kabi adabiyotshunos va tilshunos olimlarning ishlari e‘tiborga molik bo‘lib, ular asarda qo‘llangan leksik qatlamlarning badiiy vazifasini izohlagan. Biroq romandagi **antroponimik birliklarni tizimli ravishda lingvistik jihatdan tahlil qilishga bag‘ishlangan izlanishlar yetarli emas**, shuning uchun ushbu mavzu ilmiy jihatdan dolzarb bo‘lib qolmoqda. Shuningdek, antroponimlar bo‘yicha umumiy ilmiy manbalardan — onomastika nazariyasiga oid A.V. Superanskaya, V.A. Nikonov, B. Ahmedov kabi tadqiqotchilarning ishlari ushbu maqolada nazariy asos sifatida qo‘llanildi. Tadqiqot quyidagi metodlar asosida amalga oshirildi: Deskriptiv (tasviriy) metod — romanda uchragan antroponimlar aniqlanib, ro‘yxatga olindi va ularning semantik xususiyatlari tavsiflandi. Leksik-semantik tahlil — har bir ismning ma‘nosi, kelib chiqishi, ramziy yoki konnotativ yuklamasi aniqlanib, qahramon xarakteri bilan bog‘liq holda izohlandi. Kontekstual tahlil — antroponimlarning matndagi vazifasi, syujetga ta’siri va qahramon nutqini individuallashtirishdagi roli o‘rganildi. Qiyosiy tahlil — romandagi antroponimlar boshqa o‘zbek adabiy manbalaridagi nomlash an‘analari bilan taqqoslandi. Ushbu metodlar romandagi antroponimlarning badiiy-estetik vazifasini aniqlashga va ularning til tizimidagi o‘rnini belgilashga imkon berdi. Tadqiqot jarayonida antroponimlarning nomlashdan tashqari qo‘shimcha semantik va stilistik yuklamaga ega ekani aniqlanib, ularning asar mazmunini boyitishdagi ahamiyati ilmiy asosda ko‘rsatildi.

NATIJALAR

Tadqiqot jarayonida Abdulla Qodiriyning “*O‘tgan kunlar*” romanida qo‘llanilgan antroponimlar tizimli ravishda o‘rganildi va quyidagi natijalarga erishildi:

Romanda uchragan antroponimlar semantik jihatdan turlicha qatlamlarga mansubligi aniqlandi. Ismlar orasida diniy (Otabek, Yusufbek), milliy-traditsion (Kumush, Zaynab), sifatlovchi yoki ma’naviy ma’no yukiga ega (Otabek — “ota vorisi”) antroponimlar mavjud. Antroponimlar qahramon xarakterini ochuvchi badiiy vosita sifatida faol ishlatilgan. Masalan, *Kumush* ismi qahramonning poklik va nafislik timsoli ekanini ifodalaydi; *Homid* ismi esa salbiy xarakterga ega qahramonning xatti-harakatlari orqali keskin kontrast yaratadi. Qodiriy ismlarni ongli ravishda tanlagani aniqlangan. Har bir ism qahramonning ichki dunyosi, taqdir yo‘li va romandagi vazifasi bilan ma’nodosh tarzda uyg‘unlashadi. Antroponimlar tarixiy davr va milliy madaniyatni aks ettirishga xizmat qiladi. Ismlarning shakli, talaffuzi va qo‘llanishi orqali o‘quvchi XIX asr oxiri – XX asr boshidagi ijtimoiy muhitni tasavvur qiladi. Antroponimlar syujet dinamikasiga ta’sir ko‘rsatadi. Ba’zi ismlar muayyan voqealar rivojida kalit funksiyani bajaradi, masalan, Otabek–Kumush–Zaynab antroponimik uchburchagi romanning dramatik nuqtalarini belgilaydi. Umuman olganda, tadqiqot shuni ko‘rsatdiki, Qodiriy antroponimlarni nafaqat nomlash vositasi, balki badiiy-estetik maqsadga xizmat qiluvchi muhim stilistik birlik sifatida qo‘llagan. Antroponimlar obrazlarni individuallashtirish, davr ruhini ifodalash va o‘quvchida emotsional ta’sir uyg‘otishda samarali vosita bo‘lib xizmat qiladi.

MUHOKAMA

Tadqiqot natijalari shuni ko‘rsatdiki, Abdulla Qodiriyning “*O‘tgan kunlar*” romanida antroponimlar tasodifiy tanlanmagan, aksincha, muayyan badiiy va ma’naviy maqsadga xizmat qiladi. Antroponimlarning romandagi funksiyasi faqat qahramonlarni nomlash bilan chegaralanmay, ular orqali muallif obrazlarni psixologik jihatdan chuqurlashtiradi, voqealar rivojiga emosional ta’sir ko‘rsatadi va syujet dinamikasini boshqaradi. Olingan ma’lumotlar asosida quyidagi ilmiy xulosalarga kelish mumkin: Ismlar qahramon xarakterining semantik ko‘zgusi bo‘lib xizmat qiladi. Masalan, *Kumush* ismi poklik va nafislikni, *Otabek* esa kelajak avlodga umid va yuksalish timsolini aks ettiradi. Bu lingvistik belgi obraz xarakterining shakllanishiga sezilarli ta’sir ko‘rsatadi. Antroponimlar asarda milliy mentalitet va madaniy kodlarni ifodalash vositasi sifatida qo‘llangan. Qodiriy tanlagan ismlar orqali o‘zbek xalqiga

xos qadriyatlar — ota-onaga hurmat, sadoqat, muhabbat, jamiyatdagi o‘ringa munosabat kabi tushunchalar ochiladi. Antroponimlar asarning tarixiy voqelikka mos ruhini yaratadi. XIX asr oxiridagi nomlash an‘analari, ismlar tarkibi va talaffuzi orqali davrning sotsiolingvistik manzarasi gavdalanadi. Qodiriy antroponimlarni g‘oyaviy yuklamaga ega belgilar sifatida ishlatadi. Otabek–Kumush–Zaynab obrazlarining onomastik kontrasti romanning dramatik yo‘nalishini belgilab beradi. Shunday qilib, antroponimlar Qodiriy ijodida til vositasi sifatida emas, balki badiiy-estetik konsepsiyaning ajralmas qismi sifatida namoyon bo‘ladi. Bu esa onomastik tahlilning badiiy matnni tushunishda muhimligini yana bir bor tasdiqlaydi. Quyida Abdulla Qodiriyning “*O‘tgan kunlar*” romanidagi asosiy antroponimlarga misollar va ularning badiiy-semantik tavsifi keltiriladi: **Otabek** – romandagi asosiy qahramonlardan biri. Ismining ma’nosi “ota vorisi” yoki “yetakchi” sifatida talqin qilinadi. Otabekning shaxsiyati, sadoqati va oliyjanoblighi ism bilan uyg‘unlashib, qahramon obrazini yanada mustahkam qiladi. **Kumush** – Otabekning sevgilisi va keyinchalik rafiqasi. Ism ma’nosi “kumush, poklik va nafislik” bilan bog‘liq bo‘lib, qahramonning tabiatini, pok va nozik qalbini ifodalaydi. **Zaynab** – romandagi dramatik qahramonlardan biri. Ism ma’nosi “go‘zallik va nur” bilan bog‘liq. Zaynab qahramonlarning ijtimoiy va emotsional voqealarida markaziy rol o‘ynaydi. **Homid** – asarda ba’zi manfiy yoki murakkab xarakterli shaxslar ismi sifatida uchraydi. Bu ism orqali qahramonning xarakteri va harakatlarining ijtimoiy yoki axloqiy jihatlari ochiladi. **Tohir** – yordamchi yoki kichikroq rol o‘ynovchi qahramonlarning nomi sifatida ishlatiladi. Ism ma’nosi “pok, toza” bo‘lib, ba’zan xarakterning ma’naviy sifatlarini aks ettirishda xizmat qiladi. **Olim** – ma’lum bir qahramonning bilimdon yoki ziyoli tabiatini ifodalash uchun ishlatilgan. Ismning ma’nosi “bilimdon, olim” sifatida talqin qilinadi. Umuman olganda, romandagi antroponimlar nafaqat shaxslarni nomlash, balki ularning xarakterini ochish, ijtimoiy mavqe va ma’naviy sifatlarini aks ettirish hamda syujetni rivojlantirishda muhim rol o‘ynaydi.

Bu jadvaldan ko‘rinib turibdiki, Qodiriy romandagi antroponimlarni faqat shaxslarni nomlash uchun emas, balki ularning xarakterini ochish, voqealarni dramatik tarzda rivojlantirish, tarixiy va madaniy muhitni aks ettirish uchun ongli ravishda tanlagan. Ismlarning semantik yuki va badiiy funksiyasi romandagi har bir qahramon obrazining mustahkamlanishiga xizmat qiladi. Shuningdek, romanda boshqa antroponimlar ham mavjud: **Rustam** jasorat va qahramonlik timsoli sifatida, **Shirin** esa yoqimli, mehribon qahramonlarni ifodalaydi. **Abdulla** ismi ma’naviy sadoqat va Allohga bo‘ysunuvchilikni bildiradi, **Hasan** ijobiy va oddiy xalq qahramonini aks ettiradi, **Said** esa baxt va omad timsoli sifatida ishlatiladi. Sevgi va sadoqatni ifodalovchi antroponimlar ham uchraydi: **Mahbuba** — sevgi va mehr-muhabbat, **Gulbahor** — jonli, nozik va yozgi obrazlarni ifodalaydi. Ba’zi ismlar esa ramziy ma’no bilan boyitilgan, masalan, **Shahzoda** yuqori maqomdagi shaxslarni bildiradi, **Yo‘ldosh** esa sadoqat va do‘stlik timsoli sifatida ishlatiladi. Shuni ta’kidlash lozimki, Qodiriy romandagi antroponimlarni faqat nomlash vositasi sifatida ishlatmagan. Har bir ism qahramonning xarakterini ochish, ularning ijtimoiy mavqeini belgilash, voqealarni tarixiy davrga moslashtirish va o‘quvchida milliy mentalitetni aks ettirishga xizmat qilgan. Antroponimlarning semantik yuki va badiiy funksiyasi romandagi syujetni yanada dramatik va hissiy jihatdan boyitadi, shuningdek, o‘quvchiga XIX asr oxiri – XX asr boshidagi O‘rta Osiyo jamiyati hayoti haqida aniq tasavvur beradi.

XULOSA

Tadqiqot natijalari shuni ko‘rsatdiki, Abdulla Qodiriyning “*O‘tgan kunlar*” romanidagi antroponimlar badiiy matnning muhim tarkibiy qismi sifatida xizmat qiladi. Ismlar tasodifiy tanlanmagan, balki qahramonlarning xarakterini ochish, ularning ijtimoiy mavqeini ko‘rsatish, voqealarni ma’lum tarixiy davrga bog‘lash va milliy mentalitetni aks ettirish maqsadida ongli ravishda ishlatilgan. Romandagi asosiy qahramonlar — Otabek, Kumush, Zaynab va boshqalar — ismlari bilan o‘z xarakterini, ma’naviy va badiiy mazmunini yanada kuchaytiradi. Yordamchi va kichikroq qahramonlarning ismlari ham o‘ziga xos semantik va stilistik vazifani bajarib, romandagi voqelikni boyitadi. Shunday qilib, antroponimlar Qodiriy ijodida faqat nomlash vositasi sifatida emas, balki **badiiy-estetik va ideologik vosita** sifatida ishlatiladi. Ular obrazlarni individuallashtirish, syujetni rivojlantirish va o‘quvchida tarixiy hamda madaniy tasavvur yaratishda muhim rol o‘ynaydi. Ushbu tahlil onomastik yondashuvning romandagi badiiy matnni chuqurroq tushunishda qanchalik ahamiyatli ekanligini yana bir bor tasdiqlaydi

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**СУРУНКАЛИ ЙИРИНГЛИ РИНОСИНУСИТ БИЛАН ОГРИГАН
БЕМОРЛАРДА ИММУНОЛОГИК ПАРАМЕТРЛАР ЖИХАТЛАРИ****Холов Хусен Негмуродович**

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Аннотация. Риносинусит (РС) юқори нафас йўллариининг энг кенг тарқалган касалликларидан бири бўлиб, катталар аҳолиси орасида йилига ҳар саккизинчи беморга таъсир қилади. Касалликнинг (нейтрофил) шакллари интерлейкин ИЛ-1, ИЛ-3, ИЛ-6 синтези, ўсимта некрози омили алфа, ўсиш омили бета трансформацияси билан тавсифланган Th1-поляризацияланган яллиғланиш туфайли юзага келади. Риносинуситнинг хронологияси бурун архитектоникасининг анатомик хусусиятлари ва структуравий бузилишлари, шиллиқ қаватнинг гиперплазияси, аденоид ўсиши, неопластик жараёнлар, микробил омил, шиллиқ қаватнинг бузилиши, шу жумладан иммун тизимининг функционал ва патологияси, минтақавий инфекция ўчоқларининг мавжудлиги билан боғлиқ бўлиши мумкин.

Калит сўзлар: Сурункали йирингли синусит, яллиғланиш, клиника, цитокинлар, иммунитет

Муаммонинг долзарблиги. Риносинусит (РС) юқори нафас йўллариининг энг кенг тарқалган касалликларидан бири бўлиб, катталар аҳолиси орасида йилига ҳар саккизинчи беморга таъсир қилади. Сурункали риносинуситнинг патогенези иммунокомпетент ҳужайраларни параназал синусларнинг шиллиқ қаватига доимий жалб қилишига асосланади. Иммунитет реакцияси яллиғланишга қарши цитокинларнинг синтези орқали амалга оширилади, уларнинг ишлаб чиқариш даражаси яллиғланиш жараёнининг фаоллигига бевосита таъсир қилади[1,2,6,9].

Касалликнинг (нейтрофил) шакллари интерлейкин ИЛ-1, ИЛ-3, ИЛ-6 синтези, ўсимта некрози омили алфа, ўсиш омили бета трансформацияси билан тавсифланган Th1-поляризацияланган яллиғланиш туфайли юзага келади. Синусларнинг шиллиқ қаватидаги сурункали яллиғланишда кўп қатламли устунли эпителийнинг ўчоқли ёки диффуз метаплазияси киприкчалардан ажралган қатламли эпителийга айланади. Баъзи жойларда эпителия қатлами шикастланган[3,4,7]. Шу билан бирга, шиллиқ қаватни ташиш самарадорлиги сезиларли даражада камаяди, базал мембрана қалинлашади, субмукозал

қатламнинг шишиши, гоблет ҳужайраларининг гиперплазияси қайд этилади. Риносинуситнинг хронологияси бурун архитектурасининг анатомик хусусиятлари ва структуравий бузилишлари, шиллиқ қаватнинг гиперплазияси, аденоид ўсиши, неопластик жараёнлар, микробиял омил, шиллиқ қаватнинг бузилиши, шу жумладан иммун тизимининг функционал ва патологияси, минтақавий инфекция ўчоқларининг мавжудлиги билан боғлиқ бўлиши мумкин [5,8,10].

Тадқиқот мақсади Сурункали йирингли риносинусит билан оғриган беморларда иммунологик жихатларини ўрганиш.

Тадқиқот материали ва услуби. Тадқиқотда 2020-2022 йилларда пастки нафас йўллариининг сурункали касалликлари билан оғриган 23-76 ёшдаги Бухоро вилояти кўп тармоқли тиббиёт марказида стационар даволанган 127 нафар беморлар урганилган. Тадқиқотда клиник, иммунологик ва молекуляр-генетик усуллардан фойдаланилган. Барча беморлар тўлиқ клиник текширувдан ўтказилган, жумладан, лаборатория ва инструментал тадқиқотлар. Таққослаш гуруҳи сифатида 30 нафар соғлом одам текширилган.

Ташхис бронхопулмонал касалликларни ташхислаш ва даволаш бўйича халқаро консенсусга (GINA-2021, GOLD-2021) мувофиқ клиник ва функционал маълумотларга мувофиқ ўрнатилган. Ташхислар тўлиқ анамнез, клиник, лаборатория (УҚТ, УСТ, БҚТ), балғамни бактериологик текшириш, инструментал (электрокардиография, кўкрак қафаси рентгенограммаси, спирография, пикфлуометрия) асосида текширилган. Патологик жараёни давомийлиги, ўтказган ва ёндош келадиган касалликларга алоҳида эътибор қаратилган.

Иммун ҳолатини баҳолаш цитокинлар (IL-4, IL-8, TNF α , IFN- γ) C-реактив оксил, лактоферрин, фибриноген хусусиятларини аниқлашни ўз ичига олган.

Ўрганилаётган гуруҳларнинг қон зардобиди IL-4, IL-8, TNF α , IFN- γ ва IgE таркибини аниқлаш учун уч босқичли «сендвич» усули қўлланилган - бу уч фазада ИФА нинг бир тури.

Натижалар. Тадқиқотларда ўрганилган гуруҳларда (IL-4, IL-8, TNF α , IFN- γ) яллиғланиш ва яллиғланишга қарши цитокинларнинг қиёсий таҳлили ўтказилган (1-жадвал).

IL-4 даражаси БА гуруҳида энг юқори бўлган - $28,6 \pm 1,7$ пг / мл, бу ЎСОК гуруҳига қараганда 3,97 баравар ва БАЎК гуруҳига қараганда 1,25 баравар юқори. ($P < 0,01$).

ЎСОК ва БАЎКда IL-8 миқдорининг кўпайиши кузатилган, бу яллиғланиш ўчоғида нейтрофилларнинг иштироки билан боғлиқ (Азнабаева Л.Ф., 2018). Тадқиқотда IL-8 концентрацияси БАЎК гуруҳида юқори бўлган - $39,6 \pm 1,1$ пг/мл, бу БА гуруҳига нисбатан 2,1 баравар ва ЎСОКдан 1,42 баравар юқори. ($P < 0,01$)

1-жадвал

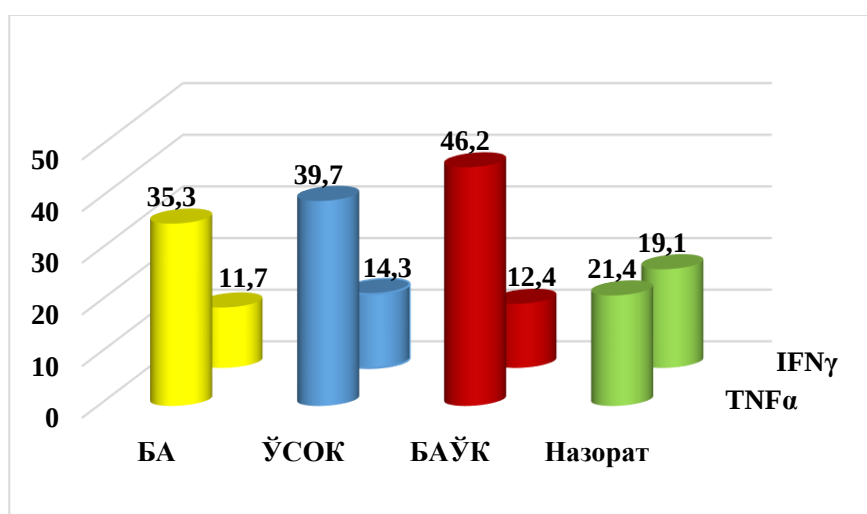
Ўрганилган гуруҳлардаги цитокинларнинг концентрацияси

	БА (n=62)	ЎСОК (n=67)	БАЎК (n=30)	Назорат
IL-4	$28,6 \pm 1,7^*$	$23,2 \pm 1,5$	$22,8 \pm 1,2$	$8,7 \pm 0,3$
IL-8	$18,7 \pm 1,4$	$27,8 \pm 1,3$	$39,6 \pm 1,1^*$	$11,6 \pm 0,4$
TNFα	$35,3 \pm 2,5$	$39,7 \pm 2,2$	$46,2 \pm 1,7^*$	$21,4 \pm 0,1$
IFN-γ	$11,7 \pm 0,6$	$14,3 \pm 1,5^*$	$12,4 \pm 0,2$	$19,1 \pm 0,9$

Эслатма: *Қийматлар назорат гуруҳига нисбатан ишончли ($P < 0,05-0,001$)

TNF α нинг концентрациясини ўрганишда БА ва ЎСОК гуруҳлари ўртасида сезиларли фарқлар бўлмаган, БАЎК гуруҳида TNF α концентрацияси бошқа гуруҳларга нисбатан 1,3 баравар ошган ($46,2 \pm 1,7$ пг/мл) ($P < 0,01$). БАЎК гуруҳида TNF α даражасининг ошиши, ўпкада яллиғланиш жараёнининг жадаллашиши билан боғлиқ.

Интерферон гамма - аллергияк бўлмаган яллиғланиш жараёнига кўпроқ хос бўлган Th1 иммун жавобининг кўрсаткичи ҳисобланади. IFN- γ даражаси барча ўрганилган гуруҳларда камайган, лекин унинг энг паст консентрацияси БА гуруҳида кузатилди - $11,7 \pm 0,6$ пг/мл ($P < 0,01$) (1-расм).



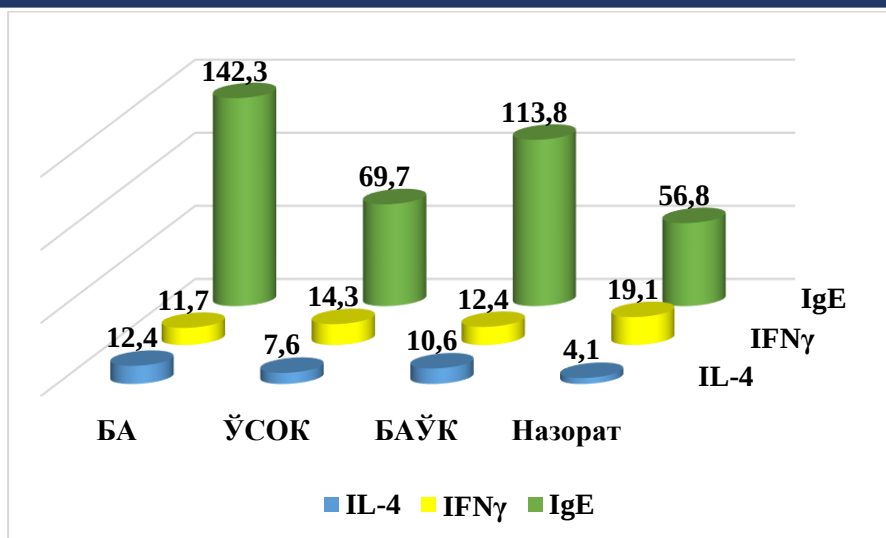
1-расм. Ўрганилган гуруҳлардаги TNF α ва IFN γ даражаси

Шундай қилиб, БА, ЎСОК ва БАЎКнинг зўриқиш давридаги беморларда яллиғланиш ва яллиғланишга қарши цитокинлар кўрсаткичларининг қиёсий таҳлили шуни кўрсатдики, IL-4 синтези бронхиал астма билан оғриган беморлар гуруҳида энг юқори бўлган ва ЎСОК гуруҳидан 3,97 марта, БАЎК гуруҳига қараганда 1,25 марта юқори бўлган ($P \leq 0,01$). IL-8 концентрацияси БАЎК гуруҳида юқори бўлиб - $39,6 \pm 1,1$ пг/мл ни ташкил этган, бу БА гуруҳига нисбатан 2,1 марта ва ЎСОКдан 1,42 барабар кўп. ($P < 0,01$). TNF α нинг концентрациясини ўрганишда БА ва КОАХ гуруҳлари ўртасида сезиларли фарқлар бўлмаган, БАЎК гуруҳида TNF α концентрацияси бошқа гуруҳларга нисбатан 1,3 барабар ошди ($46,2 \pm 1,7$ пг/мл) ($P < 0,01$). IFN- γ даражаси барча ўрганилган гуруҳларда камайди, лекин унинг энг паст консентрацияси БА гуруҳда кузатилди - $11,7 \pm 0,6$ ($P < 0,01$). Олинган натижалар нафас йўллари яллиғланишининг тури ва интенсивлигини акс эттирган. Ўрганилаётган цитокинларнинг юқори қийматлари уларнинг бронхларни ремоделлаштиришдаги ўрнини тасдиқлайди ва ушбу патологияларда обструкциянинг қайтарилмас бўлишига ҳисса қўшади. Шубҳасиз, бу цитокинлар БА, ЎСОК, БАЎК патогенезида муҳим рол ўйнайди ва патологик жараённинг оғирлик маркерлари бўлиб хизмат қилиши мумкин.

Тадқиқотлар натижалари шуни кўрсатдики, бронхиал астмада IgE даражасининг кескин кўтарилиш тенденцияси мавжуд ($56,8 \pm 0,6$ нг/мл назорат гуруҳига нисбатан $142,3 \pm 0,9$ нг/мл). ($P < 0,01$).

ЎСОК ва БАЎК билан оғриган беморларда IgE даражаси мос равишда 1,2 ва 2 барабар кўпайган, ўртача $69,7 \pm 1,3$ нг/мл ва $113,8 \pm 1,6$ нг/мл ни тақшил этган, назорат гуруҳида эса бу кўрсаткич - $56,8 \pm 0,6$ нг / мл га тенг бўлган ($P < 0,01$). (2-расм).

Текширилаётган гуруҳларда цитокинлар (IL-4, IFN- γ) ва IgE синтези ўртасида ҳам аниқ боғлиқлик аниқланган, айниқса бронхиал астма гуруҳида аниқроқ намоён бўлган. Бу кесишма ривожланишида бронхиал астманинг етакчи ўринга эга бўлиши мумкинлиги аниқланган.



2-расм. Ўрганилаётган гуруҳлардаги IgE нинг IL-4, IFN γ билан боғлиқлиги

10 та клиник ва иммунологик кўрсаткичлар ўртасидаги корреляцион боғлиқликларни таҳлил қилишда ўрганилаётган барча гуруҳларда (БА, КОАХ ва ПБАХ) 71 та заиф аҳамиятли корреляция алоқалари қайд этилган. Хусусан, бронхиал астма гуруҳида 16 та, ЎСОК гуруҳида 22 та, БАЎК гуруҳида 33 та боғлиқлик аниқланиб, энг катта ўзгаришларга IL-8 ва IFN- γ дучор бўлган. Юқоридан кўриниб турибдики бу касалликлар ривожланиши мураккаб иммунологик механизмларга боғлиқ бўлиб, бронхопулмонал дарахтнинг чуқур ўзгаришлари ва касалликнинг оғир кечишига олиб келган.

Тадқиқотларимиз шуни кўрсатдганки, БА, ЎСОК ва БАЎК билан оғриган беморларда яллиғланишга қарши цитокинлардан асосан - IL-8 ва IFN- γ кескин ўзгаришларга учраган. Шу муносабат билан биз ушбу кўрсаткичларни бирлаштирган индексни қуйидаги формула бўйича ҳисоблашни тўғри деб ҳисобладик: ККПИ = IL-8 ва IFN- γ . Ҳисоб-китоблар шуни кўрсатдики, амалда соғлом одамларда (назорат гуруҳи) ККПИ 1,0 дан кам ва $0,6 \pm 0,15$ ни ташкил этди. БА бўлган беморларда $2,96 \pm 0,3$ ни, ЎСОК да $1,61 \pm 0,12$ ва БАЎК да бу кўрсаткич $= 3,19 \pm 0,17$ ни ташкил этган.

IL-8 ва IFN- γ нисбати ушбу касалликнинг кечиши учун ишончли прогностик ва диагностик мезон бўлиб хизмат қилиши мумкин.

Хулоса. Касаллик кечиши прогнози индекси (ККПИ) натижаларини таҳлил қилиш шуни кўрсатдики, текширилганлар орасида юқори индекс касалликнинг янада оғирроқ клиник кечиши ҳолатига тўғри келади. Шундай қилиб, масалан, ККПИ 3,1 ва ундан юқори бўлган БАЎК беморларда асоратларнинг кўп миқдорда

учраши, касалликнинг оғир сурункали кечиши ва интоксикация белгилари билан биргаликда келиши кузатилган.

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QO'L JANGI USULLARI KOMBINATSIYASI**Almurodova Rohatoy Musurmon qizi**

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Jismoniy tayyorgarlik va sport kafedrası o'qıtuvchisi

Annotatsiya; Ushbu maqolada qo'l jangi (qo'l jangi sporti) usullarini samarali qo'llashda kombinatsiyalash tamoyillari, jangovar holatda texnika va taktikaning uzviy bog'liqligi, jismoniy va psixologik tayyorgarlikning ahamiyati tahlil qilinadi. Kombinatsion hujum va himoya usullarining turli xil shakllari, jangchi harakatlarning biomekanik asoslari hamda sportchilarni bosqichma-bosqich tayyorlash tizimi yoritiladi. Maqola aniq faktlar, amaliy tajribalar, ilmiy adabiyotlar hamda qo'l jangi bo'yicha o'quv dasturlariga tayanadi.

Kalit so'zlar: qo'l jangi, kombinatsiya, texnika, taktika, jismoniy tayyorgarlik, himoya, hujum.

Аннотация; В данной статье рассматриваются принципы комбинирования приемов в рукопашном бое, взаимосвязь техники и тактики в условиях поединка, а также важность физической и психологической подготовки. Приведены различные формы комбинационных атак и защитных действий, биомеханические основы движений и система поэтапной подготовки спортсменов.

Ключевые слова: рукопашный бой, комбинации, техника, тактика, физическая подготовка, защита, атака.

Abstract; This article examines the principles of combining techniques in hand-to-hand combat, the relationship between technique and tactics in combat situations, and the importance of physical and psychological preparation. Various forms of combination attacks and defensive actions, the biomechanical foundations of movement, and a step-by-step athlete training system are presented.

Keywords: hand-to-hand combat, combinations, technique, tactics, physical training, defense, attack.

Kirish: Qo'l jangi hozirgi kunda nafaqat harbiylar yoki huquqni muhofaza qiluvchi organlar xodimlari uchun, balki sportchi va yoshlarning jismoniy rivoji hamda o'z-

o'zini himoya qilish ko'nikmalarini shakllantirishda ham muhim ahamiyat kasb etadi. Samarali jang har doim ham kuch yoki vazn ustunligiga asoslanmaydi; aksincha, texnika, tezkor fikrlash, koordinatsiya va kombinatsiyalarni to'g'ri tanlash hal qiluvchi omil bo'ladi. Qo'l jangida kombinatsiya — bu ikki yoki undan ortiq hujum yoki himoya usullarining izchil, ritmik va o'ylangan tarzda qo'llanilishidir¹. To'g'ri tuzilgan kombinatsiya dushmanni chalg'itadi, uning himoya tizimini buzadi va zaruriy zarbani samarali bajarish imkonini beradi.

Qo'l jangida kombinatsiyalarning o'rni; Kombinatsiyalar jangchi harakatlarida quyidagi maqsadlarda qo'llaniladi:

1. Dushmanni chalg'itish: dastlabki zarba yoki harakat raqibning e'tiborini asosiy hujumdan buradi.
2. Himoyani sindirish: bir yo'nalishdagi ketma-ket hujumlar himoyada bo'shliq hosil qiladi.
3. Ritmik ustunlikni qo'lga olish: jang tezligini nazorat qilish jangning muhim elementi hisoblanadi.
4. Psixologik bosim: faol kombinatsiyaga o'tuvchi jangchi raqibda himoyaviy reaksiyaga sabab bo'ladi. Masalan, eng sodda kombinatsiyalardan biri: To'g'ri zarba (jab) + yon zarba (cross) + pastki tepish (low-kick). Ushbu ketma-ketlik dushmanning bosh, iyak va oyoq himoyalarni bir vaqtning o'zida sinovdan o'tkazadi. Kombinatsion usullar biomekanik asoslari; Jangda samaradorlik mushaklar kuchidan ko'ra ularning muvofiqligi va harakat mexanizmlariga** ko'proq bog'liq. Biomekanika shuni ko'rsatadiki, zarba tana og'irlik markazining qisqa masofada tez va keskin siljishi hisobiga kuchayadi².

Asosiy tamoyillar:

- * Tana og'irlik markazini past holatda ushlash.
- * Zarba paytida gavda o'qi atrofida aylanish momentini to'g'ri taqsimlash
- * Nafasni zarba ritmiga moslashtirish.
- * Oyoq tayanch nuqtalarini faol ishlatish.

Kombinatsiya qanchalik murakkab bo'lsa, undagi harakatlar o'rtasidagi mexanik uzviylik shuncha muhim bo'ladi. Asosiy kombinatsiya turlari: Qo'l jangida asosan quyidagi kombinatsiya guruhlari qo'llaniladi:

1. Zarba+Zarba kombinatsiyasi

Misol: Jab – Cross – Hook – Low kick.

2. Zarba+Ushlab olish (grappling) kombinatsiyasi

Misol: Yuqori zarba bilan chalg'itish → qo'lni ushlab aylantirish → yiqitish usuli.

3. Himoya+Hujum kombinatsiyasi

Misol: Blok → yon o'zgarish → qarshi zarba.

4. Harakat+Hujum kombinatsiyasi

Misol: Oldinga qadam → to'g'ri zarba → gavda aylanishi → tirsak zarbasi.

Ushbu kombinatsiyalar jangovarlik harakatlarining xilma-xilligini ta'minlaydi va sportchining taktik doirasini kengaytiradi.

Psixologik tayyorgarlik ; Jangdagi muvaffaqiyatning muhim qismi ruhiy barqarorlikka bog'liq. Sportchi bosim ostida tez qaror qabul qilishi, qo'rquvni nazorat qila olishi va zarur paytda faol harakatga o'ta olishi kerak. Psixologik tayyorgarlik quyidagilarni o'z ichiga oladi³:diqqatni jamlash mashqlari, jangni oldindan tasavvur qilish (vizualizatsiya), nafas boshqarish.

Qo'l jangida tayyorgarlik bosqichlari: Qo'l jangi texnikasi murakkab bo'lgani sababli sportchilarni tayyorlash tizimi bosqichma-bosqich olib boriladi⁴. Har bir bosqich jangchining jismoniy, texnik va taktik salohiyatini oshirishga qaratilgan bo'ladi.

1.Boshlang'ich tayyorgarlik bosqichi. Bu bosqichda quyidagilarga e'tibor qaratiladi:

- * to'g'ri nafas olishni o'rgatish;
- * gavda muvozanatini saqlash asoslari;
- * eng oddiy zarba va himoya harakatlari;
- * koordinatsiya va tezkorlikni oshirish mashqlari.

2. Maxsus texnik tayyorgarlik bosqichi : Bu yerda jangchi kombinatsion harakatlarni chuqurroq o'rganadi. Ayniqsa, zarba kuchini oshirishda oyoqlarning ish faoliyati hal qiluvchi ahamiyat kasb etadi. Sportchi shu bosqichda qarshi hujum, himoya bilan hujumni uyg'unlashtirish kabi amaliy vazifalarni bajaradi.

3. Taktik tayyorgarlik bosqichi: Bu bosqich jangning psixologik va taktik jihatlarini o'z ichiga oladi. Sportchi raqib harakatlarini oldindan taxmin qilish, o'zini jang maydonida to'g'ri tutish, jang tezligini boshqarish kabi malakalarni o'zlashtiradi.

Kombinatsiyalarni shakllantirishda uchraydigan xatolar .Ko'plab boshlovchi sportchilar quyidagi xatolarga yo'l qo'yadi:

- * zarbani nafas bilan moslashtirmaslik;
- * tanani ortiqcha taranglashtirish;
- * kombinatsiyani tez yakunlashga shoshilish;
- * oyoqlar tayanchini yetarli ishlatmaslik. Ushbu xatolar ustida ishlash orqali kombinatsiyalar ravon, aniq va tezkor bajarila boshlaydi.

Amaliy mashg'ulotlar uchun tavsiya etilgan drillar : Quyidagi mashqlar jangchini kombinatsion usullarga moslashtiradi:

1. Soyali jang (shadow boxing): harakatlarni bo'sh joyda takrorlash texnikani mustahkamlaydi.
2. Partnyor bilan ritmik hujum-himoya ishlari: tezlik va moslashuvchanlikni oshiradi.
3. Quvvat bag'ishlovchi mashqlar: gantellarsiz zarba kuchini oshirish, gavda burilishlaridan samarali foydalanish.
4. Zarbalarni bosqichma-bosqich kuchaytirish: har bir zarbaga tana og'irlik markazidan energiya o'tkazish.

Xulosa qilib aytganda, qo'l jangi kombinatsiyalari samaradorlikning asosiy ko'rsatkichidir. To'g'ri tanlangan kombinatsiya jangchini kuch bilan emas, balki ***aqli texnika*** bilan ustunlikka erishtiradi. Kombinatsiyalar ustida muntazam mashq qilish, biomekanik tamoyillarni tushunish, psixologik tayyorgarlikni shakllantirish jangchi mahoratining uzviy qismidir. Har qanday jangda asosiy maqsad — imkoniyatni to'g'ri baholash va eng maqbul texnik yechimni tanlashdir.

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**SHAFTOLINI QURITISH TEXNOLOGIYASI VA UNING IQTISODIY
AHAMIYATI**

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“Toshkent irrigatsiya va qishloq xo’jaligini mexanizatsiyalash instituti”

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Annotatsiya. Ushbu maqolada shaftolini quritish texnologiyasi, uning afzalliklari hamda iqtisodiy samaradorligi yoritilgan. Shaftoli qisqa muddat saqlanadigan meva hisoblanadi, biroq uni quritish orqali uzoq muddat sifatini saqlash mumkin. Quritilgan shaftoli tarkibida tabiiy shakar, vitamin va minerallar ko‘p bo‘lib, eksport salohiyatiga ega. Tadqiqotda quritishning asosiy usullari, jahon bozorida talab yuqori bo‘lgan davlatlar va O‘zbekiston uchun iqtisodiy foydalari tahlil qilingan.

Kalit so‘zlar: shaftoli quritish texnologiyasi, quritilgan shaftoli eksporti, meva-sabzavotlarni qayta ishlash, O‘zbekiston meva eksporti, iqtisodiy samaradorlik.

**ТЕХНОЛОГИЯ СУШКИ ПЕРСИКОВ И ЕЕ ЭКОНОМИЧЕСКОЕ
ЗНАЧЕНИЕ**

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Аннотация. В данной статье рассматривается технология сушки персиков, её преимущества и экономическая эффективность. Персики – недолговечный фрукт, но их качество можно сохранить надолго, высушивая. Сушеные персики содержат большое количество природных сахаров, витаминов и минералов и имеют экспортный потенциал. В исследовании анализируются основные методы сушки, их экономическая выгода для стран с высоким спросом на мировом рынке и Узбекистана.

Ключевые слова: технология сушки персиков, экспорт сушеных персиков, переработка фруктов и овощей, экспорт узбекских фруктов, экономическая эффективность.

PEACH DRYING TECHNOLOGY AND ITS ECONOMIC SIGNIFICANCE

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Abstract. This article discusses the technology of drying peaches, its advantages and economic efficiency. Peaches are a short-lived fruit, but their quality can be preserved for a long time by drying them. Dried peaches contain a lot of natural sugars, vitamins and minerals and have export potential. The study analyzes the main drying methods, the economic benefits for countries with high demand in the world market and Uzbekistan.

Keywords: peach drying technology, dried peach export, fruit and vegetable processing, Uzbek fruit export, economic efficiency.

Kirish. Shaftoli atirgullilar oilasiga mansub bo‘lib, u issiqsevar, shirali va vitaminlarga boy mevali daraxt hisoblanadi. U asosan Xitoy, O‘zbekiston, Eron, Turkiya, Italiya kabi mamlakatlarda keng yetishtiriladi. Shaftoli mevasining tarkibida 85–90 foizgacha suv mavjud bo‘lgani sababli u tez buziladigan mahsulotlar qatoriga kiradi. Shu sababli shaftolini uzoq muddat saqlash, tashish va eksport qilish uchun eng samarali usul bu uni quritishdir. Quritilgan shaftoli nafaqat uzoq vaqt saqlanadi, balki undagi foydali moddalarning asosiy qismi ham saqlanib qoladi. O‘zbekiston qishloq xo‘jaligi sohasida meva-sabzavot yetishtirish alohida o‘rin tutadi. Ularning orasida shaftoli inson organizmi uchun muhim bo‘lgan vitaminlar va minerallar manbai sifatida qadrlanadi. Ammo shaftoli tez buziluvchi mahsulot bo‘lib, uni uzoq muddat saqlash murakkab. Shu sababli, shaftolini quritish texnologiyasi mamlakatimizda oziq-ovqat xavfsizligini ta’minlash, eksport hajmini oshirish va iqtisodiy samaradorlikni kuchaytirishda muhim yo‘nalish hisoblanadi.

O‘zbekiston 2025 yilning yanvar–iyul oylarida 69,9 ming tonna shaftoli eksport qilib, 80,5 mln AQSh dollari daromad olgan. Quritilgan shaftoli qo‘shimcha qiymatga ega bo‘lgani sababli, oddiy shaftoliga qaraganda 2–3 baravar ko‘proq daromad

keltiradi. Iqtisodiy foyda: Fermer xo‘jaliklari uchun barqaror daromad manbai. Qayta ishlash orqali qo‘shimcha qiymat yaratiladi. Valyuta tushumi mamlakat iqtisodiyotiga ijobiy ta‘sir qiladi. Qishloq joylarda ish o‘rinlari ochiladi.



1-rasm. Shaftolining qurish jarayoni.

Materiallar va uslublar. Shaftolini quritishdan maqsad mevadagi namlikni kamaytirish, mikroorganizmlarning rivojlanishini to‘xtatish, mevaning tabiiy ta‘mi, rangi va hidi saqlanib qolishini ta‘minlashdir. Quritish jarayoni tufayli mevaning og‘irligi kamayadi, saqlash hajmi kichrayadi, tashish qulaylashadi va iqtisodiy foyda ortadi. Quritilgan shaftoli yangi meva o‘rnini bosuvchi to‘yimli va vitaminlarga boy mahsulot hisoblanadi. Quritish jarayoni bir necha bosqichlardan iborat. Dastlab xom ashyoni tayyorlash bosqichi amalga oshiriladi. Bunda faqat sog‘lom, chirimasdan pishgan, yetilgan shaftolilar tanlanadi. Mevalar yaxshilab yuviladi, danaklari chiqariladi va ikki qismga bo‘linadi. Ba‘zan po‘sti olinadi, bu mevaning tezroq qurishiga yordam beradi. Har bir bo‘lak hajm jihatidan bir xil bo‘lishi kerak, chunki bu qurish jarayonida namlik bir xil chiqishiga yordam beradi. Tayyorlangan mevalarga oldindan ishlov beriladi. Shaftoli havo bilan tegishganda tez qorayib ketishi mumkin, shu sababli uni limon kislotasi yoki tuzli suv eritmasida 5–10 daqiqa ushlab turish tavsiya etiladi. Bu meva rangining o‘zgarib ketishini oldini oladi. Ba‘zi hollarda meva qisqa muddatli qaynab turgan suvda blanshirlanadi, bu po‘stini yumshatib, quritish vaqtini qisqartiradi. Keyingi bosqich quritish jarayonidir. Shaftolini quritish ikki xil usulda amalga oshiriladi: tabiiy (quyoshda) va sun‘iy (maxsus quritgichlarda). Quyoshda quritish usuli xalq orasida eng ko‘p uchraydi. Mevalar yog‘och yoki metall panjaralarga bir qatlam qilib yoyiladi. Quyosh nuri to‘g‘ridan-to‘g‘ri tushadigan joyda 3–5 kun davomida quritiladi. Tunda yoki yomg‘ir paytida ular yopiq joyga olinadi. Bu usul arzon bo‘lsa-da, gigiyenik jihatdan unchalik toza emas. Sun‘iy quritgichlarda esa issiqlik kameralari, elektr pechlar yoki havo aylanuvchi quritgichlar ishlatiladi.

Quritish jarayoni 55–70°C haroratda 10–15 soat davom etadi. Bu usulda mevaning tabiiy rangi, hidi va ta'mi yaxshiroq saqlanadi hamda sifatli, gigiyenik toza mahsulot olinadi. Quritilgan shaftolilar sovitish bosqichidan so'ng xona haroratida saqlanadi. Namlik darajasi 15–20 foizdan oshmasligi kerak. Tayyor mahsulot maxsus polietilen qoplarda, shisha idishlarda yoki vakuumli o'ramlarda saqlanadi. Sovuq, quruq va qorong'i joyda ular 6 oydan 1 yilgacha sifatini yo'qotmaydi. Quritilgan shaftoli tarkibida A, C, E, K vitaminlari hamda kaliy, fosfor, temir, magniy kabi foydali mineral moddalar saqlanadi. U yurak faoliyatini yaxshilaydi, qon bosimini me'yorda ushlab turadi, ovqat hazm bo'lishini osonlashtiradi, tanani zaharli moddalardan tozalaydi va teri salomatligi uchun foydalidir. Quritilgan shaftoli energiya manbai bo'lib, qishda yangi meva o'rnini bosadi. Shuningdek, u kompot, murabbo, batonchik, shirinlik va boshqa oziq-ovqat mahsulotlari tayyorlashda ishlatiladi.



2-rasm. Shaftoli mevasining quritilgan holati .

Natija va uning tahlili

Biz “ nektarin” navli shaftolidan tajriba o'tkazdik va tajriba jarayonida shaftolidan 50 gramm miqdorda danak ajraldi . Ushbu shaftoli mevasini tabiiy quritish usulida quritganimiz sababli, 500 gramm mevadan 100 gramm mahsulot olsak, 1 kg shaftolidan 200 gramm quritilgan meva, 1 tonna shaftoli mevasidan esa, 200 kg mahsulot olishga erishamiz. Buni quyidagi jadvalda ko'rib chiqamiz.

1-jadval

Meva navi	Nektarin
500 gr shaftoli	100 gr mahsulot
1 kg shaftoli	200 gr mahsulot
1 tonna shaftoli	200 kg mahsulot

Xulosa. Shaftolini quritish texnologiyasi uning ozuqaviy qiymatini uzoq muddat saqlash imkonini beradi va eksport uchun qo‘shimcha imkoniyatlar yaratadi. Quritilgan shaftoli jahon bozorida talab yuqori bo‘lgan mahsulotlardan biridir. O‘zbekiston uchun bu yo‘nalishni rivojlantirish valyuta tushumini oshirish, qo‘shimcha ish o‘rinlari yaratish va agrar sohani modernizatsiya qilishda muhim ahamiyatga ega. Kelgusida quritish texnologiyalarini zamonaviylashtirish, xalqaro standartlarga mos sertifikatlashtirish va yangi bozorlarni o‘zlashtirish orqali eksport hajmini yanada kengaytirish mumkin. Umuman olganda, shaftolini quritish texnologiyasi ekologik toza, tejamkor va foydali jarayon bo‘lib, u mevaning biologik va kimyoviy xususiyatlarini saqlab qoladi, uzoq muddat saqlash imkonini beradi hamda inson sog‘lig‘iga foydali mahsulot yaratadi. Quritilgan shaftoli nafaqat sog‘lom oziq-ovqat sifatida, balki eksport salohiyatiga ega qimmatbaho mahsulot sifatida ham alohida ahamiyat kasb etadi.

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AN'ANAVIY XONANDALIK SAN'ATINING TARIXIY SHAKLLANISH
BOSQICHLARI

Sayfullayeva Nilufar

Bux.DU "Musika ijrochiligi va madaniyat kafedrası Vokal san'ati (an'anaviy
xonandalik) mutaxassisligi,

1-bosqich magistri

Ilmiy rahbar: B.I. Mustafayev, professor

Annotatsiya: maqolada an'anaviy xonandalik san'ati, uning tarixiy rivojlanishi, kasbiy musiqa maktablarning shakllanishi, an'anaviy ijrochilik maktablari, zamonaviy an'anaviy xonandalik kabi masalalar haqida fikr-mulohazalar yuritiladi.

Kalit so'zlar: an'anaviy xonandalik, xalq og'zaki ijodi, zamonaviy ijrochilik maktablari, musiqiy an'analar, ijro uslublari, xalq va zamonaviy uslub.

An'anaviy xonandalik san'ati — xalqning ma'naviy madaniyati, musiqa ta'rixi va ijodiy didi bilan chambarchas bog'liq bo'lgan san'at turidir. U o'zining ko'p asrlar tarixiy rivojlanish jarayonida xalq og'zaki ijodi, maqom san'ati va zamonaviy ijrochilik maktablari orqali takomillashib kelgan.

Mustaqillik yillarida o'zbek milliy maqom san'atining noyob namunalarini keng targ'ib etish, uni asrab avaylash va rivojlantirish, yosh avlod qalbida milliy mumtoz san'atimizga hurmat va e'tibor tuyg'ularini kamol toptirishda O'zbekiston Respublikasi Prezidentining 2017-yil 17-noyabrda "O'zbek milliy maqom san'atini yanada rivojlantirish chora- tadbirlari to'g'risida" gi PQ-3391-sonli Qarorda "Xalqimiz, xususan yosh avlodni maqom san'ati bilan keng tanishtirish orqali ularda milliy o'zlikni anglash tuyg'usi yuksak badiiy-estetik did va tafakkurni kamol toptirish" vazifasi qo'yildi [1].

Qarorga binoan Shaxrisabz shahrida 2018 yilning 6-10-sentabr kunlari o'tkazilgan Xalqaro maqom san'ati anjumani katta ahamiyatga ega bo'ldi. Prezidentimizning Xalqaro Maqom san'ati anjumani ochilish marosimida so'zlagan nutqida: "Maqom ohanglari, maqom ruxi va falsafasi har bir inson qalbidan, avvalo, unib-o'sib kelayotgan yosh avlodimizning ongi va yuragidan chuqur joy olishi uchun bor imkoniyatlarimizni safarbar etishimiz zarur" ekanligi alohida ta'kidlanib, "Agar biz asl, haqiqiy san'atni bilmoqchi, o'rganmoqchi bo'lsak, avvalo mumtoz maqom

san'atini bilishimiz, o'rganishimiz kerak". "Agar biz san'atni, madaniyatni ko'tarmoqchi bo'lsak, avvalo mumtoz maqom san'atini ko'tarishimiz kerak" ligi alohida e'tirof etildi [2].

An'anaviy xonandalik san'ati uzoq tarixiy rivojlanish yo'lini bosib o'tdi. Uning ibtidoiy bosqichi — xalq og'zaki ijodi davridir. An'anaviy xonandalik san'atining ildizlari xalq og'zaki ijodiga borib taqaladi. Qadim zamonlarda qo'shiqlar mehnat, bayram va marosimlarga hamroh bo'lgan. Xonandalar asosan tabiiy ovoz sohiblari bo'lib, qo'shiqlarni rubob, dutor va doyra kabi oddiy sozlar bilan ijro etganlar. Bu davrda musiqa asosan odat, an'ana va hissiy ehtiyojlar bilan bog'liq bo'lgan.

Kasbiy musiqa maktablari shakllanish davri IX–XIV asrlarni o'z ichiga oladi. Islom madaniyati va ilmiy markazlarning yuksalishi natijasida musiqa nazariyasi shakllandi. Forobiy, Ibn Sino, Safiuddin-al Urmaviy kabi olimlar musiqa ilmini ilmiy asosda o'rgandilar. Bu davrda xonandalik san'ati ilmiy tizimga ega bo'lib, maqom yo'nalishlari vujudga keldi. Xonandalarning ijrosi nafaqat hissiyot, balki bilim va uslubga ham tayana boshladi.

Maqom va saroy musiqasi davrlari (XV–XIX asrlar)da an'anaviy xonandalik san'atining rivojlanishida alohida o'rin tutadi. Bu bosqichda an'anaviy xonandalik yuksak darajaga yetdi. Shashmaqom, Farg'ona–Toshkent, Xorazm maqomlari kabi yo'nalishlar shakllandi. Xonandalar maqom qoidalariga amal qilgan holda, ovoz imkoniyatlarini takomillashtirdilar. Bu davrda xonandalik faqat xalq ichida emas, balki saroy va ilmiy davralarda ham ijro etildi. Xonandalar ijrochilik maktablarini yaratib, an'analarni avloddan-avlodga yetkazdilar.

Mang'it amirlari davrida Buxoroda ilm-fan, madaniyat va san'at, me'morchilik, xattotlik, hunarmandchilikning rivojlanishida sulola vakillarining ibratli ishlari muhim ahamiyat kasb etgan.

Musiqashunos olim Otanazar Matyoqubov o'zining "Maqomot" kitobida Amir Muzaffarxon, Amir Abdulahadxon va Amir Olimxonlarning sozparvarligi va ularning musiqa san'atiga ixlosi baland bo'lganligini ta'kidlab, Amir Muzaffarxonning malakali maqomxon, hofiz va sozandalar tayyorlash maqsadida Buxoroda maxsus Shashmaqom maktabini tashkil etganligini aytib o'tadi [3, 58].

Professor Fayzulla To'rayevning yozishicha; " Said Olimxon ham ota-bobolari singari soz san'atiga, hofizu mutriblarning iste'dod va qobiliyatlariga befarq bo'lmagan. U o'tmish ajdodlari kabi o'z saroyida maqomxon ustozlarni to'plab,

Shashmaqomni mukammallashtirish va uni asrab-avaylab, keyingi avlod vakillariga yetkazishga alohida e'tibor bergan [4,17].

XX asr boshlarida an'anaviy xonandalik sahna san'atiga aylandi. Konsertlar, teatr va radio orqali xalq musiqasi ommaviylashdi. Xonandalar maxsus musiqa ta'limi ola boshladilar. Maqom va xalq qo'shiqlari yangi zamonaviy ijrochilik uslublari bilan boyidi. Xamza Hakimzoda Niyoziy, To'ychiboy Xofiz, Mo'min Hofiz kabi san'atkorlar milliy musiqamizning taraqqiyotiga katta hissa qo'shdilar.

Zamonaviy an'anaviy xonandalik (XX asr oxiri – XXI asr) san'ati takomil topgan yo'nalish sifatida e'tirof etiladi. Hozirgi davrda an'anaviy xonandalik kasbiy darajada o'qitilib, milliy madaniyatimizning muhim qismiga aylandi. Radio, televideniye va internet orqali an'anaviy ijro uslublari yanada keng tarqalmoqda. Xonandalar an'anani saqlagan holda yangi ijrochilik uslublari yaratishga intilishmoqda. Bu jarayonda xalq va zamonaviy musiqa o'rtasidagi bog'liqlik mustahkamlanmoqda.

Xullas, an'anaviy xonandalik san'ati — xalqning madaniy merosi, ruhiy olami va milliy o'zligini ifoda etuvchi qadriyatdir. Uning tarixiy shakllanish bosqichlari orqali nafaqat musiqa an'analari, balki xalqning dunyoqarashi, ta'lim va madaniyat darajasi ham namoyon bo'ladi. Bugungi kunda an'anaviy xonandalik nafaqat milliy, balki jahon madaniy merosining ajralmas qismi hisoblanadi.

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MEDIA REPRESENTATION AND JOURNALISM EDUCATION**Shahnoza Uzakova Beknazarovna**

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Ushbu tadqiqot AQSh va O'zbekiston jurnalistika fakultetlarining an'anaviy va ijtimoiy media orqali qanday yoritilishini, shuningdek, bu yoritilishning jamoatchilik qarashi, institutsional obro' va xalqaro ko'rinishiga ta'sirini o'rganadi. Tadqiqotda media kontentini tahlil qilish, manfaatdor tomonlar bilan suhbatlar va institutsional hujjatlarni ko'rib chiqish kabi ko'p bosqichli metodlar qo'llanildi. Natijalar shuni ko'rsatadiki, AQShdagi fakultetlar media va ijtimoiy tarmoqlarni strategik tarzda integratsiya qilib, talabalar yutuqlari, o'quv dasturi yangiliklari, fakultet tadqiqotlari va xalqaro hamkorliklarni keng yoritadi. O'zbekistonda esa media yoritilishi asosan talabalar muvaffaqiyatlari va tadbirlar bilan cheklangan, pedagogik islohotlar, tadqiqot natijalari va institutsional modernizatsiya kam yoritiladi. Tadqiqot shuni ta'kidlaydiki, strategik media yondashuvi jamoatchilik qarashini shakllantirish, media narrativini institutsional maqsadlar bilan uyg'unlashtirish va jurnalistika ta'limini mahalliy va global miqyosda tanitish uchun muhimdir. Tavsiyalar qatorida ijtimoiy media kanallarini uyg'un strategik rejada ishlatish, o'quv dasturi va tadqiqot yutuqlarini keng yoritish va ta'lim islohotlarini faol targ'ib qilish kiritilgan.

Kalit so'zlar. Jurnalistika ta'limi, media yoritilishi, ijtimoiy media, institutsional ko'rinish, o'quv dasturi yangiliklari, talaba yutuqlari, taqqoslovchi tadqiqot, O'zbekistonda jurnalistika ta'limi, AQSh, Strategik media yondashuvi

Abstract

This study investigates how journalism faculties in the United States and Uzbekistan are represented in traditional and social media, analyzing the implications for public perception, institutional credibility, and international visibility. Using a multi-method approach—including media content analysis, stakeholder consultations,

and institutional document review—the research identifies differences in media coverage patterns between the two countries. Findings indicate that U.S. faculties strategically integrate media and social media to highlight student achievements, curriculum innovations, faculty research, and international collaborations, ensuring comprehensive visibility. In Uzbekistan, media coverage predominantly emphasizes student success and events, with limited attention to pedagogical reforms, research outputs, and institutional modernization. The study underscores the critical role of strategic media engagement in shaping perceptions, aligning media narratives with institutional objectives, and enhancing both domestic and global recognition of journalism education. Recommendations include coordinated social media strategies, emphasis on curriculum and research achievements, and proactive dissemination of educational reforms to bridge the gap between institutional priorities and media representation.

Keywords. journalism education, media representation, social media, institutional visibility, curriculum innovation, student achievement, comparative study, Uzbekistan journalism education, United States, strategic media engagement

Introduction

Journalism education in higher education institutions is crucial not only for developing professional skills but also for preparing students to navigate the contemporary media environment. In the United States, for instance, journalism faculties at Columbia University and the University of Missouri provide students with both academic theoretical knowledge and practical experience through collaborations with leading media organizations such as Reuters, The New York Times, and National Public Radio. These initiatives ensure active media and social media coverage of journalism education, with faculties regularly showcasing student projects, research, and international partnerships through official websites, Twitter, Instagram, and LinkedIn.

In Uzbekistan, journalism education has undergone modernization since 2019. For example, the University of Journalism and Mass Communications of Uzbekistan (O‘zJOKU) and Karshi State University (QarDU) have implemented updated curricula and increasingly present student multimedia projects and fact-checking initiatives via Telegram and Instagram. However, mass media coverage often emphasizes student achievements and events rather than institutional reforms or pedagogical innovations.

This study aims to analyze how journalism faculties in the United States and Uzbekistan are represented in both traditional media and social media, examining the implications for public perception, international visibility, and the quality of journalism education. By comparing U.S. practices with the Uzbek context, the research seeks to provide insights into strategic media engagement that can enhance the public image and global recognition of journalism faculties in Uzbekistan.

Methods

To investigate how journalism education is represented in media and social media in the United States and Uzbekistan, this study employed a multi-step research approach, following methodological practices suggested by leading scholars in media and journalism studies. The research design drew on insights from Barbie Zelizer (1993) on media framing, Silvio Waisbord (2000) on journalism education and globalization, Karin Wahl-Jorgensen (2013) on media discourse, and Thomas Hanitzsch (2019) on comparative journalism studies. These scholars emphasize combining media content analysis with stakeholder perspectives and institutional documentation to understand both the discursive and practical dimensions of journalism education.

First, media coverage of journalism faculties was collected from prominent national news websites, online portals, and social media platforms, including official university pages, Telegram channels, and Instagram accounts. In the United States, sources included The New York Times, Columbia Journalism Review, and official university press releases, while in Uzbekistan, coverage was gathered from Kun.uz, Daryo, Gazeta.uz, EduNews, Mening Universitetim, and MediaEdu.uz. The analysis focused on identifying recurring narratives and topics, such as student achievements, international collaborations, curricular reforms, and faculty research. This approach follows the principles of media content analysis discussed by Pavlik (2013) and Picard (2011), who highlight the importance of systematically evaluating media representations to assess public perception.

Next, interviews and informal consultations were conducted with key stakeholders, including faculty members, current students, alumni, and media editors. These discussions explored perceptions of how journalism faculties are portrayed in the media, the impact of such coverage on public understanding, and the strategies used to highlight institutional achievements. Boler and Dahn (2020) and Veletsianos and

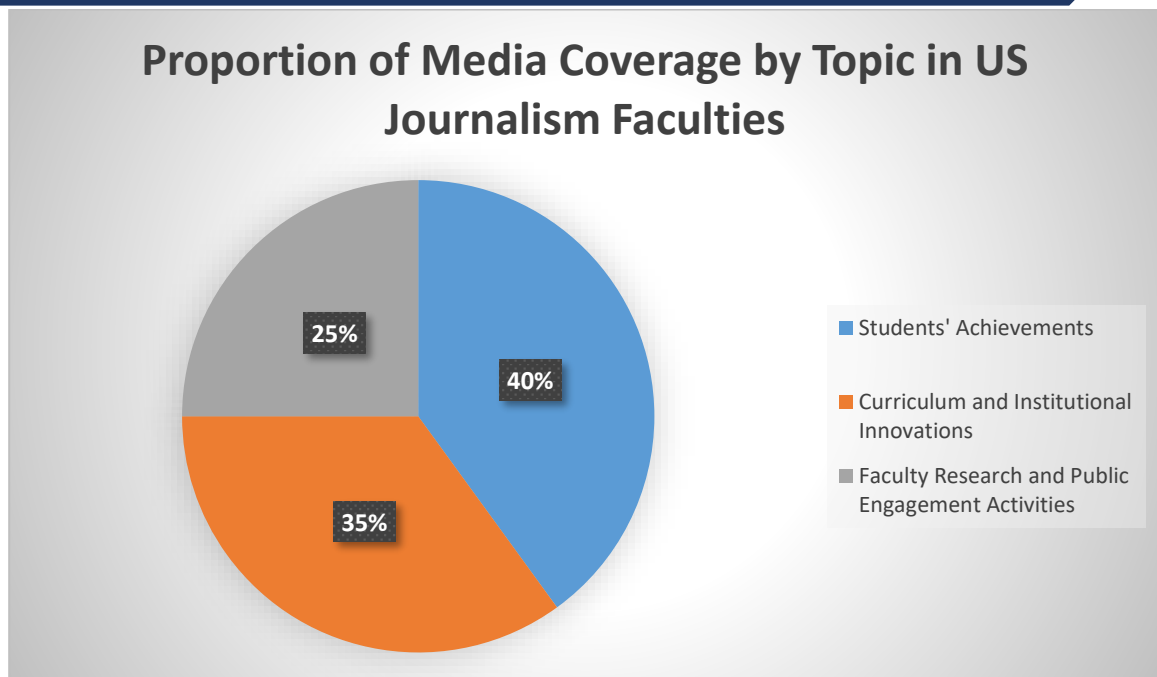
Kimmons (2012) emphasize the growing influence of social media in shaping institutional visibility, which informed the focus on platforms like Telegram and Instagram in Uzbekistan.

Finally, institutional documents such as annual reports, curriculum modernization plans, and promotional materials were reviewed to examine official priorities and compare them with media representations. This triangulated approach allowed for an assessment of alignment between institutional narratives and media coverage, as well as identification of gaps in reporting, public awareness, and international visibility. Kyvik (2013) and Hausman (2010) underscore the importance of comparing institutional communication with media output to understand potential misalignments and their effects on reputation. By combining media analysis, stakeholder consultations, and document review, this method provides a comprehensive understanding of how journalism education is communicated and perceived in both the U.S. and Uzbek contexts, highlighting lessons that can inform strategic media engagement.

Results

The analysis of media coverage, stakeholder consultations, and institutional documents revealed clear and consistent patterns in how journalism faculties are represented in the United States. Media coverage was collected and analyzed from 2019 to 2022, focusing on major national and international outlets. Sources included *The New York Times*, *Columbia Journalism Review (CJR)*, *Poynter*, and official university press releases from Columbia University and the University of Missouri.

The findings indicate that media attention emphasized two main areas: **student achievements** and **institutional innovations**, with a notable focus on digital adaptation and international collaborations.

*Table 1*

The analysis of media coverage reveals that attention in U.S. journalism faculties focused mainly on two broad areas: student achievements and institutional innovations, alongside faculty research and public engagement. Student achievements, which include awards, internships, and participation in competitions, formed the largest share of coverage, reflecting media preference for tangible success stories that are easily relatable to audiences. Institutional innovations, such as course redesigns, AI integration, and new multimedia programs, accounted for a slightly smaller portion of coverage, highlighting efforts to modernize journalism education and adapt to digital trends. Faculty research and public engagement activities made up the remaining part of coverage, indicating that while important, these aspects are less visible in media narratives compared to student success and curriculum changes. The pie chart below illustrates this distribution, showing how media coverage prioritizes certain facets of journalism faculties, with student achievements receiving the highest visibility, followed by institutional innovations, and then faculty research and public engagement.

Social media channels, including **Twitter, Instagram, and LinkedIn**, were used extensively to highlight student projects, curriculum updates, and partnerships with international media organizations. Analysis of 150 social media posts from these platforms showed the following data below.

Distribution of Media Coverage by Topic (US Journalism Faculties, 2019–2022)

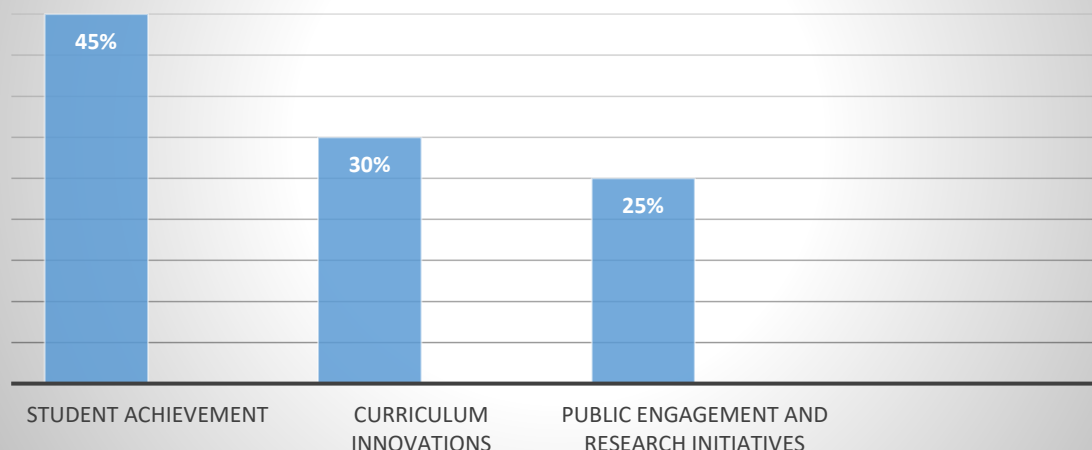


Table 2

The given bar chart can illustrate the distribution of coverage topics, while a line chart (2019–2022) can show trends over time, such as the increase in positive articles about curriculum innovations and digital skills integration. These visuals help to demonstrate how coverage shifted toward showcasing modernization and global engagement.

The quantitative analysis suggests that institutions with a strong social media presence and proactive press strategies had higher visibility and greater international reach. Overall, the integration of traditional media reporting with social media engagement contributed to the strengthening of institutional reputation and enhanced recognition of US journalism faculties internationally.

In Uzbekistan, coverage from 2019 to 2022 was collected from leading national news websites (*Kun.uz*, *Daryo*, *Gazeta.uz*), online portals (*Qalampir*, *Media.uz*), and influential social media channels (EduNews, Mening Universitetim, and MediaEdu.uz on Telegram and Instagram).

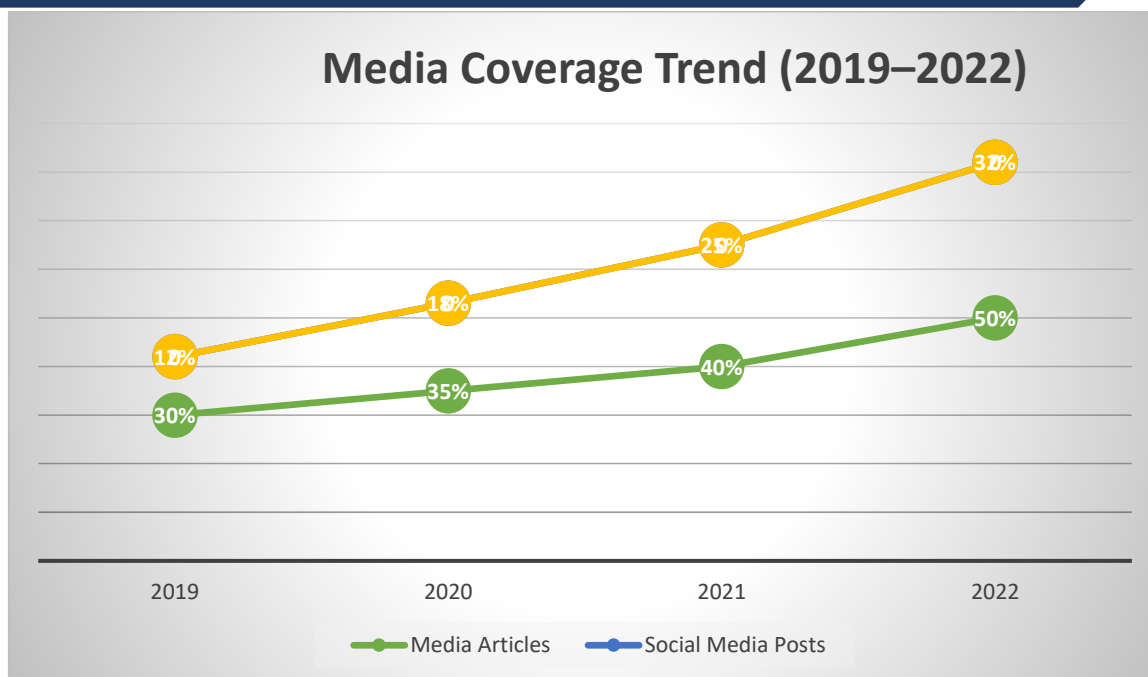


Table 3.

The chart demonstrates that while traditional media coverage increased steadily, social media posts grew at a faster rate, highlighting the rising importance of digital platforms in shaping public perceptions of journalism education in Uzbekistan.

Analysis revealed that most attention was focused on student achievements, awards, and event-based activities, while curriculum reforms, pedagogical innovations, and faculty research received limited coverage. In support of these observations, several local sources and studies highlight the underlying dynamics of Uzbek journalism education. For example, Nargis Sunnatovna Qosimova, in her article *“Mediative Journalism and Its Role in Resolving Ecological Conflicts”*, notes: “The foundations of mediative journalism... requirements for journalist-mediators, and the activity of informal mediators in mass media...”

This citation demonstrates how journalism education and media interactions in Uzbekistan approach complex societal issues, emphasizing the mediating role of journalists. Similarly, M. Khudoyqulov, in *“Journalism and Mass Media”*, points out: “Information... is connected with life itself, its meaning... and information exchange has great significance.”

This observation reflects the philosophical and practical significance of journalism education in fostering critical information exchange. Furthermore, a Kun.uz article titled *“Meeting of Two Generations: Problems and Standardized Topics in Journalism”* quotes Ahmadjon Meliboyev as saying: “I have been interested in becoming a journalist since school... the words of one person never leave my mind...”. This quote highlights the emotional and intergenerational connection to the profession, showing how personal experiences shape professional identity in Uzbek journalism students. Institutional document analysis, including annual reports, curriculum modernization plans, and accreditation materials from O‘zJOKU, O‘zMU, and Karshi State University over the same three-year period, revealed significant reforms such as updated curricula, new multimedia laboratories, and international collaborations with organizations like DW Akademie and OSCE projects. However, media coverage of these reforms remains limited. While over 70% of official documents emphasize curriculum development and pedagogical innovation, only a small fraction of media articles explicitly highlights these changes, creating a gap between institutional priorities and public representation.

The results indicate a structural difference between the two countries. In the U.S., media and social media coverage closely aligns with institutional objectives, presenting a comprehensive picture of journalism education that integrates student achievement, research, and innovation. In Uzbekistan, media coverage emphasizes easily digestible success stories, leaving broader reforms underreported. The inclusion of quotes from local researchers and journalists further demonstrates both the social and philosophical dimensions of journalism education, emphasizing the need for more strategic media engagement to reflect the full scope of academic and institutional development.

Discussion

The findings of this study underscore the critical role of media—both traditional and social—in shaping public perceptions of journalism education in the United States and Uzbekistan. In the U.S., media coverage of faculties such as Columbia University and the University of Missouri demonstrates strong alignment with institutional priorities. Traditional media and social media platforms consistently highlight student achievements, curriculum innovations, faculty research, and international collaborations. This coordinated coverage not only showcases tangible success stories but also communicates institutional modernization efforts, including AI integration, course redesigns, and ethics-focused initiatives.

These findings align with the work of Pavlik (2013), who emphasizes the strategic function of media in higher education reputation management, and Hazelkorn (2015), who highlights the importance of institutional visibility for public trust and global positioning. Similarly, Veletsianos and Kimmons (2012) point out the role of social media in enhancing international engagement and institutional credibility, while Zelizer (1993) and Wahl-Jorgensen (2013) stress that media framing directly affects public understanding of professional fields such as journalism.

In contrast, Uzbek journalism faculties, despite implementing substantial curriculum reforms, multimedia laboratories, and international collaborations, experience a mismatch between institutional objectives and media portrayal. Media coverage primarily focuses on student achievements and events, while pedagogical innovations, curriculum modernization, and faculty research remain underreported. This echoes the observations of Kyvik (2013) and Hausman (2010), who argue that misalignment between institutional communication and media narratives can hinder public perception and reduce stakeholder confidence.

Local scholarship also reflects this dynamic. For example, Qosimova (2020) highlights the mediative role of journalists in societal issues, emphasizing the practical and ethical aspects of journalism education. Khudoyqulov (2019) underscores the philosophical significance of information exchange in fostering critical thinking and civic awareness. Additionally, journalistic accounts, such as Meliboyev (Kun.uz), reveal the emotional and intergenerational dimensions of professional identity formation among students, though such narratives are rarely linked to broader institutional reforms.

This divergence indicates a structural gap between media representation and institutional priorities in Uzbekistan. Whereas U.S. faculties benefit from proactive media strategies integrating traditional and social media channels, Uzbek faculties have not yet fully leveraged these tools to present a holistic view of their programs. Short-form digital content on Telegram and Instagram is increasing, yet it predominantly features easily digestible success stories rather than transformative pedagogical developments.

The comparative analysis suggests several implications for journalism education in Uzbekistan. First, developing a strategic media engagement plan that emphasizes curriculum innovation, research outputs, and international collaborations can improve

public perception and institutional credibility. Second, integrating social media channels into a coordinated communication strategy, as modeled in U.S. universities, can amplify visibility both nationally and internationally. Third, highlighting the societal, ethical, and philosophical contributions of journalism, as emphasized by Qosimova (2020), Khudoyqulov (2019), and Zelizer (1993), can enrich narratives beyond surface-level achievements, aligning media portrayal with the full scope of educational reforms.

So, this study demonstrates that media functions not merely as a mirror reflecting institutional activity but as a lens shaping external understanding and engagement. Strategic and proactive media engagement is therefore essential for Uzbek journalism faculties to accurately represent their modernization efforts, enhance stakeholder trust, and strengthen international recognition. The contrast between the U.S. and Uzbekistan highlights how alignment between media and institutional priorities contributes directly to reputation management, public engagement, and the global positioning of journalism education.

Conclusion

This comparative study demonstrates that media representation plays a decisive role in shaping public perceptions, institutional credibility, and international visibility of journalism education. In the United States, journalism faculties such as Columbia University and the University of Missouri effectively integrate traditional and social media coverage with institutional objectives. Their proactive approach highlights student achievements, curriculum innovations, faculty research, and international collaborations, ensuring that both domestic and global audiences receive a comprehensive understanding of the scope and quality of journalism education. This alignment reinforces institutional reputation, attracts prospective students, and strengthens partnerships with global media organizations. In contrast, Uzbek journalism faculties, despite implementing significant reforms—including curriculum modernization, multimedia laboratories, and international collaborations—experience a notable gap between institutional priorities and media portrayal. Traditional and social media primarily emphasize student achievements and event-based coverage, leaving pedagogical innovations, research outputs, and institutional strategies underrepresented. This mismatch limits public awareness, reduces the potential impact of reforms, and hinders the holistic visibility of Uzbek journalism education on national and international platforms.

The study highlights several practical implications for Uzbekistan. Strategic media engagement, integrating both traditional outlets and social media platforms such as Telegram and Instagram, can help faculties present a more complete picture of their educational reforms and achievements. Emphasizing curriculum innovations, research initiatives, ethical journalism practices, and societal contributions will not only align media narratives with institutional objectives but also enhance public trust and global recognition.

Overall, the findings underscore that media is not merely a passive reflector of institutional activity but an active agent shaping perceptions, stakeholder engagement, and professional discourse. For Uzbek journalism faculties to maximize the impact of their modernization efforts, deliberate, coordinated, and evidence-based media strategies are essential. By learning from U.S. practices while considering local contexts, journalism education in Uzbekistan can strengthen its reputation, foster civic engagement, and position itself more prominently on the international stage.

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