

МЕДИЦИНА, ПЕДАГОГИКА И ТЕХНОЛОГИЯ: ТЕОРИЯ И ПРАКТИКА

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THE EVOLUTION OF DENTAL PRACTICES FROM ANCIENT CIVILIZATIONS TO MODERN DENTISTRY

Pardayev Otabek Anvarovich

<https://orcid.org/0009-0007-1381-5371>

otash6065@mail.ru

Jurayev Sanjar Ramazanovich

<https://orcid.org/0009-0002-4306-8796>

jurayevsanjar1983j@gmail.com

Urinov Asadbek Oybekovich

uasadbek2606@gmail.com

Abstract

Dentistry, as a scientific and medical discipline, has undergone a profound transformation from primitive tooth-related practices in ancient civilizations to the highly specialized and technologically advanced field known today. This article explores the historical evolution of dental practices, examining how cultural beliefs, medical knowledge, technological innovations, and scientific discoveries shaped oral healthcare across different historical periods. Using an interdisciplinary approach that integrates historical analysis, dental anthropology, and medical history, this study traces the development of dentistry from ancient Mesopotamia, Egypt, Greece, and Rome through the Middle Ages and Renaissance, culminating in the emergence of modern dentistry in the nineteenth and twentieth centuries. The findings highlight that modern dental science is deeply rooted in historical experimentation, societal needs, and cumulative knowledge. Understanding this evolution not only enriches dental education but also provides valuable insights into the relationship between oral health, culture, and human development.

Keywords: History of Dentistry, Ancient Dental Practices, Dental Evolution, Oral Health, Medical History

1. Introduction

Dentistry is often perceived as a modern medical discipline driven by advanced technologies, scientific research, and evidence-based clinical practices. However, the roots of dental care extend deep into human history, reflecting humanity's long-standing struggle with oral diseases, pain management, and functional as well as

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aesthetic concerns related to teeth. From early tooth extractions using rudimentary tools to contemporary digital dentistry and implantology, the evolution of dental practices mirrors the broader development of medical science and human civilization.

Teeth are among the most durable structures in the human body, making them invaluable sources of information for historians, archaeologists, and anthropologists. Dental remains provide insight into ancient diets, health conditions, social stratification, occupational activities, and cultural beliefs. Consequently, the study of historical dentistry is not merely a medical inquiry but an interdisciplinary field connecting history, anthropology, and healthcare sciences.

The purpose of this article is to provide a comprehensive historical overview of dental practices from ancient civilizations to modern dentistry. The study aims to analyze how dental knowledge evolved, identify key milestones in the professionalization of dentistry, and evaluate the impact of historical practices on contemporary dental science. By doing so, this article seeks to emphasize the importance of historical awareness in understanding present-day dental practices and future advancements.

2. Literature Review

The history of dentistry has been extensively documented in medical history literature, dental anthropology studies, and archaeological research. Early scholarly works focused primarily on descriptive accounts of ancient dental tools and treatments, while modern studies emphasize contextual analysis, linking dental practices to social, economic, and cultural factors.

Research on ancient Mesopotamian dentistry reveals that toothaches were often attributed to supernatural causes, such as the infamous “tooth worm,” a belief documented in cuneiform texts. Treatments included herbal remedies, incantations, and mechanical interventions. Similarly, ancient Egyptian medical papyri, such as the Ebers Papyrus, provide detailed descriptions of dental diseases and treatments, indicating a relatively advanced understanding of oral health for that era.

Greek and Roman contributions to dentistry marked a shift toward rational and observational medicine. Hippocrates and Aristotle discussed tooth eruption, dental decay, and extraction techniques, while Roman physicians such as Celsus described methods for tooth stabilization and pain relief. These classical contributions laid foundational concepts that influenced dental practices for centuries.

The Middle Ages are often portrayed as a period of stagnation in medical knowledge; however, recent scholarship challenges this notion. Barber-surgeons played a crucial

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role in dental care, performing extractions and basic oral surgeries. Meanwhile, Islamic scholars preserved and expanded Greco-Roman medical knowledge, contributing significantly to dental literature through figures like Avicenna.

The Renaissance and Enlightenment periods marked a turning point, characterized by anatomical studies, scientific experimentation, and the gradual separation of dentistry from general surgery. Pierre Fauchard's seminal work "*Le Chirurgien Dentiste*" is widely regarded as the foundation of modern dentistry.

Contemporary literature emphasizes the technological revolution in dentistry, including anesthesia, radiography, biomaterials, and digital technologies. However, scholars increasingly argue that understanding historical developments is essential for a holistic appreciation of modern dental science.

3. Methodology

This study employs a qualitative historical research methodology based on a comprehensive review and synthesis of secondary sources. Academic books, peer-reviewed journal articles, archaeological reports, and historical medical texts were analyzed to construct a chronological narrative of dental evolution.

The research adopts an interdisciplinary framework, integrating:

Historical analysis to trace chronological developments,

Dental anthropology to interpret skeletal and dental evidence,

Comparative analysis to examine differences across civilizations and time periods.

Primary historical documents, such as ancient medical texts and early dental manuals, were examined through secondary interpretations provided by historians and dental scholars. The methodology emphasizes critical evaluation of sources to avoid anachronistic interpretations and to contextualize dental practices within their respective historical environments.

4. Results

4.1 Dentistry in Ancient Civilizations

Archaeological evidence suggests that dental interventions existed as early as 7000 BCE. Prehistoric skulls show signs of drilled teeth, likely performed to relieve pain or infection. In ancient Mesopotamia, dental disease was explained through spiritual beliefs, and treatments combined medicine with magic.

Ancient Egypt demonstrated a more systematic approach. Dental abscesses, periodontal disease, and tooth wear were common due to abrasive diets. Egyptian practitioners used herbal mixtures, honey-based antiseptics, and rudimentary

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prosthetics. Gold wire dental appliances found in mummies indicate early restorative efforts.

4.2 Classical Antiquity: Greece and Rome

Greek medicine introduced rational explanations for dental diseases. Tooth decay was linked to imbalances in bodily humors, and extraction techniques became more refined. Romans expanded these practices, developing dental instruments and prosthetic devices, particularly among the elite.

4.3 Medieval and Islamic Contributions

In medieval Europe, dentistry was largely practiced by barber-surgeons. Although limited in scientific understanding, their practical skills kept dental care accessible. In contrast, Islamic scholars advanced dental knowledge through detailed medical texts, emphasizing oral hygiene and disease prevention.

4.4 Emergence of Modern Dentistry

The eighteenth and nineteenth centuries marked the formalization of dentistry as a profession. Dental schools, standardized education, and licensing systems emerged. Innovations such as anesthesia, dental radiography, and restorative materials revolutionized patient care.

4.5 Contemporary Dentistry

Modern dentistry integrates advanced technologies, including digital imaging, CAD/CAM systems, implantology, and regenerative techniques. Preventive care and patient-centered approaches dominate contemporary practice, reflecting centuries of accumulated knowledge.

5. Discussion

The evolution of dental practices demonstrates a continuous interplay between cultural beliefs, scientific progress, and technological innovation. Early dental practices, though primitive, addressed fundamental human needs and laid the groundwork for future developments. Each historical period contributed uniquely, shaping dentistry into a distinct scientific discipline.

Understanding this evolution highlights the importance of historical continuity in medical science. Many modern principles—such as prevention, patient comfort, and functional restoration—have historical precedents. Recognizing these roots fosters a deeper appreciation of dentistry as both a science and a cultural practice.

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6. Conclusion

The journey of dentistry from ancient civilizations to modern practice reflects humanity's enduring commitment to health, functionality, and quality of life. While modern dentistry benefits from cutting-edge technology and scientific rigor, its foundations are deeply embedded in historical experience and experimentation. This study underscores the value of historical knowledge in dental education and research. By examining the past, dental professionals can better understand the ethical, cultural, and scientific dimensions of their field and contribute more meaningfully to its future development.

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