

**The importance of vaccination in achieving a positive trend in the prevention and treatment of paratyphs in the practice of infectious diseases.**

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**Abstract.** Although measures for the treatment of typhoid and paratyphoid, which are considered important and relevant in medical practice today, have been improved, the main measure to combat the disease is vaccination. This presented article provides an analysis of the importance, importance and relevance of the vaccine specifically in the prevention of typhoid and paratyphoid. And the main purpose of this presented work is to outline the importance of vaccination and a brief analysis of modern approaches to the prevention of typhoid and paratyphoid. To date, a number of research projects are underway to introduce various generations of vaccines into practice. However, no matter how high the activity of the vaccine is, it requires sufficient knowledge of the specifics of indications for use, contraindications to use and side effects. Thus, over the past hundred years, preventive vaccination has significantly reduced the incidence and mortality from infectious diseases worldwide. This process is regulated by the national schedule of routine vaccination in all countries. All children should be able to reach their full potential in health and well-being, and no child should die from preventable causes.

**Keywords.** *S. typhi*, the importance of vaccination, the principle of action of vaccines, myths about vaccinations.

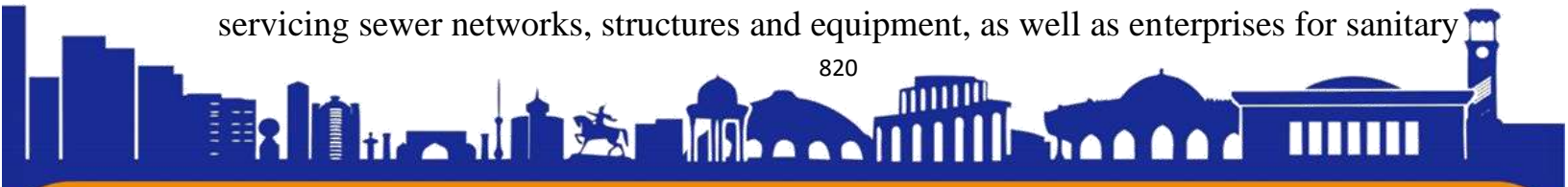
**Introduction.** In developing countries, where typhoid fever is most prevalent among young children, vaccination against typhoid fever is a public health priority. *Salmonella enterica*, the causative agent of typhoid fever (*S. typhi*), remains a problem in many low- and middle-income countries. The main route of *S. typhi* spread is fecal-oral, through contaminated food and water. Low- and middle-income countries suffer from typhoid fever and paratyphoid fever due to poor water quality and inadequate sanitation. Therefore, the best methods of preventing and controlling typhoid fever include providing safe water and improving sanitation and hygiene. In light of the growing evidence of the global burden of typhoid fever, especially among young children, and the long-term prospects for sustainable and effective improvement of water supply and sanitation in low-income countries, there is growing consensus in



favor of prioritizing preventive vaccination [1-4]. This review provides an overview of licensed typhoid vaccines, as well as potential vaccines that are currently under development, as well as prospects for their implementation. Maintaining public health, reducing mortality and increasing active life expectancy are the main goals of public policy in the field of medical science and health in many countries [5-6]. The preventive model of modern healthcare is aimed at preventing the development of diseases from infancy to the elderly and senile age, as well as at forming attitudes towards a healthy lifestyle, creating safe environmental conditions, education and training, professional activity, and so on. Goals are achieved using this model. Undoubtedly, one of the most effective directions in the preventive healthcare model is mass vaccination of both children and adults. This saves money and prevents infections [7-8]. Modern vaccination prevents the development of a number of somatic non-communicable diseases (subacute sclerosing panencephalitis, endocarditis, myocarditis, heart defects, and others), as well as some common forms of malignant neoplasms of the anogenital and oropharyngeal organs, such as liver carcinomas. This preserves people's lives, health and quality of life. The age at which infection and / or the disease is most likely to occur in severe form determines the time of the start of preventive vaccinations. Immunization is carried out after the elimination of maternal antibodies against several "childhood" viral infections. The term frequency of repeated vaccination depends on how long the protective effect persists after vaccination [9-11].

**The main purpose of the research** is to conduct a brief analysis of the literature on the importance and modern approaches to vaccination against typhoid and paratyphoid.

**The importance of vaccination.** Vaccinations are effective in preventing infectious diseases in children and adults. The introduction of universal vaccination has reduced the prevalence and even the elimination of many dangerous diseases. Vaccination has not only significantly reduced the incidence of dangerous infections, but also completely eliminated some diseases. Smallpox is the most famous example of the elimination of deadly infections, since after its elimination, universal immunization against this disease was discontinued. People living in areas with a high incidence of typhoid fever, people living in areas with constant water epidemics of typhoid fever, people working in the field of municipal improvement (workers servicing sewer networks, structures and equipment, as well as enterprises for sanitary





cleaning of populated areas that collect, transport and dispose of household waste), and people working with the living population. Vaccinations are carried out in case of a threat or outbreak of an epidemic (natural disasters, major accidents on the water supply and sewerage network), in contact with foci for epidemic indications and during the epidemic [12-15].

**The principle of action of vaccines.** Vaccination works based on the ability of the immune system to produce antibodies (protein) in response to infection. The body retains antibodies even after the disease, so the disease either does not develop or proceeds more easily. In two cases, this principle is used:

Active immunization is a process in which severely weakened or killed infectious agents such as bacteria, viruses or their particles are introduced into the body. In response, the body's immune system produces antibodies on its own. Existing antibodies destroy the infection if new strains of infectious agents enter the body in the future.

Passive immunization is the introduction of ready-made antibodies into the body to fight infection [16-19].

**Accessibility and methods of immunization.** The State Vaccination Policy has made vaccination completely free of charge. In polyclinics at the place of residence, every child can receive all the vaccines included in the vaccination calendar for free. Vaccinations are injected into the body in various ways. These can be injections, drops or sprays into the nose. The introduction of the vaccine does not affect its effectiveness [20-21].

**Side effects caused by vaccination.** Like all medicines, vaccines have side effects and contraindications. The side effects and consequences are usually minor. When vaccines are launched into clinical practice, special attention is paid to the ratio of danger to benefit, since the drug is administered only to healthy people and there is no high risk of side effects and complications.

The complications associated with vaccination are relatively minor, but safe:

Fever or fever Redness at the site of vaccine administration is a moderately common complication, but even more rare.

High fever, rash on the body,

Joint pain,



Pronounced swelling and redness at the injection site are side effects that usually go away on their own and do not require treatment. Serious problems rarely arise. These are seizures and other neurological complications. In most cases, such consequences require immediate medical intervention.

Reasons for refusing vaccination. If a child or adult has severe allergic reactions to the following components, vaccination is not recommended.

Egg white, which is contained in some vaccines

Neomycin or streptomycin — some vaccines contain traces of drugs

Gelatin known allergic reactions to previous vaccines But if the vaccinated person has previously had allergic reactions, be sure to inform your doctor. This will allow the doctor to choose a vaccine that is suitable for a child or an adult. Patients with confirmed immunodeficiency should not receive a live vaccine. Conditions that are not a contraindication to vaccination

Recent infectious diseases

Other than the allergic reactions listed above

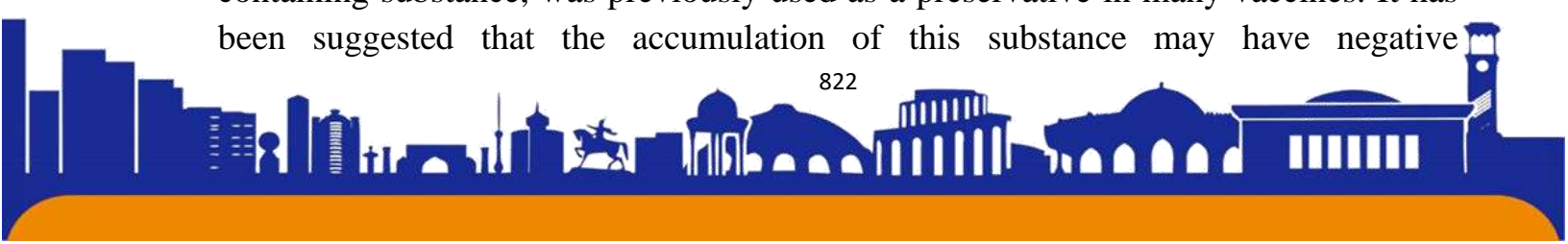
Minor reactions to previous vaccinations, such as redness of the injection site or subfebrile or febrile temperature up to 39 degrees

Allergic reaction to vaccines in family members [22-24].

About how to prepare for the injection. People believe that it is necessary to prepare for vaccination. It should be remembered that neither the administration of antihistamines or antipyretic drugs is required either before or after vaccination. Firstly, there is no evidence that the use of such drugs reduces the risk of side effects or improves the tolerability of vaccination. Secondly, there is no evidence that the use of these drugs reduces the effectiveness of immunization [25].

**Myths about vaccines** A large number of myths about vaccination have spread due to the actions of anti-vaccinators and the unprofessional work of some media outlets that were looking for sensations rather than facts. Here we will look at the main mistakes and misconceptions of society, most of which will be discussed in separate articles.

Vaccinations and autism: There is no evidence that vaccinations increase the likelihood of developing autism. Thiomersal and vaccines: thiomersal, a mercury-containing substance, was previously used as a preservative in many vaccines. It has been suggested that the accumulation of this substance may have negative





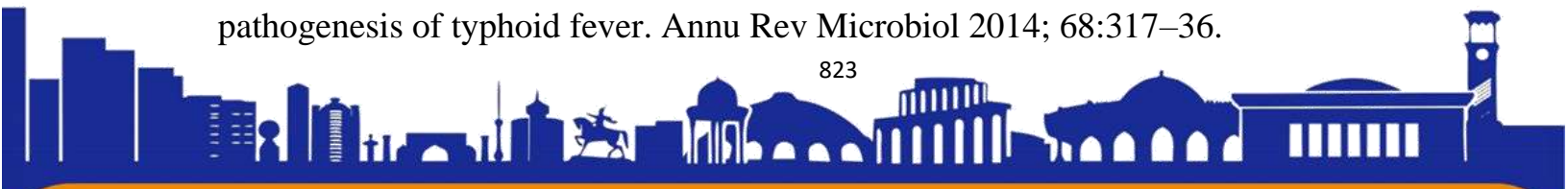


consequences due to the large number of vaccines. Despite the fact that there is not enough scientific evidence to accurately determine whether thiomersal caused any side effects. It has not been added to most childhood vaccines since 1999. However, in some vaccines, such as the DPT vaccine, it is still present, while in others it is found in small amounts. Again, there is no scientific evidence that thiomersal poses any threat to the health and life of a child. Parental Commitment and Vaccine Prevention Paul Offit is an American pediatrician specializing in infectious diseases and engaged in vaccination, immunology and virology [26-29].

**Conclusions.** Over the past hundred years, preventive vaccination has significantly reduced the incidence and mortality from infectious diseases worldwide. This process is regulated by the national routine vaccination schedule in all countries. All children should be able to reach their full potential in health and well-being, and no child should die from preventable causes. Improving the practice of vaccine prophylaxis in the world brings new benefits for the preservation of children's health through timely response to changes in the epidemiological situation, licensing of new vaccines and analysis of their effectiveness and safety. Thus, despite the fact that in recent decades it has been shown that vaccination within the framework of a routine immunization program has been extremely effective, the NCPP requires serious improvement in order to take into account current trends in the development of vaccination.

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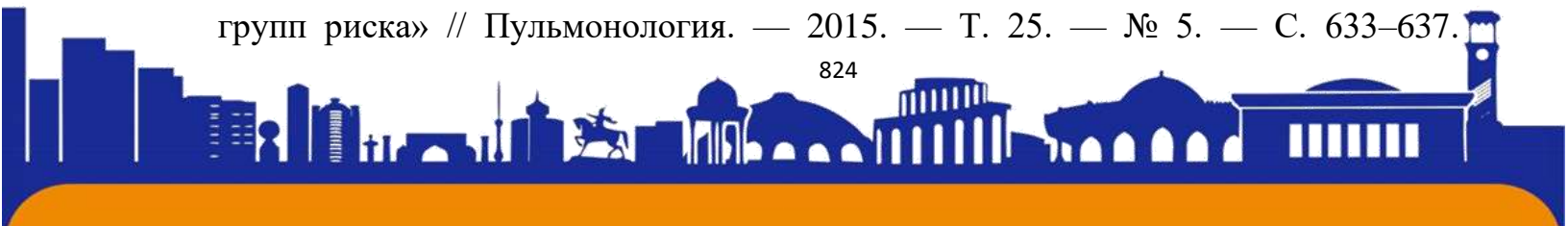
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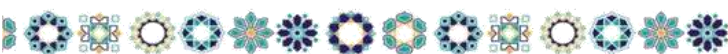
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