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EVALUATION OF THE EFFECTIVENESS OF IMMUNIZATION IN YOUNG CHILDREN

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Abstract

Relevance. Immunoprophylaxis is one of the effective measures to combat infectious diseases. Significant progress in the fight against infectious diseases is associated with vaccination, and this is the basis for the prospects for the complete elimination of certain infectious diseases.

The purpose of the study is to evaluate the effectiveness of preventive vaccinations, to substantiate the medical, social and economic significance of immunoprophylaxis in the health management system of the child population.

Materials and methods. For the study, we used data from statistical accounting forms No. 112 / y "Medical record of a patient receiving medical care on an outpatient basis" and "Medical record of an inpatient (medical history)" for 2021 - 2023. The target cohort of the study is children of the first two years of life living in Tashkent and the Tashkent region (Angren, Almalyk and Chirchik).

Results and discussion. According to studies, in 2021-22, 82.5% of children of the first week were vaccinated. However, the analysis of the data of the form indicates that the coverage of vaccination against pneumococcal infection in children from 2 months. up to a year of the total number of persons to be vaccinated was 40%, respectively. At the same time, in 2021, only 65% of children were vaccinated in the first six months of life. Among the vaccinated children, most of them are children aged 18 months. The main group ("case") is often sick children. To the main group included: Tashkent - 112, Angren - 84, Almalyk - 77, Chirchik - 65.

Inference. Both a high proportion of parents' refusal to vaccinate children (24.8%) and a large percentage of the lack of data on the causes of violations in routine immunization of children (6.1%) have been established.

Keywords: immunization, vaccinations, children, safety and efficacy.

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Introduction

Immunoprophylaxis is one of the effective measures to combat infectious diseases. Significant progress in the fight against infectious diseases is associated with vaccination, and this is the basis for the prospects for the complete elimination of certain infectious diseases.

Uzbekistan has made some progress in implementing the Vaccination Program. Vaccination against infectious diseases is a frequent part of the complex of concerns for the health of citizens, primarily children [1, 3, 5].

The strategy of immunoprophylaxis in the Republic of Uzbekistan according to general laws, the WHO recommendation is convenient, persecuted and aimed at vaccination coverage of the population [2, 4].

At the same time, there is a broad reason why many diseases have manifested themselves in the world in a stable sporadic form, and some diseases that have been eliminated earlier "do not return" by vaccination [3, 6, 7].

According to the Decree of the President of the Republic of Uzbekistan dated July 27, 2020 "On measures to organize the activities of the sanitary and epidemiological welfare and public health service of the Republic of Uzbekistan" No. PF-4790, the Sanitary and Epidemiological World and Society under the Ministry of Health of the Republic of Uzbekistan. In accordance with the REGULATIONS on the Committee on Health, the Committee for Sanitary and Epidemiological Control of the World and Public Health made the following requirements:

- identification of promising areas in the field of prevention and diseases, sanitation, hygiene, epidemiology, parasitology, microbiology, virology and coordination of fundamental and applied scientific research of a healthy lifestyle, providing citizens with sanitary and hygienic education covering all scientific groups and increasing the level of sanitary culture of wide dissemination and implementation of practical measures aimed at organizing education;
- training of employees in various fields on a fee-contract basis in sanitary rules, norms and rules of hygiene;
- These include the quality and preventive efficacy of vaccinations among the population, risk analysis with mandatory coverage, implementation of measures

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in the field of immunological prevention of infectious diseases, taking into account evidence-based approaches [8, 10].

To date, immunoprophylaxis occupies one of the leading places in the conduct of anti-epidemic measures of infectious diseases. The World Health Organization's program to combat infectious diseases to reduce the incidence and eliminate them is based on immunoprophylaxis [9, 10].

In its World Economic Direction Report, the World Bank recognizes that vaccination is the most effective and cost-effective preventive measure known to modern medicine. Mass vaccination of children significantly reduces morbidity and mortality from infectious diseases, increases life expectancy, promotes active aging and makes it possible to completely eradicate some anthroponotic infectious diseases on a global scale.

Based on the analysis of epidemiological, immunological and economic efficiency, it has been established that immunoprophylaxis is the basis for combating infectious diseases with various transmission mechanisms.

The purpose of the study is to evaluate the effectiveness of preventive vaccinations, to substantiate the medical, social and economic significance of immunoprophylaxis in the health management system of the child population.

Materials and Methods

To study the reasons for the hereditary relationship between childhood vaccination and the incidence of invasive and non-invasive forms of various infections, we used data from statistical registration forms No. 112/y "Medical record of a patient receiving medical care on an outpatient basis" and "Medical record of an inpatient (medical history)" for 2021-2023.

The study design is a multicenter observational analytical epidemiological study – case-control. The target cohort of the study is children of the first two years of life living in Tashkent and the Tashkent region (Angren, Almalyk and Chirchik). The study was conducted on the basis of children's polyclinics in the listed cities. The "case" group included children aged 2 months to 2 years (hereinafter referred to as 2 years 11 months 29 days), often ill (from 4 times or more per year of cases of acute respiratory infections (ARI), including community-acquired pneumonia - WHO criterion.). The "control" group

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included children from 2 months to 2 years old, rarely ill (0-3 times a year with ARI).

Data from statistical forms were entered into specially designed questionnaires. The first stage of the study consisted in the analysis of questionnaires received from outpatient clinics. 875 questionnaires from the following cities were processed: Tashkent – 317, Angren – 263, Almalyk – 181, Chirchik – 114.

The second part of the study was conducted on the basis of children's hospitals. Case histories were selected by random selection. For the study, 354 case histories of children from hospitals were selected: Tashkent – 128, Angren – 86, Almalyk – 78, Chirchik – 62.

Lack of vaccination against pneumococcal infection was considered a risk factor. Vaccination was carried out within the framework of the National Immunization Schedule. Statistical processing of the obtained data was carried out using standard software packages Microsoft Excel 2007 for Windows (Microsoft), SPSS Statistics for Windows.

Results and Discussion

According to studies, in 2021-22 82.5% of children of the first week of HBV, BCG and OPV were vaccinated. However, the analysis of the data of the form indicates that the coverage of vaccination against pneumococcal infection in children from 2 months. up to a year of the total number of persons to be vaccinated was 40%, respectively. At the same time, in 2021, only 65% of children were vaccinated in the first six months of life. Thus, we can talk about the untimely start of vaccination, its shift to older age groups than provided for in the National Immunization Calendar.

Among the vaccinated children, mainly children aged 18 months. The main group ("case") is often sick children. The main group included: 112 in Tashkent, 84 in Angren, 77 in Almalyk, 65 in Chirchik.

In total (in all cities) the total number of children in the main group was 338, of which 127 were at risk. The control group ("control") is rarely sick children.

As a result of the analysis of all completed questionnaires, the significance of differences ($p < 0.001$) between the number of vaccinated and unvaccinated among often and rarely ill children was established. Summarizing all the data obtained, the proportion of vaccinated children against PI was 41.5%.

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Thus, it can be concluded that the best rates of vaccination coverage against PI in children from 2 months to 2. The proportion of children who did not receive vaccination on the basis of an officially formalized refusal of their parents was 24.8%, for medical reasons - 7.1%. At the same time, it was not indicated in official documents for what reason 6.1% of children were not vaccinated. The next objective of the study was to determine the relationship of the risk factor (lack of vaccination against pneumococcal infection) with the incidence of PI.

Thus, in a multicenter epidemiological observational analytical study of the "case-control" type, conducted according to data from polyclinics and children's hospitals in a number of cities, it was reliably established that there was a causal relationship between the lack of vaccination of children against PI and the incidence of cases of pneumococcal etiology.

Findings

1. The results of the study indicate a high preventive efficacy of vaccinations of children under 2 years of age against PI.
2. The chance of meeting a child who is not vaccinated against pneumococcal infection among frequently ill children compared to rarely ill children is 3:1.
3. Both a high proportion of parents' refusal to vaccinate children (24.8%) and a large percentage of the lack of data on the causes of violations in routine immunization of children (6.1%) were established.
4. The results of the study prove the need for extensive public awareness and training of health workers on vaccine prevention.

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