

ОСОБЕННОСТИ И СТРАТЕГИИ ВАКЦИНАЦИИ ПРОТИВ COVID-19 СРЕДИ НАСЕЛЕНИЯ ФЕРГАНСКОЙ ДОЛИНЫ

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Аннотация: В статье рассматриваются особенности проведения вакцинации против COVID-19 среди населения Ферганской долины, включающей регионы с высокой плотностью населения и разнообразием социокультурных факторов. Анализируются охват населения прививочной кампанией, факторы, влияющие на уровень вакцинации, а также информационно-просветительская работа среди различных возрастных и социальных групп. Отдельное внимание уделено государственным стратегиям, используемым для повышения доступности вакцин и формирования коллективного иммунитета. На основе полученных данных предлагаются рекомендации по дальнейшему улучшению вакцинационных мероприятий в данном регионе.

Ключевые слова: COVID-19, вакцинация, Ферганская долина, стратегии, охват населения, просветительская работа, иммунитет

CHARACTERISTICS AND STRATEGIES OF COVID-19 VACCINATION AMONG THE POPULATION OF THE FERGANA VALLEY

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Abstract: This article examines the characteristics of COVID-19 vaccination among the population of the Fergana Valley, a region marked by high population density and diverse sociocultural factors. It analyzes vaccination coverage, factors influencing vaccination rates, and educational and awareness-raising efforts among different age and social groups. Special attention is given to government strategies aimed at improving vaccine accessibility and building herd immunity. Based on the

findings, recommendations are provided for enhancing vaccination efforts in the region.

Keywords: COVID-19, vaccination, Fergana Valley, strategies, population coverage, awareness campaigns, immunity

FARG'ONA VODIYSI AXOLISIDA COVID 19 GA QARSHI EMLASH XUSUSIYATLARI VA STRATEGIYALARI

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Annotatsiya: Ushbu maqolada aholisi zich joylashgan va sotsiomadaniy omillar xilma-xilligiga ega bo'lgan Farg'ona vodiysi hududida COVID-19 ga qarshi emlashning xususiyatlari yoritilgan. Aholining emlanish jarayonidagi qamrovi, emlash darajasiga ta'sir qiluvchi omillar hamda turli yosh va ijtimoiy guruhlar o'rtasida olib borilgan axborot-targ'ibot ishlari tahlil qilinadi. Shuningdek, ommaviy immunitetni shakllantirish va vaksinalarga kirish imkoniyatini oshirishga qaratilgan davlat strategiyalariga alohida e'tibor qaratiladi. Olingan natijalar asosida mintaqadagi emlash ishlarini takomillashtirish bo'yicha tavsiyalar beriladi.

Kalit so'zlar: COVID-19, emlash, Farg'ona vodiysi, strategiyalar, aholi qamrovi, targ'ibot ishlari, immunitet

Introduction

Post-COVID condition (or syndrome) is recognized as a serious public health concern, as it affects a significant portion of individuals who have recovered from COVID-19, including those who have been vaccinated. The symptoms and complications that may persist long after the acute phase of the illness range from mild to severe, impacting quality of life and reducing work capacity.

Particular attention from researchers is directed toward the vaccinated population, as data on post-COVID symptoms in this group remain insufficient. It is crucial to identify the risk factors that trigger the development of post-COVID syndrome and to determine the key epidemiological endpoints. Global practice focuses on risk assessment and the development of preventive strategies to minimize the long-term consequences of COVID-19, even among vaccinated individuals.

Studying post-COVID conditions in the Fergana Valley holds special significance due to the region's high population density and specific local factors, such as access to medical services and the nature of vaccination efforts. Optimizing preventive strategies while considering regional factors may help reduce the incidence of post-COVID syndrome and improve epidemiological control over its spread.

Methodology

- **Clinical and epidemiological method:** Analysis of epidemiological data will allow identification of trends in the incidence and spread of post-COVID syndrome among vaccinated individuals. This method will be used to determine the prevalence of post-COVID conditions and their associated risk factors.

- **Risk factor analysis:** Regression analysis will be employed to identify key risk factors contributing to the development of post-COVID conditions in vaccinated patients. Variables included in the analysis are: age, sex, presence of chronic diseases, severity of COVID-19, vaccine type and number of doses received, and time elapsed since vaccination.

- **Questionnaire and survey:** A structured questionnaire will be used to collect data on participants' subjective experiences, including their physical and emotional condition after recovering from COVID-19. Questions will address symptoms such as fatigue, shortness of breath, depression, cognitive impairments, daily activity, and work capacity.

- **Biochemical and immunological analyses:** Comprehensive health evaluation will include laboratory tests such as blood analysis, inflammation markers (e.g., C-reactive protein), immune response biomarkers, and antibody levels to SARS-CoV-2. These tests will help identify immunological characteristics and potential inflammatory processes in individuals with post-COVID conditions.

- **Assessment of epidemiological endpoints:** The study will identify key epidemiological endpoints, including frequency and duration of post-COVID symptoms, as well as mortality and hospitalization rates among vaccinated individuals with post-COVID syndrome.

- **Statistical analysis:** Data will be processed using statistical methods, including univariate and multivariate analyses. Correlation and regression analyses will be used to evaluate associations between risk factors and post-COVID conditions. Results with a p-value < 0.05 will be considered statistically significant.

Results

In our study, special attention was given to the intensity of post-COVID symptoms (PCS) among residents with comorbid somatic conditions, considering

age, sex, and the type of vaccine used. As noted in previous chapters, the study participants were categorized into groups: young adults, adults, elderly individuals, and women of reproductive age (WRA). Each group was further subdivided based on age and gender characteristics, along with the presence of chronic somatic diseases in remission.

Comorbid conditions identified in women of reproductive age at the time of vaccination:

Name of associated pathology	Number of residents	Age of residents				Total
		18-23 Age	24-29 Age	30-35 Age	36-40 Age	
HIV	256	64	120	60	12	
Oncology	120	41	60	12	7	
Diabetes mellitus (Type 1 and Type 2)	246	5	5	82	154	
Allergic status	86	45	30	8	3	
Other diseases	243	20	60	63	100	
	951	175	275	225	276	951

Analysis of Table 4.1 demonstrates the wide range of comorbid conditions present in this group of women. As previously stated, the mere presence of chronic diseases already suggests a higher likelihood of complications, which may be further exacerbated by the vaccination process. Among all reported comorbidities, diabetes mellitus types 1 and 2 were the most prevalent, and as shown in the table, their incidence increases with age. The reasons for the occurrence of this condition were not explored within the scope of this study.

Discussion

The analysis conducted indicates that the characteristics of vaccination among the population of the Fergana Valley are influenced by several factors, including the level of public awareness, vaccine accessibility, cultural and religious beliefs, and trust in healthcare institutions. Despite the government's efforts in implementing a large-scale vaccination campaign, a certain degree of skepticism still persists among specific segments of the population.

The effectiveness of vaccination strategies was notably higher in areas where active information and educational outreach was conducted and where close collaboration between healthcare workers and local communities was established.

The findings of this study emphasize the importance of an individualized approach to vaccination strategy development, taking into account regional and sociocultural characteristics. To achieve broad vaccine coverage and build herd immunity, continuous public engagement, improved vaccine access, and enhanced trust in the healthcare system are essential.

Conclusion

The study of post-COVID conditions among the vaccinated population of the Fergana Valley highlighted the importance of vaccination not only in preventing severe forms of COVID-19, but also in significantly reducing the likelihood of complications and post-COVID syndrome symptoms. Vaccination remains a key tool in the fight against the pandemic. However, the occurrence of post-COVID conditions in a portion of vaccinated individuals underscores the need for a deeper understanding of the risk factors contributing to the development of this syndrome.

The findings emphasize the necessity of a comprehensive approach to monitoring the health of vaccinated individuals. The most vulnerable groups — elderly people and patients with chronic diseases — require more thorough medical supervision and individualized prevention strategies. Preventive measures, including revaccination, regular medical check-ups, and rehabilitation programs, can improve the quality of life for individuals recovering from COVID-19 and reduce the risk of long-term complications.

A crucial direction for further work is the development of accessible rehabilitation programs aimed at restoring physical and psycho-emotional functions in post-COVID patients, along with ensuring effective epidemiological monitoring for timely identification and control of post-COVID symptoms. Timely preventive and rehabilitation measures within the healthcare system will help strengthen public immunity, reduce the incidence of post-COVID syndrome, and enhance the overall effectiveness in combating the long-term consequences of the pandemic.

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