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THE MANIFESTATION OF THE EPIDEMIC PROCESS OF VIRAL HEPATITIS A IN THE TERRITORIES OF JIZZAKH REGION

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Abstract

According to the 2024 Global Hepatitis Report of the World Health Organization, the number of victims of this disease continues to grow. Hepatitis ranks second in the world among infectious diseases by mortality, and 1.3 million people die from this disease annually, which is equivalent to deaths caused by tuberculosis.

In our country and many other nations, the morbidity (incidence) rate of viral hepatitis A has remained high to date. In Uzbekistan, the incidence of viral hepatitis A remains elevated today – its rate per 100,000 population in 2010 exceeded 100, however, compared to the 1990s, the incidence rate decreased by 3.7 times [59,64,70].

Currently, in order to improve the prevention of all viral hepatitis infections in our republic, measures are being implemented based on the Order of the Ministry of Health of the Republic of Uzbekistan dated August 27, 2018, № 542 “On further improving measures for diagnosis, treatment, and prevention of viral hepatitis in the Republic of Uzbekistan.” Although in recent years viral hepatitis A (VHA) shows a tendency of decline, epidemic outbreaks are periodically registered in certain regions. Due to changes in the clinical course and epidemiological characteristics of VHA at the present stage, it is necessary to study these epidemiological features.

In Jizzakh region, such scientific research has been carried out insufficiently. Therefore, at present, it is necessary to conduct studies to evaluate the effectiveness of vaccination-preventive measures, improve prevention of viral hepatitis A, and enhance epidemiological control.

Keywords: Viral hepatitis A, epidemiology, prevention.

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Introduction

Purpose of the study

To assess the manifestation of the epidemic process of viral hepatitis A in the Jizzakh region by territories.

Research methods and materials

To fulfill the research tasks and achieve the goal, epidemiological (retrospective), social, and statistical (Pearson chi-square (χ^2) coefficient and Fisher's method) methods were used.

For conducting the research, official data and reports on measles morbidity available at the Jizzakh Regional Sanitary and Epidemiological Well-being and Public Health Committee were taken as the research object, along with epidemiological investigation maps of viral hepatitis A outbreaks.

Results obtained

A comparative analysis of the average intensive indicators of viral hepatitis A morbidity among the general population and among children under 14 was carried out by districts in Jizzakh region. The obtained data allowed identifying territorial differences and impartially assessing the epidemiological situation observed among children.

According to the results, the average intensive indicators of viral hepatitis A morbidity among the general population significantly differed across districts. The highest rate was registered in Yangiabad district – 179.47 per 100,000 population, indicating a high epidemiological burden in this area. Likewise, relatively high figures were observed in Jizzakh city – 97.23 per 100,000 and in Mirzachul district – 91.41 per 100,000. In contrast, in Forish district this indicator was 31.52, and in Sh. Rashidov district – 31.67, suggesting that the epidemiological situation is relatively stable in these territories.

The analysis of average intensive indicators among children under 14 demonstrated even more pronounced territorial differences. In particular, the incidence rate among children in Yangiabad district reached 350.12 – the highest among all districts. Similarly, Mirzachul district recorded 272.94, and Jizzakh city – 258.20 per 100,000, maintaining high intensity. This indicates a high level of epidemiological risk among children in these regions.

Comparative analysis showed that in all districts, intensive indicators among children under 14 were on average 2–3 times higher than the general population. For example, this difference was most clearly expressed in Yangiabad district, confirming the significant activity of the epidemiological process in the children's group. Likewise, high indicators among children were noted in Zomin, Gallaorol, and Dustlik districts – these territories may be considered an epidemiological risk group.

This situation can be explained by: the insufficient maturity of children's immune systems, incomplete formation of hygienic skills, high density of contacts in schools and collective institutions, as well as insufficient implementation of preventive measures in certain regions. These factors are seen as the main reasons contributing to increased morbidity intensity among children.

Thus, the obtained results indicate that the epidemiological situation differs significantly by districts, and children under 14 represent a high-risk group requiring special attention. Especially in Yangiabad, Mirzachul, and Jizzakh city, it is advisable to strengthen targeted preventive and sanitary-

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hygiene measures aimed at reducing morbidity among children, improve epidemiological monitoring, and introduce early-detection measures.

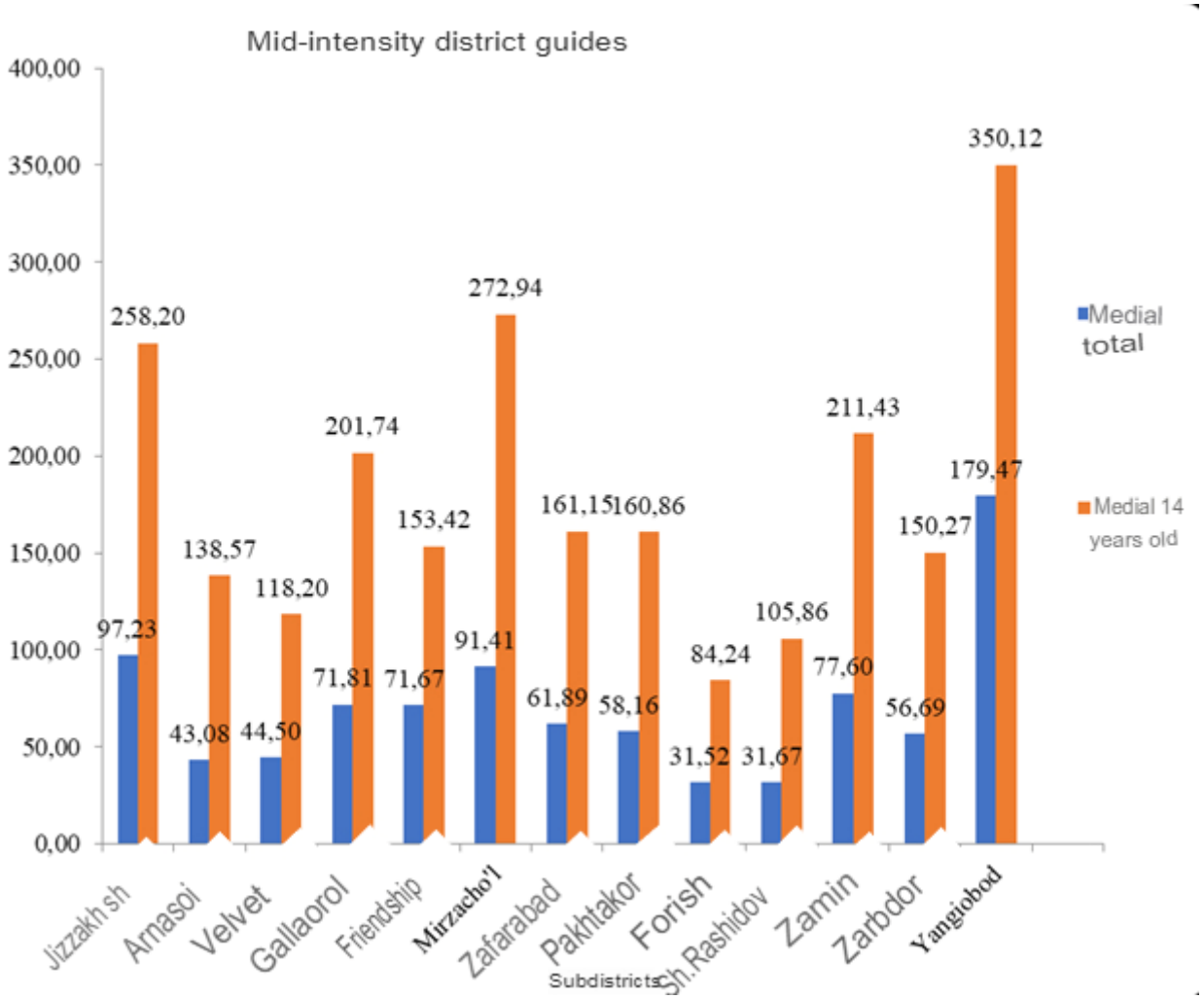

Figure 4. Comparative analysis of the average intensive indicators of viral hepatitis A morbidity among the general population and children under 14 years of age in Jizzakh region.

When analyzing vaccination coverage against hepatitis A in Jizzakh region during the years 2015–2024, it was found that vaccination coverage has been expanding year by year. In 2015, a total of 76 children were vaccinated, while in 2024 – a total of 37,562 children received vaccination. This demonstrates a sharp increase in vaccination coverage over the past 10 years and indicates that preventive measures have been gradually introduced among the population.

When examining vaccination rates by years, it is evident that coverage in 2015–2017 was very low and limited to pilot or targeted immunization. In 2018–2019, vaccination was widely implemented, and coverage grew rapidly, with 9,054 children vaccinated in 2018 and 20,923 in 2019.

In 2020, a decline in the rate of immunization was observed, with 13,727 children vaccinated. This decrease is associated with the emergence of the COVID-19 pandemic and the increased load on healthcare services.

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In 2021–2022, vaccination coverage became active again, with 26,888 children vaccinated in 2022, 21,393 children in 2023, and 37,562 children in 2024.

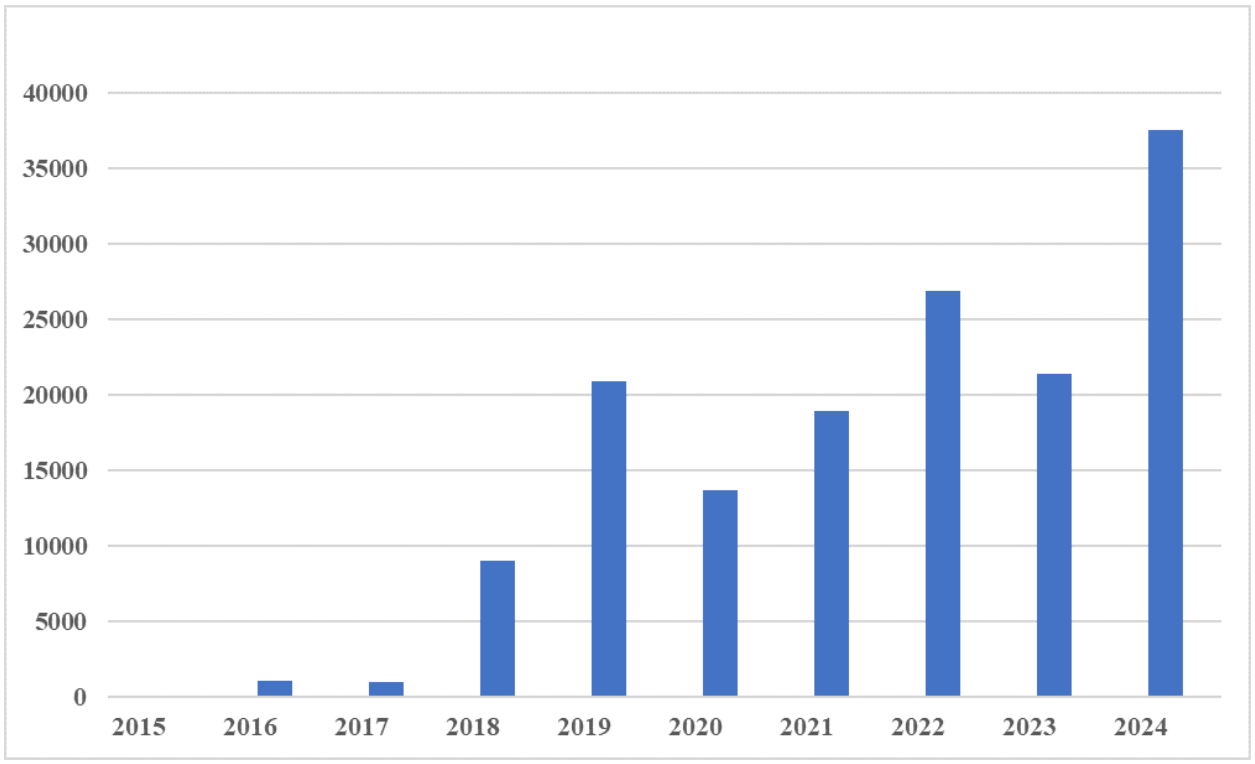

Figure 2. Number of children vaccinated for preventive purposes against viral hepatitis A in Jizzakh region, 2015–2024

Conclusions:

1. The results of the conducted research showed that the epidemic process of viral hepatitis A in Jizzakh region is not uniform across territories. The average intensive morbidity indicators among the general population and especially among children under 14 differed significantly by districts. The highest indicators were recorded in Yangiabad district, Mirzachul district, and Jizzakh city, indicating a high level of epidemiological risk in these areas. The fact that morbidity indicators among children are 2–3 times higher than those of the general population confirms that this age group is a separate high-risk category.
2. Throughout 2015–2024, vaccination coverage against viral hepatitis A has gradually expanded, which is an important factor in improving the effectiveness of preventive measures. At the same time, the persistence of high morbidity rates in certain territories indicates the need to further strengthen epidemiological surveillance, enhance sanitary-hygienic measures in children's institutions, and introduce targeted preventive strategies. The obtained results substantiate the importance of applying a comprehensive approach to viral hepatitis A prevention in Jizzakh region, taking into account territorial characteristics.

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