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CLINICAL AND IMMUNOLOGICAL PROFILE OF PEDIATRIC HYMENOLEPIASIS: NEW PERSPECTIVES IN DIFFERENTIAL DIAGNOSIS

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Abstract
In this article, the prevalence of helminthiasis among 1st to 3rd-grade students of secondary schools in the Kasbi and Karshi districts of the Kashkadarya region was studied. Within the framework of the research, a total of 1,850 students from 24 schools underwent laboratory and epidemiological examinations. Analysis revealed significant differences between the regions: it was found that 17.7% of students in the Kasbi district and 26.2% in the Karshi district were infected with parasitic diseases. The article provides a structural analysis according to the types of helminthiasis identified. In both regions, hymenolepiasis (dwarf tapeworm) occupies the leading position; however, the higher incidence of taeniarhynchosis and ascariasis in the Karshi district indicates the need to strengthen food safety and sanitary control in the area. During the study, the hygienic conditions in schools and the level of children's sanitary culture were also investigated, and based on the results, practical recommendations aimed at reducing the level of invasion among school-aged children were developed.

Keywords: Helminthiasis, parasitic invasion, hymenolepiasis, giardiasis, primary school students, Kashkadarya region, epidemiological control, taeniarhynchosis.

Introduction

One of the most pressing problems in modern pediatrics and infectious disease medicine is the widespread prevalence of parasitic diseases among children. According to the World Health Organization (WHO), more than a quarter of the world's population is infected with helminthiasis, the majority of whom are school-aged children. The long-term presence of parasites in the child's body causes not only digestive system disorders but also chronic intoxication, anemia, weakening of the immune system, and delays in physical and mental development. In the Republic of Uzbekistan, protecting public health, particularly ensuring sanitary-epidemiological stability in schools and preschool educational institutions, is one of the priority directions of state policy. Within the framework of the tasks set by the President of the Republic of Uzbekistan, Sh.M. Mirziyoyev, regarding the reform of the medical system, special attention is being paid to the early prevention and screening analysis of infectious and parasitic diseases. Especially in regions with hot climates and

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high population density, such as the Kashkadarya region, studying the patterns of seasonal and regional distribution of parasitic diseases is of practical importance.

MATERIALS AND METHODS

Study Object and Scope. The study was conducted in two large administrative units of the Kashkadarya region — the Kasbi and Karshi districts. Students in grades 1–3 from a total of 24 secondary schools were selected as the study objects. The total number of individuals examined was 1,850, of whom 1,138 were from the Kasbi district and 712 from the Karshi district.

Research Methods. The study was carried out based on a comprehensive approach, utilizing the following methods:

Parasitological examination: Fecal analysis was conducted under laboratory conditions to identify helminthiasis in children. Standard coprological methods for detecting helminth eggs and protozoan cysts were employed.

Epidemiological questionnaire: Test analyses in the form of specially developed "Dictations" (questionnaires) were conducted among students to determine the sources of helminth infections, clinical symptoms, and the level of knowledge regarding personal hygiene rules.

Sanitary-hygienic audit: The sanitary condition of each educational institution, including the level of drinking water supply, the state of latrines, environmental cleanliness, and hand-washing facilities for students (availability of soap and antiseptics), was directly assessed through visual inspection.
Organizational Framework. The study was carried out by specialists, physicians, and laboratory technicians of the Kashkadarya branch of the RSSPMCE-MIPD (Republican Specialized Scientific and Practical Medical Center of Epidemiology, Microbiology, Infectious and Parasitic Diseases). The process was organized in accordance with the requirements of the assignment letter No. 08-103 of the Administration of the President of the Republic of Uzbekistan dated January 23, 2023, based on a model prevention plan.

RESULTS

As a result of the comprehensive examinations, it was determined that the infection rates with helminthiasis differ across the two districts of the Kashkadarya region. The research results are summarized in the following table:

Table 1. Prevalence rates of helminthiasis in Kasbi and Karshi districts

Indicators	Kasbi District	Karshi District	Total
Number of students examined	1138	712	1850
Number of identified cases (abs.)	202	187	389
Infection rate (%)	17.7%	26.2%	21.0%

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When studying the structure of the parasites identified through laboratory analysis, it was found that Hymenolepiasis (dwarf tapeworm) occupies the leading position in both regions. However, a wider spectrum of various helminthiasis types was observed in the Karshi district (Table 2).

Table 2. Structural distribution of identified parasite species (number of cases)

Type of Helminthiasis	Kasbi District	Karshi District	Total
Hymenolepiasis	93	65	158
Giardiasis	69	33	102
Enterobiasis (Pinworm)	37	55	92
Ascariasis	2	16	18
Taeniarhynchosis	1	18	19

In the Kasbi district, the sanitary conditions in schools were assessed as relatively satisfactory; however, the questionnaires (dictations) conducted on personal hygiene showed that students do not possess sufficient knowledge regarding the transmission routes of helminths. In the Karshi district, deficiencies regarding hand-washing facilities and environmental cleanliness were recorded in some schools.

DISCUSSION

The research results indicate that the infection rate with helminthiasis among primary school students in the southern districts of the Kashkadarya region remains high (average 21.0%). Notably, the indicator in the Karshi district (26.2%) is significantly higher compared to the Kasbi district (17.7%). The high rates of Hymenolepiasis and Giardiasis indicate the activity of the fecal-oral transmission mechanism among children in these areas, specifically the non-observance of personal hygiene rules and the inadequate sanitary-technical condition of schools. The high prevalence of Giardiasis may also be associated with the quality of drinking water and the use of open water reservoirs.

The sharp increase in Taeniarhynchosis (18 cases) and Ascariasis (16 cases) indicators in the Karshi district compared to the Kasbi district deserves special attention. The presence of Taeniarhynchosis indicates the consumption of insufficiently heat-treated beef and weak veterinary control in the region. The spread of Ascariasis is presumed to be related to the use of human waste as fertilizer in household plots and the consumption of unwashed produce.

The results of the sanitary audit conducted in schools and the questionnaires among children confirm that treatment with medications alone does not fully solve the problem of helminthiasis. To prevent reinfection (re-invasion), comprehensive "Health Lessons" and the improvement of school infrastructure (providing continuous water and soap supply) are of decisive importance.

CONCLUSION

As a result of the comprehensive epidemiological and parasitological studies conducted, the following conclusions were reached:

Epidemiological situation: The level of infection with parasitic invasions among primary school students in the Kasbi and Karshi districts of the Kashkadarya region remains high (average 21.0%).

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In this regard, the indicator in the Karshi district (26.2%) demonstrates the necessity of further strengthening regional preventive measures.

Structural analysis: Among the identified parasites, hymenolepiasis (40.6%) and giardiasis (26.2%) occupy the leading positions. The high incidence of taeniarhynchosis and ascariasis in the Karshi district indicates the presence of problems related not only to personal hygiene but also to food safety and veterinary control in the region.

Social-hygienic factors: The sanitary-technical condition of schools and the level of children's knowledge about parasitic diseases directly influence the spread of invasion. In many cases, a lack of understanding regarding disease prevention creates a foundation for mass infection.

References

1. Rakhmonov R. N. NEW APPROACHES TO TREATING CHRONIC VIRAL HEPATITIS B //Экономикаисоциум. – 2025. – №. 9-1 (136). – С. 284-286.
2. Rakhmonov R. N., Kh V. D. RECENT DIAGNOSTIC ADVANCEMENTS IN CHRONIC VIRAL HEPATITIS B //Экономикаисоциум. – 2025. – №. 9-1 (136). – С. 281-283.
3. Sobirovna D. N., Zakirovna U. G., Abdujalolovna S. D. Post-covid syndrome in new coronavirus infection. – 2022.
4. Zhasurovich B. Z. OCCULT HBV INFECTION //SHOKH LIBRARY. – 2025.
5. Zhasurovich B. Z. PREGNANCY AND VIRAL HEPATITIS B //SHOKH LIBRARY. – 2025.
6. Ачилова М. М. БЛАСТОЦИСТ ИНВАЗИЯСИ АНИҚЛАНГАН ОИВ ИНФЕКЦИЯЛИ БЕМОРЛАРДА КАСАЛЛИКНИНГ МИКСТ КЕЧИШ ХУСУСИЯТЛАРИ // Экономика и социум. 2025. №2-1 (129).
7. Джумаева Н. С., Ярмухамедова Н. А., Узакова Г. З. Амалиётдан бир холат Covid-19 касаллиги хамрох касалликлар билан кечиш хусусиятлари //Журнал гепато-гастроэнтерологических исследований. – 2021.
8. Курбонова Л., Орзиқулов А., Бахриева З. Бруселлёз касаллигида юрак-қон томир тизимида бўладиган ўзгаришлар //Журнал вестник врача. – 2014. – Т. 1. – №. 1. – С. 4-6.
9. Матьякубова Ф. Э., Ибрагимова Э. Ф., Бахриева З. Д. КЛИНИКО-ЭПИДЕМИОЛОГИЧЕСКАЯ ХАРАКТЕРИСТИКА ШИГЕЛЛЕЗА У ВЗРОСЛЫХ НА СОВРЕМЕННОМ ЭТАПЕ //Вестник науки и образования. – 2020. – №. 22-1 (100). – С. 64-72.
10. Тиркашев О. С., Матякубова Ф. Э., Раббимова Н. Т. Клинико-эпидемиологическая характеристика кори в Самаркандской области //VOLGAMEDSCIENCE. – 2021. – С. 624-625.
11. Узакова Г. З., Ярмухамедова Н. А., Джумаева Н. С. Болаларда коронавирус инфекцияси кечишининг узига хос хусусиятлари //Журнал гепато-гастроэнтерологических исследований. – 2021.
12. Шодиева Д. А., Ташпулатов Ш. А., Джумаева Н. С. Внешнее дыхание при ботулизме у детей в зависимости от степени тяжести основного процесса //Вопросы науки и образования. – 2021. – №. 6 (131). – С. 35-43.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

13. Шодиева Дилафруз Абдужалоловна, Ташпулатов Шавкат Абдурахимович, Джумаева Насиба Собировна ВНЕШНЕЕ ДЫХАНИЕ ПРИ БОТУЛИЗМЕ У ДЕТЕЙ В ЗАВИСИМОСТИ ОТ СТЕПЕНИ ТЯЖЕСТИ ОСНОВНОГО ПРОЦЕССА // Вопросы науки и образования. 2021. №6 (131).
14. Якубова Н. С., Джураева К. С. Изменения нервной системы при вич инфекции //Uzbek journal of case reports. – 2023. – Т. 3. – №. 3. – С. 97-100.
15. Якубова Нигина Садриддиновна, Джураева Камола Станиславовна Изменения нервной системы при вич инфекции // UJCR. 2023. №3. URL: https://cyberleninka.ru/article/n/izmeneniya-nervnoy-sistemy-pri-vich-infektsii (дата обращения: 20.11.2025).
16. ЯРМУХАМЕДОВА М. К., ЯКУБОВА Н. С., ВОСЕЕВА Д. Х. ОЦЕНКА ПРИМЕНЕНИЯ ГЕПАТОПРОТЕКТОРОВ У БОЛЬНЫХ С ХРОНИЧЕСКИМ ВИРУСНЫМ ГЕПАТИТОМ В //T [a_XW [i [S US S_S^[ůe YfcS^. – 2022. – С. 431.
17. Ярмухамедова М., Ачилова М., Узакова Г. Клиническая характеристика бруцеллеза в самаркандской области //Журнал проблемы биологии и медицины. – 2016. – №. 3 (89). – С. 120-123.
18. Ярмухамедова Н. А. и др. Современные аспекты и роль цитокинового статуса проблемы бруцеллеза Резюме //International Scientific and Practical conference «COVID-19 and other topical infections of Central Asia» June 23-24, 2022, Shymkent. – 2022. – С. 172.
19. Ярмухамедова Н. А., Джумаева Н. С., Восеева Д. Х. ПОСТКОВИД синдромда неврологик ўзгаришлар // UJCR. 2023. №3. URL: https://cyberleninka.ru/article/n/postkovid-sindromda-nevrologik-zgarishlar (дата обращения: 19.11.2025).
20. Ярмухамедова Н. и др. Клинико эпидемиологическое течение коклюша у детей в самаркандской области //Журнал проблемы биологии и медицины. – 2016. – №. 3 (89). – С. 124-124.

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