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REGIONAL TRENDS IN OBESITY-RELATED HEALTH ISSUES AMONG CHILDREN AND ADOLESCENTS IN UZBEKISTAN: A FOCUS ON ENDOCRINE AND METABOLIC DISORDERS

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ABSTRACT

Obesity among children and adolescents is a growing health concern in Uzbekistan, with significant implications for public health. This study aims to analyze the morbidity structure related to obesity in children aged 11-14 years in two regions of Uzbekistan: Tashkent and the Fergana Valley. The research highlights the leading health issues affecting children with obesity, focusing on endocrine diseases, nutritional and metabolic disorders, blood-related disorders, and other related conditions.

In the Tashkent region, endocrine disorders and metabolic conditions were the most common among obese children, accounting for 24.6% of cases, followed by blood diseases and digestive disorders. Mental health issues, such as behavioral disorders, were also observed. In the Fergana Valley, similar trends were found, with a higher prevalence of endocrine disorders (29.6%) and digestive diseases (11.9%). Furthermore, significant gaps were identified in medical documentation and monitoring, with 56% of children with obesity not having a formal diagnosis or regular consultation with an endocrinologist.

The study also reveals that pediatricians in the outpatient sector often overlook the importance of obesity in children's health, resulting in insufficient attention to monitoring and treatment. Additionally, many children lack consistent anthropometric data, which further complicates the diagnosis and management of obesity.

This study underscores the need for comprehensive preventive measures, including improved healthcare protocols, regular screenings, and increased awareness among parents and healthcare providers. Addressing the regional disparities in the management of obesity is essential for reducing its prevalence and preventing associated health issues. The findings contribute to a better understanding of obesity-related morbidity in Uzbekistan and can inform future public health initiatives aimed at combating childhood obesity and its related complications.

Keywords: Obesity, children, adolescents, endocrine diseases, metabolic disorders, morbidity, Uzbekistan, regional health disparities, public health.

INTRODUCTION

Obesity has become a global epidemic, with approximately 250 million people worldwide affected, representing 7% of the adult population. Experts from the World Health Organization (WHO) predict a near doubling of the number of obese individuals by 2025. In comparison to the year 2000, this increase will represent 45-50% of the adult population in the USA, 30-40% in Australia, the UK, and more than 20% in Brazil. WHO has identified obesity as a new non-communicable "epidemic" of our time. In the European Region, obesity has tripled in the last

two decades. Half of the adult population in these countries and one in five children are overweight, with a third suffering from obesity. Obesity now affects about 30% of the global population, and projections indicate that by 2030, 70% of people worldwide will be overweight. Each year, obesity-related diseases cause over a million deaths in this region.

According to WHO data, around 22 million children under five years old and 155 million school-age children are overweight. In economically developed countries, up to 25% of adolescents are overweight, with 15% affected by obesity. The International Obesity Taskforce reports that the annual increase in obesity rates, which was 0.2% in 1970, surged to 2% by 2000.

A third of adult obesity cases start in childhood or adolescence, with more pronounced weight gain and higher risk of associated diseases compared to those who develop obesity in adulthood. 80% of obese adolescents retain excess weight into adulthood.

Obesity in children is a high risk factor for hypertension, insulin-dependent diabetes, atherosclerosis, and heart disease. By the age of 10, 60% of obese children already exhibit one risk factor for cardiovascular disease, and 20% have two or more. Adolescent obesity is often linked to hypertension (70%) and impaired glucose tolerance (25%).

This study aims to analyze the prevalence, morbidity, and structure of obesity in children and adolescents in Uzbekistan, with an emphasis on the geographic and social factors contributing to this growing medical and social problem. Early prevention, identification, and treatment of obesity and metabolic disorders are critical priorities in modern healthcare.

MATERIALS AND METHODS

The medico-sociological research included the extraction of data from medical records (Form №025/u) and development history (Form №030/u), followed by an in-depth medical examination of children and adolescents. Additionally, the study analyzed data from routine medical check-ups in educational institutions for children, dispensary groups, and those registered with endocrinologists due to obesity, as well as the reporting documentation from healthcare institutions in Uzbekistan. The study period covered three years (2012-2014).

When studying the anamnesis through a questionnaire method, special attention was given to previous illnesses, the presence of chronic diseases, and infection foci. The morbidity analysis was carried out according to the international classification of diseases and health problems (ICD-10, 1986; Iskandarov T.I., 2000).

To study the health of children and adolescents with obesity, it was essential to first examine the pathogenesis of this syndrome, the characteristics of its course, and the functional capabilities of the body, as they are primarily influenced by living conditions, dietary habits, lifestyle, rest, and various emotional states.

Using standard methods of sanitary statistics, intensive indicators were calculated. The average values of morbidity rates (M) and the standard error (m) were determined. The dynamics of obesity morbidity indicators were studied over the three-year period.

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RESULTS

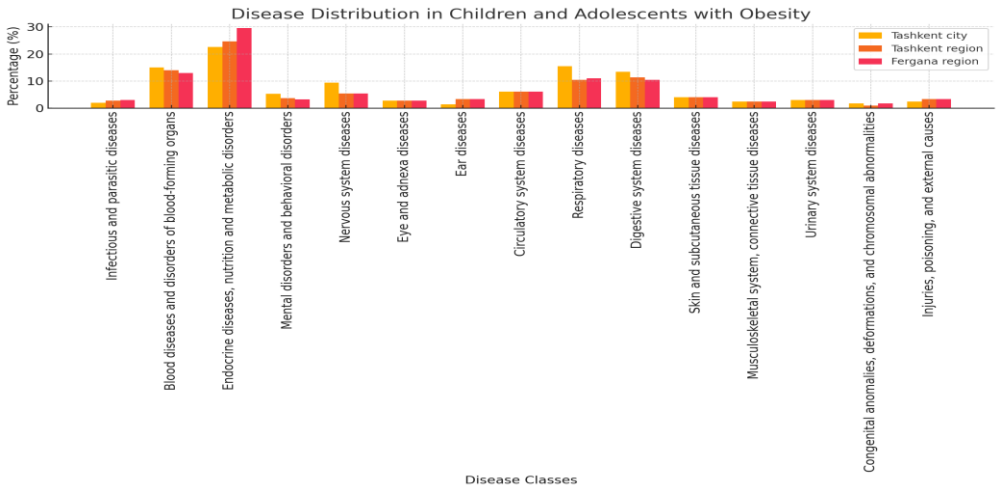
In the period from 2012 to 2014 (2012), a total of 55,824 (5,824) cases of obesity were recorded among the adult population for the first time in the republic. High extensive obesity rates were observed in the Syrdarya region, Tashkent city, Khorezm, Tashkent, and Fergana regions. The causes of obesity in the population were characterized by an imbalance between food intake and energy expenditure, as well as disruptions in the pancreas, liver, and both the small and large intestines. In other regions, no such high obesity rates were found.

When studying the prevalence of obesity among children and adolescents in Uzbekistan, it was noted that obesity is increasing among children aged 10-18 years. From 2012 to 2014, a total of 54,228 cases of obesity were registered for the first time in the republic. The leading indicators were different from those of the adult population. High extensive obesity rates were found in Tashkent city, Tashkent, Khorezm, and Fergana regions. In other regions, no significant obesity rates were detected, though a slow and steady increase was observed with a rise in 2014. This trend is linked not only to factors such as diet and physical activity but also to the active work of pediatric endocrinologists, hygienists, and dietitians.

The analysis of morbidity among children and adolescents with obesity, based on data from in-depth medical examinations, showed that endocrinological diseases, nutritional disorders, metabolic disorders, pathologies related to the blood and hematopoietic system, gastrointestinal pathologies, issues detected by surgeons (such as scoliosis, flat feet), chronic infection foci (chronic tonsillitis, adenoids), as well as nervous system pathologies (autonomic nervous system disorders, asthenoneurotic syndrome, vegetative-vascular dystonia, various neuroses), and cardiovascular diseases were more frequently observed in children and adolescents (aged 11-15 years) with obesity.

Among the morbidity structure of children and adolescents with obesity aged 11 to 14 years in Tashkent city, the leading diseases were endocrine disorders, nutritional and metabolic disorders (22.6% of children with obesity), digestive system diseases (13.4%), blood and hematopoietic system diseases (15.1%), nervous system diseases (9.4%), psychiatric and behavioral disorders (5.3%), genitourinary system diseases (3.0%), injuries, poisonings, and other consequences of external causes (2.4%), and others.

Thus, the high levels of certain nosological forms are determined by their functional state and the body's resistance, as well as living conditions, work-rest regimes, healthy nutrition, and lifestyle.



Pic-1. Disease distribution in children and adolescences with obesity.

The diagram above visualizes the distribution of diseases among children and adolescents with obesity in Tashkent city, Tashkent region, and Fergana region, based on the ICD-10 classification. Each bar represents the percentage of specific disease classes in each region. Endocrine diseases, nutrition, and metabolic disorders (Class IV) are the most prevalent in all three regions, especially in Fergana. Blood diseases (Class III) and respiratory diseases (Class X) also show considerable percentages across regions. There are noticeable regional variations in some disease categories, such as mental disorders (Class V) and digestive diseases (Class XI), with Tashkent city having higher rates for some conditions.

Picture-1 presents the structure of diseases among children and adolescents with obesity in Tashkent city, Tashkent region, and Fergana region, with percentages representing the distribution of diseases across various categories, based on the International Classification of Diseases (ICD-10).

The table is organized by the disease class from the ICD-10 system, which is listed in the first column.

The second column shows the specific disease categories, ranging from infectious diseases to external causes such as injuries and poisonings.

The next three columns show the percentage of each disease class in Tashkent city, Tashkent region, and Fergana region, respectively. These percentages represent the distribution of diseases within the total number of diseases in each of these regions.

Endocrine diseases, nutrition disorders, and metabolic diseases (Class IV) represent the largest portion of diseases in all three regions. The highest percentage is seen in Fergana region (29.6%), followed by Tashkent region (24.6%) and Tashkent city (22.6%).

Blood diseases and immune-related disorders (Class III) are notable in all three regions, with percentages ranging between 13.0% and 15.0%.

Mental health disorders and behavioral disorders (Class V) are more prevalent in Tashkent city (5.3%) compared to the other regions (3.3% in Fergana and 3.7% in Tashkent region).

Gastrointestinal diseases (Class XI) are more common in Tashkent city (13.4%) than in the other regions.

Respiratory diseases (Class X) show the highest percentage in Tashkent city (15.5%), followed by Tashkent region (10.5%) and Fergana region (11.0%).

Other disease classes such as skin diseases (Class XII), bone-joint system disorders (Class XIII), and urinary system diseases (Class XIV) have similar percentages across the regions.

In the structure of morbidity among children and adolescents with obesity aged 11 to 14 years in the Tashkent region, the leading place was occupied by endocrine diseases, nutritional disorders, and metabolic disorders (in obese children – 24.6%), blood diseases, blood-forming organs, and specific disorders involving immune mechanisms, endocrine diseases, nutritional disorders, and metabolic disorders (in obese children – 14.6%), digestive organ diseases (11.9%; 10.2%), nervous system diseases (5.4,1%), mental disorders and behavioral disorders (3.7%), diseases of the urinary system (3.0%), injuries, poisoning, and other consequences of external causes (3.4%), and others. It should be noted that children and adolescents with obesity in the Tashkent region lack healthy lifestyle skills. The analysis of the disease structure among children and adolescents with obesity in the Fergana Valley showed that the leading place was occupied by endocrine diseases, nutritional disorders, and metabolic disorders (in obese

children – 29.6%), digestive organ diseases (11.9%), blood and blood-forming organ diseases (7.1%), digestive organ diseases (10.4%), nervous system diseases (5.4,1%), mental disorders and behavioral disorders (3.6%), diseases of the urinary system (3.0%), injuries, poisoning, and other consequences of external causes (3.4%), skin and subcutaneous tissue diseases, circulatory system diseases, musculoskeletal system diseases (3.4; 2.7). The increase in the aforementioned diseases may be related to the decreased protective properties of children's and adolescents' bodies due to excessive nutrition, failure to follow a balanced diet, daily routines, etc. When assessing the morbidity level among children and adolescents with obesity, despite the high prevalence, no severe forms of chronic pathology were registered. The endocrinologist examined and diagnosed "obesity" in the outpatient card, and 50% of them were referred by the district pediatrician specifically due to excess body weight. Parents of 5% of children sought the endocrinologist's consultation independently because they were concerned about their child's excess weight. It was found that 56% of the children with obesity examined did not have a diagnosis of "obesity" in the outpatient documentation, were not consulted by an endocrinologist, and therefore did not receive any preventive or therapeutic recommendations. 25% of the examined children lacked regular anthropometric data. Children diagnosed with "obesity" in form 112/u, issued by an endocrinologist during outpatient examination or by a hospital doctor, also did not undergo follow-up examinations, and their body weight dynamics were not monitored. It should be noted that pediatricians in the outpatient network do not consider obesity in children to be a significant health issue requiring constant monitoring and attention, or they fail to reach mutual understanding with parents of children with obesity.

CONCLUSION

The identified regional features of obesity morbidity among children and adolescents will aid in conducting targeted measures to further reduce this pathology in Uzbekistan.

REFERENCES

1. Проблема ожирения в Европейском регионе ВОЗ и стратегии ее решения/Резюме. Под редакцией Francesco Branca, Haik Nikogosian и Tim Lobstein. – ВОЗ, 2007. – 96 с.
2. Беляева Т.Н. Ожирение // Вопросы охраны материнства и детства. 1985. № 8. с 11-13.
3. Волгина С.Я., Валиуллина М.Х. – Факторы риска развития ожирения у девушек – подростков. // Российский педиатрический журнал. 2005. №4. с. 60-63.
4. Rankinen T., Perusse L., Weisnagel S. Et al. The human obesity gene map: the 2001 update. Obes. Res., 2002, 10 (3), 196-243
5. IDF (International Diabetes Federation). The IDF consensus definition of the metabolic syndrome in children and adolescents. — Brussels : IDF, 2007. - 24 p.
6. Ford E. S. Defining the metabolic syndrome in children and adolescents: will the real definition please stand up? / E.S. Ford, C. Li // J. Pediatr. — 2008. — Vol. 152. — P.160–164.
7. Рахимов Баходир Бахтиёрович. Особенности заболеваемости детей и подростков Республики Узбекистан, страдающих ожирением // Гигиена и санитария. 2017. №3.

8. Шайхова Г. И., Рахимов Б. Б. Пропаганда принципов рационального питания при ожирении //Медицинский журнал Узбекистана. – 2014. – №. 2. – С. 138-141.
9. Шайхова Г. И., Рахимов Б. Б. Совершенствование профилактики ожирения у детей и подростков //Монография.//Lambert Academic Publishing RU. – 2017. – С. 26-30.
10. Shaykhova G. I., Rakhimov B. B. Promotion of the principles of rational nutrition in obesity //Medical Journal of Uzbekistan. – 2014. – №. 2. – С. 138.
11. Шайхова Г. И., Рахимов Б. Б. Гигиеническое обоснование рационов питания при ожирении/Методические рекомендации //методические рекомендации. Тошкент. – 2010.