

Rising Prevalence of Obesity in Children and Adolescents: Global and National Perspectives

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Abstract: Childhood and adolescent obesity has become one of the most serious medical and social challenges of the 21st century. The aim of this study was to analyze the current trends in obesity prevalence among children and adolescents, identify the main risk factors, and review preventive measures in the context of national data from the Republic of Uzbekistan. The study is based on data from the World Health Organization, UNICEF, and the Ministry of Health of Uzbekistan for the period 2010–2024. The prevalence of childhood obesity in Uzbekistan has nearly doubled over the past decade, primarily due to dietary changes, urbanization, and low physical activity levels. The findings highlight the urgent need for an intersectoral approach that combines educational and preventive programs to promote healthy lifestyles among the younger population.

Keywords: obesity, children, adolescents, risk factors, prevention, nutrition, physical activity, Uzbekistan.

Introduction

Childhood obesity is a chronic, multifactorial condition characterized by excessive accumulation of body fat that poses significant health risks. According to the World Health Organization (WHO), in 2022 over 390 million children and adolescents aged 5–19 years were overweight, and around 160 million were obese [1]. The prevalence has risen from 8% in 1990 to over 20% in 2022. The main drivers include dietary changes, increased consumption of ultra-processed foods, sedentary behavior, and urbanization [2].

In Uzbekistan, available national data are limited. The 2017 Uzbekistan Nutrition Survey (UNS) reported that 4.6% of children under five had excess body weight [3], while 40.7% of women of reproductive age were overweight or obese [4]. Given these indicators, the government has prioritized obesity prevention in the **National Strategy for Healthy Nutrition 2021–2026**, setting a target to reduce childhood obesity by 30% by 2026 [5].

This review aims to analyze the global and national epidemiological trends, underlying causes, consequences, and prevention strategies related to childhood obesity.

Methods

The review used data from WHO, UNICEF, The Lancet Global Health, and Medscape (2019–2025), as well as national sources, including the Uzbekistan Nutrition Survey (UNS 2017), Ministry of Health statistical bulletins, and the National Strategy for Healthy Nutrition (2021–2026). The data were classified by epidemiological trends, etiological factors, health outcomes, and preventive measures. Literature was selected from PubMed and regional databases in Russian, English, and Uzbek.

Results

Global and Regional Trends

The global prevalence of obesity among children and adolescents continues to increase, especially in countries with low and middle incomes [6]. Post-pandemic analyses revealed an acceleration in BMI growth due to lockdown-related inactivity and poor dietary patterns [7].

National Data (Uzbekistan)

According to the UNS 2017 survey, 4.6% of children under five years were overweight [3]. Adult obesity reached 26.5 kg/m² mean BMI, one of the highest in Central Asia [8]. Among women aged 15–49, 40.7% were overweight or obese [4]. School-based pilot programs in Karakalpakstan and Khorezm regions introduced free healthy meals for grades 1–4, while the Ministry of Health initiated steps to restrict sugary beverage advertising and implement excise taxes starting in 2024 [5].

Main Risk Factors

Nutritional factors: excessive calorie intake, sugar-sweetened beverages, and processed foods. **Lifestyle:** physical inactivity, increased screen time, and sleep disturbances. **Socioeconomic determinants:** urbanization, low parental education, and availability of cheap, calorie-dense foods. **Biological and perinatal factors:** gestational diabetes, maternal obesity, and early feeding patterns.

Health Consequences

Obese children face a higher risk of metabolic syndrome, insulin resistance, type 2 diabetes, dyslipidemia, and hypertension [9]. Psychosocial effects include stigma, anxiety, and depression, reducing quality of life and academic performance. According to OECD projections, the long-term economic cost of obesity may reach up to 4.7% of Uzbekistan's GDP by 2060 [8].

Preventive Measures and Interventions

School-based nutrition programs and restrictions on unhealthy food marketing show the highest effectiveness [10]. Uzbekistan's "Healthy School Nutrition" pilot has demonstrated improvement in dietary quality and attendance [5]. Globally, new pharmacologic approaches such as GLP-1 receptor agonists (liraglutide, semaglutide) show promise for severe adolescent obesity, though long-term safety remains under evaluation [11].

Discussion

The rising prevalence of childhood obesity reflects rapid social and economic transitions. Uzbekistan currently faces a "double burden" — coexistence of undernutrition and obesity — typical for developing countries. Despite relatively low rates among preschoolers, adult and maternal obesity, poor dietary habits, and urban lifestyles indicate a growing threat among school-age children.

The absence of regular national BMI surveillance and limited funding for school nutrition programs are key challenges. Preventive strategies must integrate education, regulation, and clinical screening. Family-centered interventions, taxation of sugary drinks, and nationwide school meal reforms represent critical steps toward prevention. Further studies are needed to assess the effectiveness of GLP-1-based pharmacotherapy and to monitor long-term pediatric outcomes.

Conclusion

Child and adolescent obesity remains one of the most urgent global and national health challenges. In Uzbekistan, proactive governmental policies, improved nutrition surveillance, and multisectoral prevention programs are essential to reverse the current trend and protect the next generation from metabolic diseases.

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