



THE RELATIONSHIP BETWEEN DIETARY HABITS, PHYSICAL ACTIVITY, AND METABOLIC SYNDROME IN ADOLESCENTS IN KHOREZM REGION

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To assess the relationship between dietary patterns, physical activity levels, and the prevalence of metabolic syndrome among adolescents in the Khorezm region

ABSTRACT

Metabolic syndrome (MetS) in adolescents has become a significant public health concern worldwide due to its association with obesity, insulin resistance, dyslipidemia, and hypertension. Lifestyle factors, particularly dietary habits and physical activity, play a crucial role in the development and progression of MetS. In the Khorezm region, data on these associations among adolescents remain limited.

Relevance. Metabolic syndrome (MetS) in adolescents has become a significant public health concern worldwide due to its association with obesity, insulin resistance, dyslipidemia, and hypertension. Lifestyle factors, particularly dietary habits and physical activity, play a crucial role in the development and progression of MetS. In the Khorezm region, data on these associations among adolescents remain limited.

Objective. To assess the relationship between dietary patterns, physical activity levels, and the prevalence of metabolic syndrome among adolescents in the Khorezm region.

Materials and Methods. A cross-sectional study was conducted among 200 adolescents aged 12–18 years in urban and rural areas of Khorezm. Anthropometric measurements (BMI, waist circumference), blood pressure, fasting glucose, and lipid profiles were evaluated. Dietary habits were assessed using a validated food frequency questionnaire, and physical activity levels were measured through the International Physical Activity Questionnaire (IPAQ). Metabolic syndrome was diagnosed according to the International Diabetes Federation criteria for adolescents.

Results. The prevalence of MetS among the study population was 14.5%. Adolescents with high consumption of sugary drinks, fast food, and low intake of fruits and vegetables had a significantly higher risk of MetS ($p < 0.01$). Low physical activity was observed in 62% of participants, correlating with higher BMI, waist circumference, and fasting glucose levels. A combination of poor dietary habits and low physical activity increased the likelihood of MetS by 2.8 times compared to peers with healthier lifestyles.

Discussion. These findings indicate that both dietary habits and physical inactivity are significant contributors to the development of metabolic syndrome among adolescents in the Khorezm region. Early lifestyle interventions targeting nutrition education and promotion of

physical activity are essential to reduce the burden of MetS and associated cardiovascular risks.

Conclusion. Unhealthy eating patterns combined with insufficient physical activity significantly increase the prevalence of metabolic syndrome in adolescents in Khorezm. Implementing preventive programs focusing on balanced nutrition and regular exercise is crucial for adolescent health in the region.

References:

- 1.Davlatjonova, N. (2026, February). MODERN CLINICAL AND LABORATORY INDICATORS OF TRANSIENT PNEUMONIA IN CHILDREN. In International Conference on Health & Technology (Vol. 2, No. 2, pp. 54-55).
- 2.Sharipova, S. (2026, February). COMBINATION OF GLOMERULONEPHRITIS AND NEPHROTIC SYNDROME IN CHILDREN: CLINICAL AND LABORATORY ANALYSIS. In International Conference on Health & Technology (Vol. 2, No. 2, pp. 52-53).
- 3.Матякубова, Ю. Р. (2025). ХОРАЗМ ВИЛОЯТИДА ЯШОВЧИ БОЛАЛАРДА ГЕЛЬМЕНТОЗНИНГ ОЛДИНИ ОЛИШ ВА ДАВОЛАШНИНГ ТИББИЙ-ИЖТИМОЙ ЖИХАТЛАРИ. SOUTH ARAL SEA MEDICAL JOURNAL, 1(4), 188-194.
- 4.Davlatjonova, N. (2026, February). INTEGRATED ASSESSMENT OF NUTRITION HABITS AND CHRONIC DISEASE RISK IN PRESCHOOL CHILDREN. In International Conference on Health & Technology (Vol. 2, No. 2, pp. 203-205).
- 5.Matyakubova, Y. (2026, February). PREVENTION OF HELMINTOSES IN PRESCHOOL CHILDREN AND EFFECTIVENESS OF PROPHYLAXIS MEASURES. In International Conference on Medicine & Agriculture (Vol. 2, No. 2, pp. 56-58).
- 6.Matyakubova, Y. (2026, February). ETIOLOGY AND DIAGNOSTIC APPROACHES OF CHRONIC COUGH SYNDROME IN CHILDREN. In International Conference on Medicine & Agriculture (Vol. 2, No. 2, pp. 15-17).
- 7.Sharipova, S. (2026, February). PROGNOSTIC FACTORS RELATED TO THE CLINICAL COURSE AND SEVERITY OF PNEUMONIA IN CHILDREN. In International Conference on Health & Technology (Vol. 2, No. 2, pp. 200-202).
- 8.Matyakubova, Y. (2026, February). CLINICAL MANIFESTATIONS, LABORATORY FINDINGS, AND TREATMENT OUTCOMES OF HELMINTHIASIS IN CHILDREN. In International Conference on Medicine & Agriculture (Vol. 2, No. 2, pp. 59-61).
- 9.Шарипова, С. (2025). НЕОНАТАЛ ДАВРИДАГИ ЧЎЗИЛГАН САРИҚЛИКНИ ЧАҚАЛОҚЛАРНИНГ ПСИХОМОТОР РИВОЖЛАНИШИГА ТАЪСИРИ. SOUTH ARAL SEA MEDICAL JOURNAL, 1(4), 207-213.
- 10.Атажанов, Х. П., & Оллаберганова, Ш. М. (2025). ОСОБЕННОСТИ ТЕЧЕНИЯ НОЗОКОМИАЛЬНОГО СЕПСИСА У ДЕТЕЙ. Жоурнал оф Мультидисциплинар Инноватион ин Ссиенсе анд эдусатион, 1(3), 123-126.
- 11.Узакова, Ш. Б., Шамсиев, Ф. М., Мусажанова, Р. А., Абдуллаева, М. К., & Атажанов, Х. П. (2021). МИКРОБИОМ ДЫХАТЕЛЬНОГО ТРАКТА У ДЕТЕЙ С МУКОВИСЦИДОЗОМ. ПЕДИАТРИЯ САНКТ-ПЕТЕРБУРГА: ОПЫТ, ИННОВАЦИИ, ДОСТИЖЕНИЯ, 236.
- 12.Шамсиев, Ф. М., Ахмедова, Д. И., Узакова, Ш. Б., Иномов, Б. Н., & Атажанов, Х. П. (2024). ФУНКЦИОНАЛЬНЫЕ ОСОБЕННОСТИ И МАРКЕРЫ ВОСПАЛИТЕЛЬНОГО ПРОЦЕССА У

ДЕТЕЙ С МУКОВИСЦИДОЗОМ В РЕГИОНЕ ПРИАРАЛЬЯ. Science and innovation, 3(Special Issue 44), 171-177.

13. Atajanov, K. P., Ollaberganova, S. M., & Masharipova, K. Q. (2025, December). ULTRASONIC DIAGNOSIS OF COMPLICATED PNEUMONIA IN CHILDREN. In International Conference on Medicine & Agriculture (Vol. 1, No. 3, pp. 21-23).

14. Durdiev, S. (2026, January). CLINICAL COURSE AND DIAGNOSIS OF OMPHALOCELE-GASTROSCHISIS IN NEWBORNS. In International Conference on Health & Technology (Vol. 2, No. 1, pp. 80-82)

