



STUDY OF THE HYGIENIC IMPORTANCE OF A HEALTHY LIFESTYLE IN THE DEVELOPMENT OF SOMATOMETRIC INDICATORS IN CHILDREN AND ADOLESCENTS

Tursunova Nargizakhon Akajon qizi

"EMU University"

Faculty of Pediatrics

1st year group 105-A

<https://doi.org/10.5281/zenodo.19675659>

ARTICLE INFO

Received: 04th January 2026

Accepted: 09th January 2026

Online: 10th January 2026

KEYWORDS

Healthy lifestyle;
somatometric indicators;
children; adolescents;
hygiene; physical
development; BMI; nutrition;
physical activity.

ABSTRACT

The health of children and adolescents is a key indicator of the well-being of society and is significantly influenced by lifestyle factors. This study examines the hygienic importance of a healthy lifestyle in shaping somatometric indicators such as height, body weight, body mass index (BMI), and body composition. A cross-sectional analytical approach was used, incorporating anthropometric measurements and lifestyle assessments including nutrition, physical activity, and screen time. The findings indicate that children adhering to healthy lifestyle behaviors demonstrate more favorable somatometric profiles and reduced risks of obesity and developmental disorders. The study highlights the importance of hygienic education, preventive interventions, and lifestyle modifications in improving physical development outcomes in younger populations.

Introduction

The physical development of children and adolescents is determined by a complex interaction of genetic, environmental, and lifestyle factors. Among these, lifestyle plays a decisive and modifiable role. A healthy lifestyle includes balanced nutrition, regular physical activity, adequate sleep, and adherence to hygienic norms.

Somatometric indicators, including height, body weight, and body mass index, are essential criteria for evaluating the growth and development of children. Deviations from normal values may indicate underlying health issues or unfavorable environmental conditions. In recent decades, there has been an increase in unhealthy lifestyle behaviors, such as reduced physical activity, excessive screen time, and poor dietary habits, which negatively affect physical development.

From a hygienic perspective, promoting healthy behaviors is one of the most effective strategies for disease prevention and ensuring optimal growth. Therefore, studying the relationship between lifestyle and somatometric indicators is of great scientific and practical importance.

Materials and Methods

A cross-sectional study design was used to assess the relationship between lifestyle factors and somatometric indicators in children and adolescents aged 6 to 17 years.



Anthropometric measurements included:

- Height (cm)
- Body weight (kg)
- Body mass index (BMI, kg/m²)
- Waist circumference (cm)

Lifestyle data were collected using structured questionnaires covering:

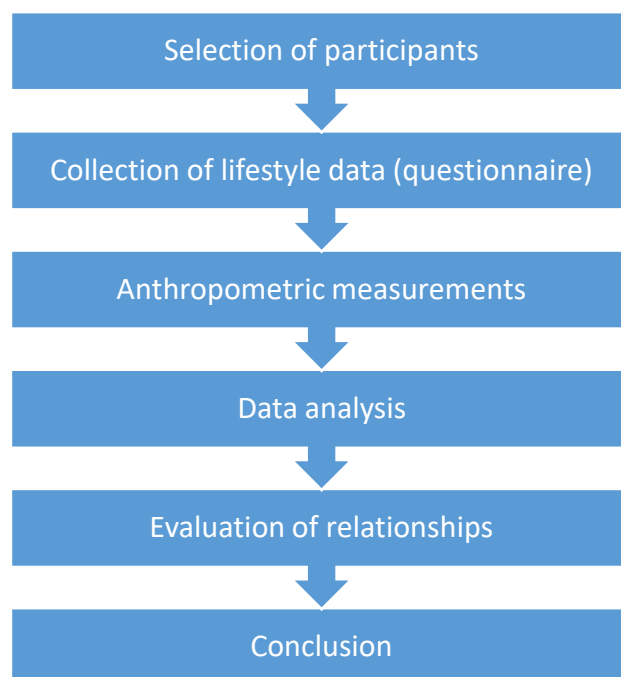
- Dietary habits
- Physical activity level
- Daily screen time
- Sleep duration

BMI was calculated using the standard formula:

$$BMI = \frac{Weight(kg)}{Height(m)^2}$$

All measurements were conducted using standardized methods to ensure reliability and accuracy. Statistical analysis was performed to identify correlations between lifestyle variables and somatometric indicators.

Flowchart 1. Study design



Results and Discussion

The analysis revealed a strong association between healthy lifestyle behaviors and favorable somatometric indicators.

Balanced nutrition was found to be one of the most influential factors affecting growth. Children who consumed diets rich in proteins, vitamins, and essential nutrients showed normal growth patterns, while those with poor dietary habits were more likely to exhibit underweight or overweight conditions.



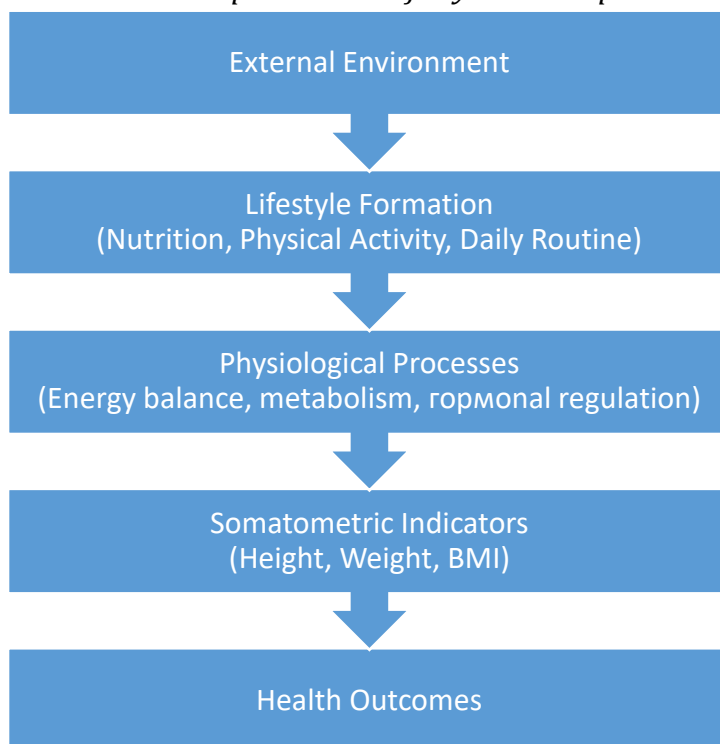
Physical activity significantly contributed to proper body composition. Regular exercise improved muscle development, increased energy expenditure, and reduced fat accumulation. In contrast, sedentary behavior was associated with increased BMI and a higher prevalence of overweight and obesity.

Excessive screen time emerged as an important risk factor. Children who spent more time on digital devices tended to have reduced physical activity levels and irregular eating patterns, which negatively affected their somatometric indicators.

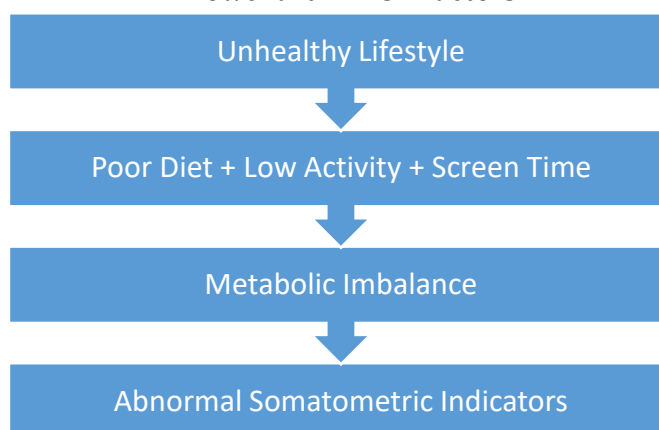
Adequate sleep was also essential for growth, as it is directly linked to the secretion of growth hormone. Children with insufficient sleep showed slower growth rates compared to those with proper sleep routines.

Environmental and hygienic factors, including living conditions, personal hygiene, and health education, played a supportive role in shaping lifestyle behaviors. Hygienic awareness contributed to the adoption of healthier habits and improved overall development.

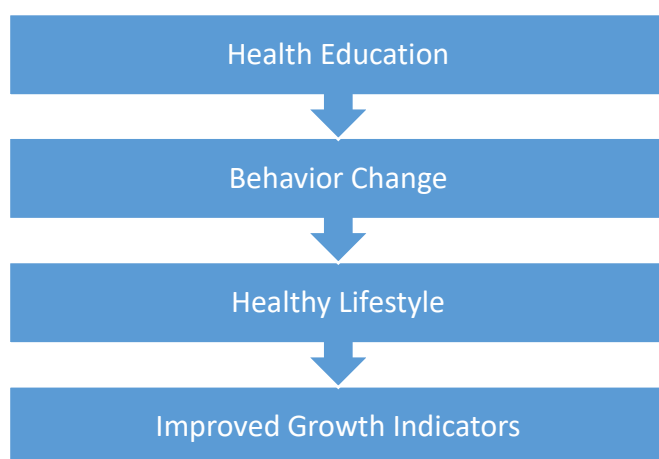
Flowchart 2. Comprehensive Lifestyle–Development Model



Flowchart 3. Risk Factors



Flowchart 4. Hygienic Intervention Model



The combined influence of these factors demonstrates that a healthy lifestyle acts as a key determinant of physical development. Children who follow proper hygiene, balanced nutrition, and active routines show significantly better growth outcomes compared to those exposed to unhealthy habits.

Conclusion

The present study confirms that a healthy lifestyle has a decisive hygienic importance in the formation and maintenance of optimal somatometric indicators in children and adolescents. The findings clearly demonstrate that balanced nutrition, regular physical activity, adequate sleep, and controlled screen time are not isolated factors, but interrelated components that collectively determine the trajectory of physical development.

Children and adolescents who adhere to healthy lifestyle principles exhibit more stable growth patterns, appropriate body weight, and optimal body mass index values. In contrast, the prevalence of sedentary behavior, irregular dietary habits, and sleep disturbances contributes significantly to deviations such as overweight, obesity, or delayed physical development. These deviations not only affect current health status but also increase the risk of chronic non-communicable diseases in adulthood.

From a hygienic and preventive medicine perspective, the results highlight the critical importance of early intervention. The establishment of healthy habits during



IF = 9.2

childhood creates a foundation for lifelong health. Therefore, systematic hygienic education should be integrated into school curricula, with a focus on practical behavior change rather than theoretical knowledge alone.

In addition, family involvement plays a crucial role in shaping children's lifestyle patterns. Parents and caregivers serve as primary role models, and their awareness and behavior significantly influence children's daily routines, dietary choices, and activity levels. Public health strategies should therefore include family-centered approaches alongside school-based programs.

Regular monitoring of somatometric indicators, including height, weight, and BMI, is essential for early detection of developmental abnormalities. Such monitoring should be conducted at both school and primary healthcare levels, allowing timely corrective measures through nutritional guidance, physical activity programs, and medical supervision when necessary.

Furthermore, modern challenges such as digitalization and urbanization require targeted interventions to reduce sedentary lifestyles and promote active living environments. The creation of safe recreational spaces, encouragement of sports participation, and limitation of screen exposure are key components of effective prevention strategies.

In conclusion, the integration of hygienic principles into daily life is a fundamental requirement for ensuring healthy growth and development in younger populations. A comprehensive approach involving education, family participation, healthcare monitoring, and supportive environments is necessary to improve somatometric outcomes and overall health. Strengthening these measures will contribute not only to individual well-being but also to the long-term health potential of society as a whole.

References:

1. Waters E. et al. Interventions for preventing obesity in children. Cochrane Database.
2. Mocanu V. et al. Detection and prevention of obesity in children.
3. Marques A. et al. Healthy lifestyle in children and adolescents. Int J Environ Res Public Health.
4. Tovar A. et al. Healthy lifestyle behaviors and obesity in children. BMC Pediatrics.
5. Galan-Lopez P. et al. Mediterranean diet and physical fitness in adolescents.
6. Saldan I.P. et al. Physical development of schoolchildren.