

**IMPROVEMENT OF HYGIENIC ASSESSMENT OF THE NUTRITIONAL STATUS OF GIRLS ENGAGED IN RHYTHMIC GYMNASTICS UNDER CONDITIONS OF IODINE DEFICIENCY**

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**Abstract**

This study presents a hygienic assessment of the nutritional status of school-aged girls engaged in rhythmic gymnastics and living in iodine-deficient regions. The research evaluates dietary patterns, the adequacy of macro- and micronutrient intake, and indicators of physical development. Based on the obtained findings, practical recommendations were developed to optimize nutrition and prevent hypovitaminosis.

**Keywords:** iodine deficiency, nutritional status, rhythmic gymnastics, diet, hygienic assessment, micronutrients.

**Introduction**

In modern conditions, maintaining the health of children and adolescents largely depends on balanced nutrition. This issue becomes especially critical in regions affected by iodine deficiency, where inadequate iodine intake can negatively influence both physical and cognitive development.

Girls engaged in rhythmic gymnastics are exposed to increased physical нагрузки, which significantly raises their physiological demand for energy and essential nutrients. Therefore, their diet must be not only sufficient in quantity but also balanced in terms of

biological value. Otherwise, deficiencies in vitamins and micronutrients may lead to impaired physical development and deterioration of overall health.

A review of existing scientific literature indicates that although general nutritional issues have been widely studied, there is a lack of comprehensive research focusing specifically on the nutritional status of young female athletes living in iodine-deficient environments.

### **Materials and Methods**

The study was conducted between 2023 and 2026 in the Khorezm region and involved girls aged 7–11 years who are engaged in rhythmic gymnastics.

The following parameters were investigated:

- daily dietary patterns and food intake composition;
- levels of macro- and micronutrient sufficiency;
- indicators of physical development;
- morbidity rates.

The study employed the following methods:

- questionnaire surveys to assess dietary habits;
- clinical and biochemical analyses to evaluate physiological status;
- bioimpedance analysis to determine body composition;
- hygienic and statistical methods for data processing and interpretation.

### **Results**

The study findings revealed several important observations:

A significant proportion of participants demonstrated irregular and unbalanced dietary patterns;

Insufficient intake of proteins and essential micronutrients was identified;

Deficiencies in iodine, iron, and vitamins A and D were widely observed;

Bioimpedance analysis indicated imbalances in body composition;

In some cases, physical development indicators did not correspond to age-related norms. Additionally, notable differences were found between dietary practices at school and at home.

### **Discussion**

The results indicate that girls living in iodine-deficient areas and exposed to increased physical activity are at a higher risk of nutritional deficiencies. This condition may adversely affect both their health status and athletic performance.

The primary contributing factors include unbalanced diets and insufficient consumption of nutrient-rich foods. In iodine-deficient regions, this issue becomes even more critical, requiring targeted preventive strategies.

Based on the findings, the following measures are recommended:

optimization of dietary patterns based on scientific principles;

increased consumption of iodine-fortified foods;

use of vitamin and mineral supplements;

improvement of school nutrition programs;

enhancement of hygienic and nutritional education.

### **Conclusion**

The study confirmed that girls engaged in rhythmic gymnastics and living under iodine deficiency conditions have an inadequate nutritional status, which may negatively impact their physical development and overall health. Implementation of comprehensive preventive and hygienic measures aimed at improving nutrition can significantly enhance the health outcomes of this population group.

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