THE GLYCEMIC INDEX AS A PREDICTOR OF DIETARY SUCCESS IN OBESE CHILDREN AND ADOLESCENTS

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The prevalence of obesity among children and adolescents has reached alarming levels, necessitating effective dietary strategies to address this public health crisis. The glycemic index (GI) offers a unique perspective on the impact of carbohydrate-containing foods on blood glucose levels and overall health. This thesis examines the potential of the GI as a predictor of dietary success in managing pediatric obesity, focusing on its influence on weight loss, metabolic health, and dietary adherence.

The GI measures how quickly carbohydrates in foods raise blood glucose levels. High-GI foods lead to rapid glucose spikes, while low-GI foods cause slower, more controlled increases. This measure is crucial in understanding how different foods affect hunger, energy storage, and metabolic health, particularly in the context of obesity.

High-GI foods, such as refined grains, sugary snacks, and certain starchy vegetables, contribute to quick rises in blood glucose and insulin levels. These rapid changes can increase fat storage and reduce feelings of fullness, leading to higher caloric intake and weight gain. In children and adolescents with obesity, frequent consumption of high-GI foods can hinder weight management efforts and increase the risk of metabolic complications.

Studies show that the diets of obese children and adolescents are often high in high-GI foods, with limited intake of low-GI options. This dietary pattern results in an energy imbalance, promoting further weight gain and metabolic dysregulation. Additionally, the lack of dietary fiber and essential nutrients from low-GI foods exacerbates the problem.

Low-GI foods, such as whole grains, legumes, and non-starchy vegetables, promote gradual increases in blood glucose, enhancing satiety and reducing overall energy intake. These foods also provide essential nutrients and dietary fiber, supporting overall health and well-being. By incorporating low-GI foods into their diets, children and adolescents with obesity can achieve better weight management and metabolic outcomes.

The GI can serve as a predictor of dietary success in managing pediatric obesity. Diets rich in low-GI foods are associated with improved blood glucose control, enhanced satiety, and reduced caloric intake. These factors contribute to sustainable weight loss and better long-term health outcomes. By using the GI as a guide, healthcare providers can develop personalized dietary plans that support effective weight management and metabolic health.

Implementing low-GI dietary strategies requires addressing practical challenges, such as food preferences, cultural factors, and accessibility. Education on the benefits of low-GI foods and practical tips for incorporating them into daily meals can help children, adolescents, and their families make healthier dietary choices. Collaboration between healthcare providers, nutritionists, and schools is also crucial in supporting the adoption of low-GI dietary practices. Conclusion: The glycemic index is a valuable predictor of dietary success in managing pediatric obesity. By focusing on the GI of foods, dietary interventions can promote better blood glucose regulation, enhance satiety, and support healthier weight management. Future research should continue to explore the practical implementation of low-GI diets and their long-term impact on the health of children and adolescents with obesity.

References:

1. Ниязова, О. А., Саломова, Ф. И., & Ахмадалиева, Н. О. (2022). Изучение изменений состояния здоровья школьников возникающих при неправильной посадке.
2. Саломова, Ф. И., Ниязова, О. А., & Мирсагатова, М. Р. (2022). Гигиеническая оценка расписания средних классов Общеобразовательных школ наманганской области.
3. Рахимов, Б. Б., Уринов, А. М., Шайхова, Л. И., & Камилова, А. Ш. (2017). Выявление факторов риска при ожирении у детей дошкольного возраста, проживающих в г. Ташкенте.
4. Ниязова, О. А., Ахмадалиева, Н. О., Валиулин, Р. И., & Болтаев, М. М. (2022). Comperative assessment of nutrition of university students of medical and non-medicdl profile (Doctoral dissertation, European multidisciplinary journal of modern science).
5. Салихова, Н. С., Косимов, Р. А., Юлдашева, З. Р., Шайхова, Г. И., Эрматов, Н. Ж., & Рахимов, Б. Б. (2016). Санитарно-эпидемиологические требования к организации питания обучающихся в общеобразовательных школах, учреждениях средне специального профессионального образования. СанПиН.–2016, 0288-10.
6. Ya, Z. S., Jalolov, N. N., Kh, P. M., & Rakhimov, B. B. (2023). Features of diet therapy for chronic liver diseases. Science Promotion, 1(2), 5-7.
7. Nurmatov, B., & Rakhimov, B. (2022). Study of virus contamination of indoor air and surfaces of hospital which specialized in the treatment of COVID-19 patients.
8. Ниязова, О. А., & Валиулин, Р. И. (2022). Изучение и гигиеническая оценка фактического питания студентов (Doctoral dissertation, Молодежный инновационный вестник. Научно-практический журнал Том 11).
9. Ниязова, О., & Валиулин, Р. (2022). Study and hygienic assessment of the actual nutrition of students. Научная весна 2022, межвузовская научно-практическая

конференция сборник научных работ, Самара-Саратов-Москва-Санкт-Петербург 2022, 260б.

10. Rakhimov, B., Shadmanov, A., Salomova, F., Mamatkulov, B., & Nurmatov, B. (2024). Clinical characteristic of first COVID-19 patients hospitalized at the multidisciplinary clinic of the Tashkent Medical Academy: A single-center retrospective study. Current research in Clinical Medicine and drug discovery, 3(1).

11. Shaykhova, G. I., & Rakhimov, B. B. (2014). Promotion of the principles of rational nutrition in obesity. Medical Journal of Uzbekistan, (2), 138.

12. Rahimov, B. B., Salomova, F. I., Jalolov, N. N., Sultonov, E. Y., & Obloqulov, A. G. (2023). O 'ZBEKISTON RESPUBLIKASI NAVOIY SHAHRI HAVO SIFATINI BAHOLASH: MUAMMOLAR VA YECHIM YOLLARI.

13. Jalolov, N. N., Sultonov, E. Y., Imamova, A. O., & Oblokulov, A. G. (2023). Main factors of overweight and obesity in children. Science Promotion, 1(2), 2-4.

14. Саломова, Ф. И., Рахимов, Б. Б., Султонов, Э. Й., & Облақулов, А. Г. (2023). Навоий шаҳри атмосфера ҳавоси сифатини баҳолаш.

15. Sultonov, E. Y., & Ismoilov, H. O. (2023). Ambient air pollution. Научный Фокус, 1(6), 41-44.

16. Kobiljonova, S., Sultonov, E., Sultonova, D., Oblokulov, A., & Jalolov, N. (2023). CLINICAL MANIFESTATIONS OF GASTROINTESTINAL FOOD ALLERGY. Евразийский журнал медицинских и естественных наук, 3(5), 142-148.

17. Sadullayeva, X. A., Salomova, F. I., & Sultonov, E. Y. (2023). OCHIQ SUV HAVZALARI MUHOFAZALASH OB'EKTI SIFATIDA. V МЕЖДУНАРОДНАЯ НАУЧНО-ПРАКТИЧЕСКАЯ КОНФЕРЕНЦИЯ «СОВРЕМЕННЫЕ ДОСТИЖЕНИЯ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ОХРАНЫ ЗДОРОВЬЯ НАСЕЛЕНИЯ».