МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

М А Т Е Р І А Л И

104-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
06, 08, 13 лютого 2023 року

Конференція внесена до Реєстру заходів безперервного професійного розвитку, які проводитимуться у 2023 році №5500074

Чернівці – 2023

Kushnir O.V.

THE RISK FACTORS OF METABOLIC SYNDROME IN CHILDHOOD

Department of Hygiene and Ecology
Bukovinian State Medical University

Intoduction. Metabolic syndrome (MS) is an actual problem and a serious health risk not only for adults but also for children and adolescents since the main components of the cascade of metabolic disorders such as abdominal obesity, dyslipidemia, insulin resistance, arterial hypertension have an asymptomatic course for a long time and often begin to develop in childhood.

The aim of the study. To analyze the data of the scientific and medical literature regarding the main risk factors for the development of MS in childhood.

Material and methods. A review and analysis of the sources of foreign and domestic scientific medical literature was carried out.

Results. The prevalence of MS in childhood ranges from 4 to 30% of cases among the general population and is significantly higher among obese children and adolescents. In particular, the prevalence of metabolic syndrome in the United States is about 4.5%, and almost all these children are obese or overweight. In the USA prevalence of obesity is 18% and increases with age (Rimm A., 2014). Thus, almost every fourth of obese children have metabolic syndrome. In western countries prevalence in adolescents is around 20% for obesity, and in India, it is around 10-20% (Kaur J., 2014). In Ukraine, there is a negative trend in the preval, ence of obesity among children and the largest share (51%) is among adolescents aged 15-17 years (Zelinska N.B., 2013). In the mountainous regions of the Carpathians with a reduced iodine content in the soil and drinking water, obesity among high school-age children is observed more often than in plains and foothills (Bobrykovich O.S., 2013). As the body mass index (BMI) increases, lipid and carbohydrate metabolism disorders increase, which are important predictors of the development of atherosclerosis and type 2 diabetes.

According to scientists, the basis for developing metabolic disorders in childhood is a genetic predisposition, which is realized against the background of irrational nutrition. To date, it is known that the metabolic profile is associated with genetic variance in APOA5 (apolipoprotein A–V), CETP (cholesteryl ester transfer protein), GCKR (glucokinase receptor), MTNR1B (melatonin receptor 1B) – and this is far from a complete list (Aguilera M., 2013). According to scientists, the basis for the development of metabolic disorders is a genetic predisposition, which is realized against the background of irrational nutrition and the formation of improper eating behavior in childhood. Breastfeeding during the first six months of life reduces the risk of developing excess body weight in adulthood, while breastfeeding promotes obesity and impaired glucose tolerance (Robinson S., Fall C., 2012). A significant increase in BMI during the first three months of life is associated with a high probability of MS at 21 years of age (Kerkhof G.F., 2012). Additional risks for the development of obesity also include psychological problems and reduced physical activity in children and adolescents against the background of an unbalanced, energy-rich diet. In particular, eating fast food more than twice a week or increasing the consumption of sugar-sweetened beverages is associated with an increase in BMI. A tendency to eat when not feeling hungry results in a >4-fold risk of being overweight, and skipping breakfast is associated with a high adverse metabolic risk (Gregory J.W., 2019).

Conclusions. The main risk factors for the development of MS in childhood are overweight, genetic predisposition, irrational nutrition, eating disorders and lack of physical activity. The high prevalence of MS risk factors determines the urgency of further study of this problem and the development of preventive measures, starting from childhood. Preventive strategies should involve interdisciplinary cooperation between health care and local authorities to cover all environments of children, promote changes in their eating behavior, correct dietary intake and increase physical activity.