The increase of obesity in children and young people across the globe is becoming a challenge for the medicine of today. The task is very serious and difficult when taking into consideration the consequences of obesity: health problems (cardiovascular diseases, diabetes type 2 etc.), as well as psychosocial and economic implications. The origin and mechanisms underlying the rapid increase of obesity in children is complex and not very well known, therefore successful prevention and treatment are difficult. In this situation required is a multidisciplinary team ensuring good cooperation of different specialists in order to develop a programme of prevention involving a diagnosis and treatment procedure. As we have already stressed, it is a very difficult task and up to now the results achieved are not satisfactory enough.

In 2014 the European Commission launched the EU Action Plan on Childhood Obesity 2014-2020 in Europe, which is based on eight key areas for action: 1) Support a healthy start in life; 2) Promote healthier environments, especially in schools and pre-schools; 3) Make the healthy option the easier one; 4) Restrict marketing and advertising to children; 5) Inform and empower families; 6) Encourage physical activity; 7) Monitor and evaluate; 8) Increase research. The WHO European Food and Nutrition Action Plan 2015-2020 moreover included the task concerning the adoption of comprehensive intervention and community-based initiatives to improve nutrition and prevent overweight and obesity among pre-school and school-aged children.

Overweight and obesity in children and adolescents is the subject of ongoing research projects. Many strategies for coordination or integration and dissemination of research findings and turning them into innovative actions are undertaken at international level. Some examples of these activities are the European Childhood Obesity Group (ECOG) which was established in 1990, or the Child Obesity Task Force (COTF) formed within the framework of the European Association for the Study of Obesity (EASO) in 2000. A member of ECOG, Professor Marie-Laure Frelut was kind enough to write the editorial for this issue of Developmental Period Medicine presenting the following broadly conceived groups (some of them overlapping):

**DETERMINANTS**

- Genetic

The genetics of obesity – its pathogenetic, clinical and diagnostic aspects are presented by A. Barczyk, E. Obersztyn et al. Based on the results of multi-center studies three types of genetically conditioned obesity are broadly described: isolated, monogenic obesity; syndromic monogenic obesity associated with dysmorphic features and/or congenital defects caused by mutation...
in specific gene(s); chromosomal aberrations, including submicroscopic changes. The neuro-endocrinological regulation of hunger and thirst, the clinical consequences of mutation in genes associated with the melanocortin pathway and the features of the most common obesity syndrome, as well as the diagnostic algorithm for cases of suspected syndromic obesity is presented.

- **Nutrition**
  
  Appropriate dietary patterns in children determine their optimal development, therefore playing a very important role. The investigation conducted by H. Weker, M. Barańska et al shows that the diet of overweight toddlers differs from the safe nutrition model in a very evident way. The solution is to implement nutritional education (H. Weker, M. Barańska et al).

- **Microbiota**
  
  Obesity and microbiota. The role and function of the gut microbiota in contributing to the pathogenesis of obesity and the metabolic syndrome is presented by A. Karney.

- **Psychology**
  
  Psychological determinants. The role of the mother-child relationship, specific characteristics of the relationships; children's body experiences and certain body image distortions are described as psychological mechanisms involved in the onset and maintenance of childhood obesity (J. Radoszewska). A. Dzielska et al. present the Polish version of "The Physical Appearance Comparison Scale" (PACS), which may be used as a reliable and valid tool in the diagnosis and management of adolescents with excess body mass.

- **Physical activity**
  
  The lack of physical activity plays an evident role in the increase of obesity. Based on the literature review and own experiences W. Osiński and A. Kananista describe very useful practical recommendations regarding the planning, implementing, and monitoring of intervention programmes involving controlled physical activity aimed at the reduction of adipose tissue. The analysis of the data from the HBSC study presented by D. Kleszczewska et al. showed that the percentage of overweight 15-year-olds in Poland was lower than the international average, but the percentage of adolescents, especially girls, who consider themselves too fat, was much higher. The level of discrepancies between objective and subjective assessment of body mass depends on geographical and cultural differences, and the level of physical activity modifies these discrepancies. The perceived barriers to physical activity in adolescents and their association with motivation are presented by M. Jodkowska et al. It was found that three barriers (lack of energy, skills and willpower) and the perception of several barriers occurring simultaneously were reported more frequently by overweight adolescents than their peers with normal body mass. Motivation was a key element of perceiving these barriers.

**CONSEQUENCES OF OBESITY**

Two papers present the metabolic consequences of obesity related mainly to increasing the risk of atherosclerosis and cardiovascular diseases and diabetes type 2. In the group of obese children dyslipidemia, high insulin level and carotid intima-media thickness (IMT) were higher than in the control group (A. Karney et al). The concentrations of low-density lipoprotein (LDL) and vitamin A in obese children were higher than in children with normal body mass (J. Gajewska et al).

**THERAPEUTICS STRATEGIES**

A combined mode of therapy of obese children and adolescents consisting of behavioral, dietary counseling (Dietary patterns in toddlers with excess weight 2016 Pitnats study – H. Weker, M. Barańska et al) with appropriate physical activity and using both modern media and devices are described by A. Zachurzok et al. It was stressed that successful therapy required good cooperation of the therapeutic team with the children and their parents.

The editorial board believes that the papers presented in the present issue will be interesting and useful for different professionals working with young obese people and will stimulate research in this field. An additional value are the lists of references included in the articles presented.

**Conflict of interest:**

The Author declare no conflict in interest.

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