

PREVALENCE OF OBESITY AND OVERWEIGHT AND USING THE MEDICAL DOCUMENTS TO IDENTIFY THE TRUE PREVALENCE OF OBESITY AND OVERWEIGHT IN SCHOOLCHILDREN 6-17 YEARS

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Abstract. *Conducted an analytical review of the literature on the problem of childhood obesity has shown that the prevalence of childhood obesity worldwide has reached catastrophic proportions, and even the world, regardless of gender, race and social class continues to grow rapidly. The article presents the results of the monitoring of weight and height of schoolchildren 6-17 years living in the October district of Kharkov. In accordance with accepted standards of body mass index, from 3227 students whose data have been processed, overweight and obesity was found in 512 children (15.8%), including obesity were 200 children (6%); overweight - 312 (9.6%). In comparing our results and medical records data on the number of persons to be held at the dispensary for obesity in the current year, it was found that the rate of complete coverage of medical observation of children with obesity is only 7%.*

Keywords: *schoolchildren, obesity, overweight, monitoring.*

Introduction. One of the most serious problems facing public health in the XXI century is obesity among children. Increase in the prevalence of overweight in children population in many countries can be attributed to non-infectious disease epidemic. Excess weight is recognized as one of the major risk factors for many diseases such as diabetes, hypertension, coronary heart disease, liver disease and gall bladder, and many others. In addition, foreign researchers have noted that obesity in childhood causes a number of psychological and social problems, which primarily include the formation of psychological stress, low self-esteem, dissatisfaction with their body, depression, the emergence of suicidal thoughts, loss of control over food, unhealthy and extreme weight control behavior, violation of social ties, the stigma of obesity and reduced quality of life related to health.

Aim. To analyze the literature data on the prevalence of the problem of overweight and obesity in child populations around the world and providing monitoring of weight and growth of school pupils.

Materials and methods. Bibliographic method analyzes literary sources on the problem of the prevalence of overweight and obesity in children. In order to identify the true prevalence of overweight and obesity in children in Kharkov population we carried out a copy of examinations data of 8 schools in October district, in Kharkov. No generally accepted criteria of verification of obesity in childhood and adolescence currently. In most epidemiological studies measure of obesity is a BMI greater than 95th percentile. So, to solve this purpose, we performed a copy of examinations data of 8 schools in October district, in Kharkov. Overweight and obesity were verified using international criteria of BMI adjusted for age and sex of the child [6], which correspond to the ratio of BMI percentile tables for age (overweight > 85, obesity > 95 percent).

Results and discussion. According to the WHO, a total increase in obesity in children and adults over the past decade was 75%. A world leader in the fastest growth rates and the high prevalence of obesity in both adults and children is the United States. Currently, the country's highest documented incidence of obesity in children in the world: 1 in 6 children are obese, 1 out of 3 kids is overweight [11]. 5% of US children aged 2 to 19 years were obese (according to the definition of the US Centers for Disease Control and Prevention) in the 1970s only. By 2008, this had risen to 17%. Obesity is most commonly diagnosed in boys than in girls (19% vs. 5%). About 10% of infants in the United States have increased rates of body weight in relation to body length. In assessing the prevalence of overweight and obesity in children in other countries of North America - Canada - revealed similar patterns. Also notes an increase in the number of obese children in 2 times, and in some age groups - 3 times, starting from the second half of the 70s. the last century. Despite the fact that approximately 9% in children 6-17 years to 2007-2008 are obese, these figures are lower than in the US. The problem of overweight and obesity is becoming more pronounced in Latin America and Kari bang. Despite the fact that the number

of malnourished children in this area is still large enough, a distinct trend in the observed reduction in the number of children who are underweight past two decades - from 7% in 1990 to 3% in 2010 - and the gradual predominance of children with overweight and obesity [8]. It is estimated among preschool children in 2010 about 7% are overweight and obese. In Europe, there are more than 80 million. Children and adolescents who are overweight or obese [7], with the excess weight is observed in 10-30% of children aged 7-11 years and 8-25% of adolescents 14-17 years. In Europe, the "leadership" of the US obesity challenge dozens of countries. The first in the list are the United Kingdom, Spain, Hungary, Romania, Greece and Albania. In the United Kingdom from 1995 to 2002, the number of children with overweight and obesity has increased from 18 to 23% [5]. An increasing number of children with obesity and excess weight resides in southern Europe (Spain, Italy, Greece, Crete), while the lowest rates of obesity observed in children in the Nordic countries, although the negative trends have been identified in this region. The prevalence of children of early school age is overweight and obesity varies from country to country (according to the review of 27 countries of the European Union): from 32% in Spain to 12% in Romania. According to the results of monitoring of obesity in young children in 13 European countries (Belgium, Bulgaria, Cyprus, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Norway, Portugal, Slovenia and Sweden) on the initiative and with the use of WHO standards, overweight with 24% of children aged 6-9 years. The highest rate of obesity among adolescents (10-18 years) on the basis of data provided by 30 countries (27 countries outside the EU, and in addition to Iceland, Norway and Switzerland), found in Greece, Spain, Cyprus and the UK [9]. The main problems of the African continent are still hunger, malnutrition, underweight and stunting among children. At the moment 20-25% of preschool children in the region are scarce African Subsahary weight. Nevertheless, even in these regions, the number of obese children has doubled in the past two decades: from 4% in 1990 to 8.5% in 2010. The greater numbers of obese children live in more affluent countries of North Africa (Algeria, Egypt, Libya, Morocco, South Sudan, Sudan, Tunisia, Western Sahara). A significant increase in children with overweight and obesity (3 times),

there has been since 1990y. With coverage ranging from country to country: 20% of children with overweight and obesity in Egypt to 5% - in Sudan. In the region of the African Subsahary number of children with obesity and overweight among preschool children slightly - about 9% in the middle of Africa, 6% - in West Africa, 7% - in East Africa and 8% - in South Africa. But even in most of these regions, the number of overweight children and obesity has doubled or even tripled compared with the figures that were two decades ago. The situation of obese children in Asia resembles the state of affairs in Africa. Despite the ongoing fight against hunger, especially in South Asia, where one of the three children of early school age is underweight in the region there is a significant increase in children with excess weight. Everywhere in Asia (excluding Japan), according to the 2010, about 5% of children are overweight, which is 53% more compared to 1990 in terms of absolute figures of 17.7 million pre-school children . It is characteristic that in South Asia (Bangladesh, India, Pakistan), the level of obesity in children is quite low, but there was a significant increase in the number of children with excess body weight. The situation is aggravated by the fact that in adult patients, the complications associated with obesity, revealed at a lower body mass index (BMI) than those living in the United States and Europe. In 2010, depending on the region the prevalence of obesity in preschool children was higher than the countries of Western Asia than East, Southeast and South Central Asia (15, 5, 5, and 4%, respectively). At the same time in South Central Asia has the world's largest number of pre-school children with excess weight - 6.6 million. The data relating to the prevalence of overweight and obesity in schoolchildren and adolescents, few in number, but in summary form they give a fairly depressing picture. In China, over the past 20 years, according to a national study, there has been substantial growth in children and adolescents with obesity at the age of 8-18 years. In 1985, only 2% of boys and 1% of girls was revealed excess weight or obesity, taking into account the specificities of national standard indicators (BMI over 24 - excess body weight, more than 28 - obese). By 2005, this figure rose to 14% of boys and 9% of girls, which are 21 million children. In India, according to one of the largest epidemiological studies, including about 40 thousand. Overweight

or obesity was found in 14% of the child population 8-18 years old, accounting for 15 million children. In West Asia, the highest rates of obesity observed in the Arab countries. Data presented Kuwait show that 44% of males and 46% of girls are overweight or obese. In the developed countries of Oceania such as Australia and New Zealand, the rate of obesity in children has increased an average of 2 times with some slowdown in growth over the past decade the number of children with overweight and obesity in developing countries, despite the ongoing fight against hunger in some regions (Southeast Asia, some countries in Africa), a number of researchers (Popkin BM, Adair LS, 2012) associated with the changing nature of power from the traditional to the "western model". As a result of this "food intervention" Developing countries face a double problem: infectious diseases as a result of malnutrition, and a sharp increase in the number of chronic diseases associated with obesity and Western-style life. According to the literature, the prevalence of obesity among children in Russia ranges from 3-5 to 20% [4]. In Russia obesity have 5.5% of children living in rural areas, and 8.5% of children - in the city [2, 3]. In Ukraine obesity reported in 105 thousand. Children under 18 years are identified annually from 20 to 24 thousand children. Obesity in childhood in Ukraine ranked the 2-nd in the structure of children's endocrine pathology after diffuse goiter. In Kharkov, overweight was found in 8.2% of the students, and obesity - at 4.7%. So, the prevalence of childhood obesity worldwide has reached catastrophic proportions, and even the world, regardless of gender, race, and social class continues to grow rapidly [7]. The implications of this phenomenon for health are difficult to predict. Huge medical and social significance of obesity and diseases associated with obesity, manifests in childhood determines the relevance of research in this direction. At the same time, we have found that the official documentation of children's polyclinics and endocrinology clinic of Kharkov does not reflect the true level of prevalence of obesity in children and the aim of our study was the monitoring of weight and height in order to identify obesity and overweight among schoolchildren 6-17 year old.

We have processed the data in 3227 children aged 6 to 17 years. Overweight and obesity was found in 512 children (15.8%), including obesity were 200 children (6%); overweight - 312 (9.6%), morbid obesity (BMI> 35) was found in 3 children (0.09%). It was found that out of 200 obese children; only 14 are composed at a dispensary observation. Thus, the rate of complete coverage of medical observation was 7%. In the study of age-sex structure of the following results: in the age group of 6 to 9 years, obesity was observed in 83 children (2.5%); excess weight in 114 children (3.4%). In the age group between 10 and 13 years, respectively, in 86 children (2.6%) and 111 children (3.4%). Obesity among school children from 14 to 17 years was observed in 31 children (0.9%); excess weight in 87 children (2.7%). (Fig.1). The obtained data show that the incidence of obesity and excess weight is much higher in the age groups of 6 to 9 and from 10 years to 13 years than in the age group from 14 to 17 years.

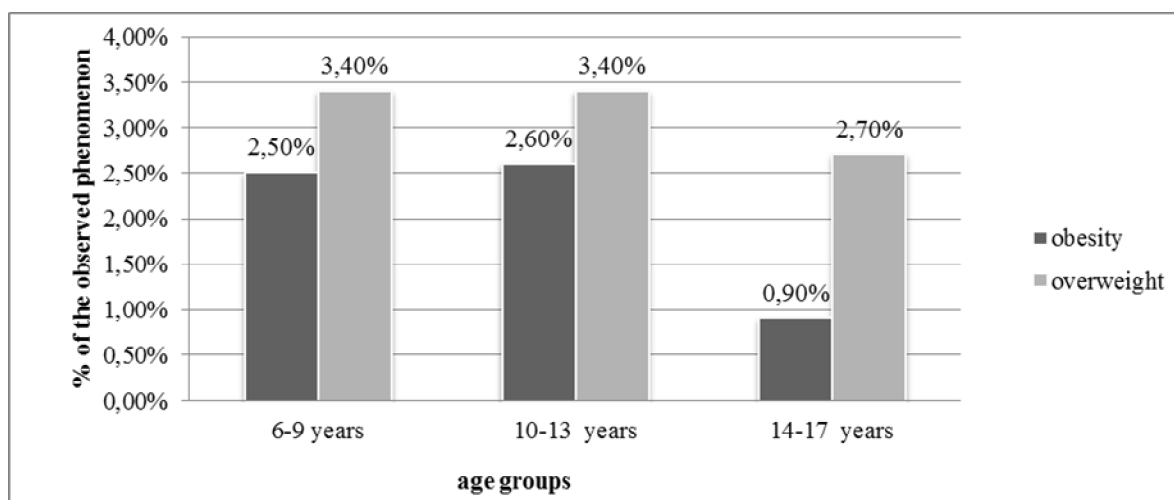


Figure 1. The Prevalence of overweight and obesity by age groups of adolescents.

Accordingly, the proportion of children with obesity and overweight in the first two groups of the same age, at 38%, while in the latter group were significantly lower at 23%. According to our data in almost all age groups in boys obesity and excess weight met statistically more likely than girls. In the whole group of girls obesity and overweight at the age of 6-17 years occurs - in 7.3% of cases. Among boys, obesity and overweight have - 8.4%; respectively 46.5 and 53.5%.

The results of our study led to the **following conclusions:**

1. The prevalence of childhood obesity worldwide has reached catastrophic proportions, and even the world, regardless of gender, race, and social class continues to grow rapidly, which is a medical and social problem of pediatrics at the moment and will lead to an increase in the incidence rates of the most important non-epidemic diseases in adults in the future.
2. The incidence of obesity among our study population of children and adolescents aged 6-17 years of age is - 6% overweight - 9.6%
3. The prevalence of obesity and excess weight in adolescent boys is statistically higher than in girls and is respectively 8.4%; and 7.3%.
4. The trend is the prevalence of obesity and overweight in the age groups from 6 to 9 years (5.9%) and from 10 to 13 years (6%), compared to the age group of 14 to 17 years (3.6%).
5. Indicator completeness dispensary coverage of obese children in our studied group of pupils is 7%. Thus, the value of this index, in turn, gives grounds to assume that the medical and social problem of obesity and overweight, which today is facing a health care system, is not reflected in full. Thus, taking into account the importance of this problem, it is planned to continue the study of obesity and overweight among children and adolescents for more detailed study of the features of the disease.

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Помогайбо Е.Г., Чумак Л.И.

Распространенность ожирения и лишнего веса и использование медицинской документации для выявления истинной распространенности ожирения и лишнего веса у школьников 6-17 лет.

Харьковский национальный медицинский университет, Украина

Резюме. Проведенный аналитический обзор литературы по проблеме детского ожирения показал, что распространенность детского ожирения по всему миру достигла катастрофических масштабов и продолжает расти стремительными темпами вне зависимости от пола, расы и социальной принадлежности. Приведены результаты мониторинга веса и роста школьников 6-17 лет, проживающих в Октябрьском районе г. Харькова. В соответствии с принятыми

стандартами індекса маси тіла, із 3227 учасників, дані яких були оброблені, надлишкову масу тіла і ожиріння було виявлено у 512 дітей (15,8%), в тому числі ожиріння мали 200 дітей (6%); надлишкову масу тіла-312 (9,6%). При зіставленні отриманих нами результатів і даних медичної документації про кількість осіб, які перебувають на диспансерному обліку з приводу ожиріння в поточному році, було встановлено, що показник повноти охоплення диспансерним наглядом дітей з ожирінням становить всього лише 7%.

Ключові слова: школярі, ожиріння, надлишкова маса тіла, моніторинг.

Помогайбо К.Г., Чумак Л.І.

Поширеність ожиріння та зайвої ваги і використання медичної документації для виявлення дійсної поширеності ожиріння та зайвої ваги у школярів 6-17 років.

Харківський національний медичний університет, Україна

Резюме. Проведений аналітичний огляд літератури щодо проблеми дитячого ожиріння показав, що поширеність дитячого ожиріння по всьому світу досягла катастрофічних масштабів та продовжує зростати стрімкими темпами незалежно від статі, раси та соціальної приналежності. Наведено результати моніторингу ваги і зросту школярів 6-17 років, що проживають в Жовтневому районі м.Харкова. Відповідно до прийнятих стандартів індексу маси тіла, з 3227 учнів, дані яких були оброблені, надлишкову масу тіла і ожиріння було виявлено у 512 дітей (15,8%), у тому числі ожиріння мали 200 дітей (6%); надлишкову масу тіла-312 (9,6%). При зіставленні отриманих нами результатів і даних медичної документації про кількість осіб, які перебувають на диспансерному обліку з приводу ожиріння в поточному році, було встановлено, що показник повноти охоплення диспансерним наглядом дітей з ожирінням становить всього лише 7%.

Ключові слова: школярі, ожиріння, надлишкова маса тіла, моніторинг.

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