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OBESITY IN VARIOUS ETHNIC POPULATIONS

This article presents a review of the literature. The authors conducted a scientific search on the epidemiology of obesity and overweight in different ethnic groups, using the relevant keywords, on the search engines PubMed and Google Scholar, on the Scopus, Web of Science, MedLine, The Global Health databases, CyberLeninka, eLIBRARY.RU and others. Obesity is widespread among children, adolescents and adults. Most of the epidemiological studies conducted to identify obesity and overweight used the most accessible method - the determination of body mass index (BMI). Data on ethnic origin can provide additional information for a personalized prognosis; to date, there is no single classification for obesity and overweight for Asians.

Keywords: obesity, overweight, body mass index, ethnos, population, prevalence, complications.

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Obesity is an increase in body fat, leading to the appearance of overweight, is a common chronic metabolic disease in Russia and the world that occurs at any age. Currently, there is an increase in overall morbidity and mortality from complications (metabolic syndrome, type 2 diabetes, liver steatosis, arterial hypertension, IHD, etc.) in this condition.

It is well known that the causes of obesity are: hereditary predisposition (increased activity of lipogenesis enzymes and reduced activity of lipolysis enzymes), failure to follow the mode and nature of nutrition (frequent, excessive food), endocrine disorders, stressful situations (psychogenic overeating), hormonal drugs, a sedentary image life (motor mode must be combined with proper nutrition and the rejection of bad habits).

Overweight is not only a socio-economic and cosmetic problem, but primarily a medical one. It is proved that the greater the body weight, the lower the life expectancy due to the development of serious diseases. In this regard, significant efforts of modern endocrinology are aimed at studying the causes and mechanisms of the development of overweight and obesity [3; 12; 13] and their correction.

The epidemiology of obesity depends

on the characteristics of ethnic groups, many complications directly correlate with ethnicity.

In this regard, the study of the prevalence of obesity in various ethnic populations is one of the urgent problems of modern medicine. Russia, being a multinational state, is characterized by a large ethnocultural diversity. The structure of the Russian Federation includes 85 subjects: 46 - regions, 22 - republics 9 - edges, 3 - cities of federal value, 4 - autonomous regions, 1 - autonomous region. There are about 157 thousand settlements in the country.

In Russia, more than 2 million people are obese, and patients with overweight are even more, each year the problem only increases.

This review analyzes scientific studies on the epidemiology of obesity in various ethnic populations and, depending on the place of residence, urban or rural population.

The prevalence of obesity in the world according to WHO (2016) is 11% in men and 15% in women older than 18 years and 39% of men and 40% of women were determined to be overweight.

According to the results of studies conducted in the Republic of Buryatia in adolescents of ethnic groups in rural areas, it was revealed that, regardless of their ethnicity, the risk factors for obesity and overweight are the presence of overweight in the mother and the irregular nutrition of adolescents. Risk factors for adolescents of indigenous Asian ethnic groups (Buryats and Soyots) and Slavic ethnic groups can be social factors, such as children living in single-parent families, and in families where mothers do not work [16].

The prevalence of obesity and diabetes in various ethno-social populations of the urban and rural populations of the European Far North and the territories equated to the Far North from 1996 to 2006 was reported in studies [1]. It has been established that among the rural inhabitants of the European North, obesity is more pronounced among the local Russians of the Far North compared to the Komi who live in the territories of the Far North. The Komi people living in the Far North and leading a traditional lifestyle have a lower incidence of obesity compared with other populations of northerners [1].

Metabolic syndrome and type I diabetes are common in the Asian part of Russia, and in the indigenous people of the North and the Far East both types of diabetes are less common than among Caucasians who live in the same regions [10].

Currently, the complex effect of genetic, geographical, socio-economic factors behind ethnic groups has been proven. Over the past few years, there has been a deterioration in the quality of life of small peoples living in conditions of the North and Siberia. Compared to the Russians, the Buryat population is characterized by a favorable course of diabetes, cardiovascular diseases, arterial hypertension [5].

When examining the population of Kyrgyz nationality, it was established that in this ethnic group the ATP III (2005) classification is the optimal classification for diagnosing MS. [20].

For comparison, in the population of Novosibirsk 45-69 years old, the prevalence of abdominal obesity according to the NCEP ATP III criteria (2001) is only 43%, according to the criteria of VNOK (2009) 65% and according to the criteria of IDF (2005), IDF and AHA / NHLBI (2009) 67% [17, 8].

The prevalence of metabolic syndrome increases significantly with age and has gender, ethnic and regional differences, with a significant role played by age and ethnicity. The IDF criteria (2005) emphasize the relevance of research in various ethnic groups in order to further refine the criteria [9].

Ethnic differences are revealed not only in MS, but also in normal body weight [22].

To this day, there is no classification of obesity and overweight for Asians. For example, for residents of Thailand they apply their own criteria, for the Korean subpopulation - their own. Representatives of various Asian ethnic groups (Buryats, Yakuts, etc.) live on the territory of our country, so there are difficulties with the use of the classification [2].

The Asian population is characterized by a large amount of fat with a low BMI and waist circumference [23, 27].

It has been established that in women of the Far North, the prevalence of obesity is 34.7%, the metabolic syndrome is 14.6% and is more often recorded in non-indigenous women. The abdominal type of distribution of adipose tissue with low lipid metabolism was observed in the population of indigenous women. In non-indigenous women, the abdominal distribution of adipose tissue was formed mainly during obesity. The author determined the high diagnostic value of MC markers, which are recommended by IDF (2005), for non-indigenous women of the Far North. In the population of indigenous women, the low diagnostic value of HDL cholesterol indicator was found, the ethnic marker of MS was identified [11; 21].

Abdominal obesity and body mass index of the elderly (Yakuts) of elderly and senile age were recorded less than those of non-indigenous (Caucasians), and patients who were not overweight, abdominal obesity and metabolic syndrome were observed equally in indigenous and non-indigenous [nineteen].

Obesity in the Chuvash Republic is (5.5-39.1%) depending on the area of residence. The prevalence of obesity in the Chuvash Republic is lower than in the Russian Federation, the author explains this by an ethnic factor: for the most part, the incidence among Chuvash ethnic groups, who live in this region is about 70% of the population, for the Russian population is comparable to the prevalence of obesity in other regions of Russia. Factors affecting the formation of obesity: Russian ethnic group, female gender, city residence, age over 50 years [7].

According to the results of several studies, it was established that all patients with arterial hypertension of the Russian and Mordovian nationalities, regardless of gender, had a predisposition to overweight according to the definition of BMI. This indicator was increased in 29.1% of Russian women and 33.0% in the Mokshan ethnic group, 22.9% Erzyan, which made it possible to identify overweight. Obesity was observed in 64.1% of Russian women, 57.8% of moksha and 66.7% of Erzi. In men with hypertension, BMI was increased in 25.6% of Russians, 38.9% of mokshan and 35.5% of Erzyans, and with obesity, respectively, in 56.4%, 41.7% and 45.2% [4]. Thus, in the population of the Kyrgyz Republic, abdominal obesity is 52.3%, for women, abdominal obesity and arterial hypertension are typical, for men, hypertriglyceridemia is observed [15].

In European countries, the prevalence of metabolic syndrome in the general population is 3-4 ‰ at the age of 18 to 40 years, in Russia this figure rises to 5.5 with a tendency to increase after 40 years [24-26].

The indigenous population of the Baikal region has a high degree of adaptation to the region in which they live relative to the alien population. The representatives of the Buryat ethnogroup have a higher incidence of arterial hypertension, cardiovascular diseases, and diabetes mellitus type I than among Russians. Consequently, information on ethnic origin may provide additional information for a personalized forecast [6].

It should be noted that in the adult population of Cheboksary, in a random sample, a high incidence of traditional risk factors was recorded, such as eating

disorders - 76.1%, hypercholesterolemia - 62%, a sedentary lifestyle - 52.6%, arterial hypertension - 39.2%, reduced cholesterol and HDL cholesterol - 25%, smoking in men, alcohol consumption 43% and 27.4%, and metabolic risk factors: hypertriglyceridemia -27%, abdominal obesity - 22.1% and elevated levels stress. Most of them have a linear dependence on age and gender differences [14].

Thus, obesity is widespread among children, adolescents and adults. Most of the epidemiological studies conducted to identify obesity and overweight used the most accessible method - the determination of body mass index (BMI). Data on ethnic origin may provide additional information for a personalized prognosis, but to date there is no single classification for obesity and overweight for Asians.

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ENDOCRINE MECHANISMS OF BRONCHIAL CONTROL IN PATIENTS WITH BRONCHIAL ASTHMA

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The analysis of works published according to the results of studies by foreign and domestic authors on the role of the pulmonary neuroendocrine system in the functioning of the bronchi is carried out. Modern ideas about the endocrine mechanisms of bronchial control in patients with bronchial asthma are presented. A brief description of pro-inflammatory and anti-inflammatory peptide substances produced in the bronchopulmonary system is given. The possibilities of using some peptide substances as drugs in the treatment of patients with bronchial asthma are indicated.

Keywords: pro-inflammatory peptides, anti-inflammatory peptides, bronchopulmonary system, bronchial asthma.

Introduction. According to GINA (2018), bronchial asthma (BA) is a heterogeneous disease characterized by chronic inflammation of the airways and the presence of respiratory symptoms (wheezing, shortness of breath, congestion in the chest, cough), which vary in time and intensity and occur along with variable airway obstruction [16]. At the same time, the neurogenic and immune mechanisms of the development of BA are described in detail in the literature; at the same time, the role of the endocrine system in the development of this disease has not been studied enough.

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The active study of the role of the endocrine system in the development of lung diseases, including bronchial obstruction, began at the end of the 20th century. The impetus for their active study in pulmonology was the confirmation by a number of scientists of the influence of gastrointestinal peptides previously detected in the gastrointestinal tract (GIT) on the bronchopulmonary system (BPS) [1]. Later, endocrine cells secreting similar peptides were also detected in the BLS. One of the first to be identified was the Klara and Kulchitsky cells. By the beginning of the twenty-first century, a large number of endocrine-active cells were synthesized in the BPS, synthesizing peptides similar to gastrointestinal peptides: the tachykinin family, bradykinin, a peptide related to the calcitonin gene (PRCG), bombesin, a vasoactive intestinal peptide (VIP), peptide-histidine-methionine (PHM), adrenomedullin, neuropeptide "Y" and others. It was found that the effect of peptide substances on the functioning of the lungs is carried out by means of receptors located throughout the BPS [12, 22, 23]. Their functional activity was manifested in the blockade of the parasympathetic and sympathetic nervous systems, in connection with which non-adrenergic and non-cholinergic, i.e. peptidergic system of functioning of the lungs.

Later it was proved that certain immune competent cells (mast cells, macrophages, neutrophils, eosinophils and lymphocytes), as well as neurons, also have the ability to secrete peptides [22]. The presence of receptors for neuropeptides on the surface of the cell membranes of immune-competent cells, as well as neurons, was found [12]. It has been found that neuropeptides, acting through different types of receptors, can lead to different pharmacological effects, i.e. possess multidirectional pharmacological activity. The latter was the theoretical justification for a more in-depth study of the pro- and anti-inflammatory effects of various peptide substances on BPS in animal experiments and in patients with BA. It was found that the pro-inflammatory effect on the bronchi has: a family of tachykinins (substance P, neurokinins, chemokinin-1), bradykinin, PRCG, endothelin-1, bombesin, granin. The anti-inflammatory peptides included: VIP, neuropeptide "Y", neuropeptide pituitary adenylate cyclase-activating polypeptide-38 (PACAP-38), PHM, adrenomedullin, atrial natriuretic peptide (ANP).

Pro-inflammatory peptides and their role in the development of inflammatory diseases of the lower respiratory tract

Tachykinins play an active part in the development of inflammatory processes in many organs, including the gastrointestinal tract and BPS [23, 29, 30]. They