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ECONOMIC AND SOCIAL CONSEQUENCES OF OBESITY

The article presents literature data about the relevance and prevalence of obesity and also considered the socio-economic factors contributing to obesity.
***Keywords**: arterial hypertension, WHO, obesity, overweight, BMI*

Introduction. Obesity is a pathological condition that has social and economic importance, since it covers a large part of the population in some developing countries.

In 1950, obesity was included to the International Classification of Diseases of the World Health Organization (WHO), the main criterion for the diagnosis of which was the body mass index (BMI). According to the WHO classification of 2004 BMI in the range of 18.5 to 24.9 kg / m2 is considered normal, BMI below 18.5 kg / m2 is considered as underweight; overweight defined as BMI of 25,00-29,99 kg / m2; BMI of 30-40 kg / m2 indicates obesity and finally BMI that above 40 kg / m2 allows us to speak about the "painful (morbidity)" obesity [1].

The main factor leading to the development of obesity, is a violation of the energy balance, the discrepancy between the energy flow in the body and their cost. The most common disease is caused by overeating, but may develop on the background of reduction of energy consumption [2]. Undoubted constitutional role on obesity play hereditary predisposition, age, sex, occupational factors, the nature of eating disorders, dysfunctions of the nervous and endocrine systems [3].

Of great importance in the development of obesity in diseases of the digestive system is not only a change of character, but also a violation of the diet, in particular rare food intakes and displacement of maximum calories to the evening hours when most active synthesis and deposition of fat takes place [4].

Health Risks Linked to Obesity. As noted in the report of the WHO in 2002, worldwide obesity affects more than a billion people, including clinical obesity that present in 300 million people. In this risk group at least 500 thousand people die every year [5].

Obesity may be complicated by cardio - vascular diseases (CVD), diabetes (C), cancer, respiratory diseases, gallstones and other diseases. The accumulation of 4-5 kg excess fat in the body creates a dangerous shift in metabolism, which is enough to start the mechanism of the development of atherosclerosis [6].

In 2013 a meta-analysis of 97 prospective studies was published that carried out from 1948 to 2005, which shows that the risk of coronary heart disease (ischemic heart disease) is much higher with excessive BMI (> = 25 - <30 kg / m2) and obesity (BMI> = 30 kg / m2) (44% relative risk); the risk of stroke (acute ischemic stroke) above 98% for patients with overweight BMI and 69% for obesity (taking into account risk factors such as elevated levels of BP (blood pressure), cholesterol and glucose) [7].

According to WHO, obesity caused by 44% of cases of diabetes (diabetes mellitus), 23% ischemic heart disease and 7-41% of certain types of cancer [8].

In 1999 E. Calle and et al. published the results of a cohort study, which involved more than 1 million people in the US [9]. The study found that in all groups (smokers, non-smokers, men, women, the presence or absence of chronic disease) mortality was low with BMI 22-26 kg / m2 with a small variation in the subgroups.

In multivariate analysis including age, particularly dietary habits and exercise, it was found that BMI> 30.8 kg / m2 in women decline in life expectancy observed 6.2 years (95% CI = 2.8-10, 2) compared with the same BMI in men decline was 5.9 years (95% CI 2,1-9,5) [10].

According to some large-scale prospective studies [11], overweight and obesity (BMI over 25 kg / m2) estimated to be cause of approximately 65-80% of new cases of type II diabetes. The risk of type II diabetes is associated with the age at which the onset of obesity and what is its duration and weight gain in adulthood [12].

Some studies have estimated the number of years for which reduced life expectancy due to obesity. In the Framingham study calculated that obesity (BMI> 30 kg / m2) at age 40 is associated with a loss of 6-7 years of life [13]. Fontaine and et al. calculated that a BMI> 33 kg / m2, from the age of 40 years, is associated with a loss of 2-3 years [14]. The studies used different methods of calculation and different cohorts have been used: the basic measurements of the Framingham study belong to the 1950s, when heart disease (such as heart attacks) were associated with higher mortality than today [15].

The most concerned country about overweight among fellow citizens (more than 60% of the population) is the United States of America. Next group of countries are Germany, Great Britain and Russia. There observed that 30 to 45% of people with higher body weight. Finally, the last group of countries are Japan and China, where overweight index is only approximately 10% of the population [16].

In many countries over the past ten years, the incidence of obesity has increased an average of two times. WHO experts believe that by 2025 the number of obese patients in the world will amount to 300 million. And in 2025 the entire population of the developed countries will have some degree of obesity [17,18].

Socio-economic significance of the problem of obesity. Overweight and obesity entails economic consequences. They include the direct costs of the health system, the indirect costs associated with the loss of economic productivity, and personal expenses such as the purchase of so-called slimming products. This chapter summarizes the main provisions of the existing literature on this issue and put some methodological issues [19].

A number of studies emphasize that obesity increases the cost of health care and the quality of life of people [20-22]. Obesity causes a range of adverse health effects associated with it such as social, psychological and economic problems affecting both the individual and society as a whole [23].

Socio-economic significance of the problem of obesity is determined by the risk of disability of patients among younger working-age population and a decrease in overall survival due to the frequent development of severe comorbidities. In 1990 Rissanen et al. found that in Finland adults with obesity often suffer from permanent disability due to cardiovascular and skeletal - muscle diseases than adults of normal weight. A study of obese people in Sweden has shown that obesity accounted for 10% loss of productivity due to temporary inability or disability [24,25].

According to studies conducted by WHO, the direct costs of medical care for obesity account for 2-4% in the total national expenditure on health. Sturm (2002), Finkelsteinetal (2005), Thorpe et al. (2004) found that health care costs for obese people about 35% higher mainly because of the high cost of treatment and associated costs [26].

For more detailed information take close look at the calculations made in the United States. It was found that compared with people of normal weight (BMI is equal to 20,0-24,9 kg / m2) against people with obesity (BMI greater than 30 kg / m2) annual health care costs were 36% higher, while people with excess (BMI is equal to 25,0-29,9 kg / m2), same expenses were up 10% higher (20). The cumulative costs of several major diseases measured over eight years, showed a close link with BMI: for men aged 45-54 years with BMI of 22.5, 27.5, 32.5 and 37.5 kg / m2, according costs were 19 600, 24 000, 29 600 and 36 500 US dollars respectively. In fact, medical expenses throughout life may be somewhat smaller due to the premature death of obese people, but on the other hand, they may be higher in older age groups as a result of cumulative effects of long-term obesity [27,28].

An alternative approach to assess the medical expenses for the treatment of obesity requires the use of personal data. Quesenberry et al. depict an example of the model of health care organization (HMO), which estimates the cost of treating obesity in 92 US dollars per person [29].

There is another example of health care costs due to overweight in the Netherlands. In the Netherlands, the largest medical costs associated with smoking, high blood pressure and overweight (BMI greater than 25 kg / m 2). Treatment of overweight was associated with 2.0% of total health care costs, or about 1 billion Euro, whereas total health budget was 59.5 billion. Euro [30].

Also one need to focus on indirect costs, in most study for indirect costs, the slope is on assessing quantity of lost work days, and their approximate value terms [31,32].

For instance, according to calculations made in the United Kingdom, indirect costs were much higher than direct. Also, all the estimates of obesity treating cost in England in 2002 (3.3-3.7 billion pounds) compared with data for 1998 (2.6 billion pounds) [33]. Partly the increase in cost was due to the identification of comorbidities surveys results and other reasons were due to the increase in the cost of drugs, the more frequent reception and greater accessibility, increased costs of medical personnel and wage growth in the economy generally, as well as due to the increase in the number of obese people [33]. Data from Sweden give a similar picture; indirect costs are three times higher than the direct costs [33].

The total direct and indirect annual costs of obesity in the 15 EU countries until May 2004 were estimated at 32.8 billion euros [34]. This figure will be even greater if we consider the data on adults with pre-obese, as well as data on the health effects in children and adolescents with increased BMI

Conclusion. In conclusion, one can say that numerous data indicate that obesity and other risk factors have economic implications. Obesity is associated with higher health care costs, at least in the short term, and higher risk of absence from work and a consequent loss of productivity.

Measures for the prevention of overweight and obesity can lead to short-term savings in health care and potentially more savings, resulting from the general increase in economic productivity

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ЭКОНОМИЧЕСКИЕ И СОЦИАЛЬНЫЕ ПОСЛЕДСТВИЯ ОЖИРЕНИЯ

Резюме: В статье приводятся литературные данные об актуальности и распространенности ожирения, также рассматриваются социально-экономические факторы способствующие к ожирению.
Ключевые слова: артериальная гипертония, ВОЗ, ожирение, избыточная масса тела

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СЕМІЗДІКТІҢ ЭКОНОМИКАЛЫҚ ЖӘНЕ ӘЛЕУМЕТТІК САЛДАРЫ

Түйін: Мақалада артық дене салмағы мен семіздік мәселесінің өзектілігі мен мен таралуы туралы әдебиет деректері ұсынылады , сондай-ақ семіздік ықпал ететін әлеуметтік-экономикалық факторлар қарастырылады саналады.
Түйін сөздер: артериалдық гипертония, ДДҰ, семіздік, артық салмақ.