

MEDICAL SCIENCES

FEATURES OF WOMEN'S NUTRITION IN MODERN CONDITIONS

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Abstract

Nutrition has a significant impact on health, performance and life expectancy. Healthy eating is one of the main factors that determine the health of a nation, ensure the normal development of the body, prevention of diseases. The recent increase in human population combined with migration from city to city has led to problems of managing a balanced diet. During recent decades there has been observed a violation in the structure of nutrition of the population with a significant decrease in the consumption of biologically valuable products, resulting in the development of the so-called "latent hunger", particularly in sensitive groups of population – women of reproductive age and pregnant women.

Studies have found significant violations of the requirements of rational nutrition in relation to its regime and the average daily food package, which is excessive in consumption of bread and bakery products, sugar and confectionery products by 9,9%-67,6% and is characterized by a shortage of other groups of foodstuff with various degree of evidence. This situation can become a risk factor of disorders of the normal functioning of the digestive tract, reducing the effectiveness of digestion and uptake of useful substances, reducing the resistance, which, together with the deficit of nutrients in the diet, increases tension of adaptive and detoxification processes.

Keywords: rational nutrition, violation, women, industrial region.

In the history of human existence, nutrition has been the most powerful and sustainable factor in the environment, which has had a constant impact on its health, performance and life expectancy. Healthy eating is one of the main factors that determine the health of a nation, ensure the normal development of the body, prevention of diseases [1, 2].

During recent decades in Ukraine there has been observed a stable violation of the nutritional structure of the population due to deterioration of hygienic control and socio-economic disadvantages [3]. Scientific data [4, 5, 6] testify to a sharp decline in the consumption of biologically valuable products, in simultaneously stable high level of consumption of bread and grain products, animal fat. This situation causes the development of the so-called "latent hunger" due to a shortage in vitamins, macronutrients and trace elements in the diet. Along with the above, the mechanization and automation of many production processes has increased, the share of manual labor has decreased, resulting in hypokinesia and reduced energy consumption. Thus, the energy value of consumed foods often exceeds energy costs, so, according to statistics, the number of people suffering from obesity and chronic diseases has increased [7, 8, 9].

Thus, on the background of influence of anthropogenically determined denaturation of the environment, deformation of nutrition of the population of industrially developed regions forms the problem of adequacy of nutritional maintenance of the human organism in modern conditions [1, 3, 4].

Aim: to study peculiarities of nutrition of women of the industrial region in modern conditions.

Materials and methods. The physiological and hygienic assessment of nutrition of fertile age and pregnant women was carried out within the framework of clinical-hygienic assessment of reproductive health of the population of 185 women of the industrial city of Dnipro and the control one, conditionally "pure" city of Novomoskovsk, Dnipropetrovsk region.

Practically healthy women of active reproductive age and pregnant women in the 2nd trimester of pregnancy were enrolled as study subjects. Herewith, age of the surveyed (20-50 years), the term of living in this city (not less than 5 years), the identity of social-cultural and economic conditions of life, absence of acute and chronic diseases, bad habits or occupational hazards, duration of marriage more than 2 years, born children were the criteria for selecting the population [10].

The actual nutrition was studied using the 24-hour diet reproduction, recommended by the WHO [11], indicating in the questionnaire the respondents the diet, the amount of food consumed, the set of dishes and individual food products consumed per day. For a more accurate analysis of the population's nutrition, the data were collected within 7 days with subsequent averaging of the results.

As experts [3] point out, today the consumption of basic foodstuffs has approached the indicators of the minimum consumer basket, which are significantly lower than the existing «Norms of Physiological Needs» [12]. Therefore, hygienic assessment of the daily food package of residents of the region was carried out in accordance with scientifically grounded requirements [3, 13, 14].

Statistical processing of the results was performed using statistical software license statistical packages of

Statistica v.6.1 (StatsoftInc., USA, license number AJAR909E415822FA), Microsoft Excel.

Results. Studies have found significant violations of the requirements to rational nutrition by female population of fertile age and pregnant women of industrial region, in particular its regime: 51,7% of women and 63,2% of pregnant women have meals 3-4 times a day, 40,2% and 15,2% – twice a day, 8,1% and 21,6% – in various regimen (from one to several times a day). Herewith, only 30,3% of respondents have meal at the same time a day. Most women consume food irregularly, in general with dinner being the largest amount of food: women – 40,3-45,9%. Only 39,4% of the female population consumes the biggest amount of food for lunch. This situation can become a risk factor of disorders of the normal functioning of the digestive tract, reducing the effectiveness of digestion and uptake of useful substances, reducing the resistance, which, together with the deficit of nutrients in the diet, increases tension of adaptive and detoxification processes [2, 3].

Our investigations (table 1) have found that the average daily food package of women and pregnant women of industrial regions is excessive in consuming of two groups of food products – bread and bakery

products (329,3-329,8 g/day) as well as in sugar and confectionery (74,2-83,8 g/day).

At the same time, if for pregnant women the reliable difference between the actual values and recommended ones is not detected, then the excess of consumption of bakery products by women of fertile age makes up 9,9% ($p<0,05$), this coincides with the all-Ukrainian data [3]. At the same time, in both groups there is noted an increased consumption of sugar and confectionery – by 48,3-67,6% when compared with the recommended level ($p<0,05$). These findings correspond with the research results of other authors, according to which the energy value of diet is provided mainly by carbohydrates at the expense of bread and bakery products, potatoes and sugar [4].

In all other dietary groups there is noted deficit as compared with the recommended food package. It should be noted that during pregnancy physiological needs of female organism in biologically active nutrients significantly increase, as evidenced by the increase in the recommended norms of consumption of the main foodstuff groups and therefore their deficit is more perceived in preserving general dietary habits.

Table 1 The average daily food package of fertile and pregnant women of Dnipropetrovsk region

Food groups	Actual consumption, g		Percent from daily needs	
	women	pregnant women	women	pregnant women
Bakery products:	329,8*	329,3		
bread	192,5	210,2	109,9	102,9
groats	81,2*	68,2*		
Milk and milk products:	280,9**	312,1***	106,9	105,1
Milk	162,2*	127,3***		
Sour-milk drinks	106,1**	108,6***		
cheese and sour cream	28,6***	76,2*		
Meat and meat products	91,5***	62,3**	116,0	85,3
Fish and fish products	23,6**	18,7***	112,2	101,8
Vegetables, fruits and berries:	512,9**	427,7***	67,7	53,4
potato	210,9**	156,7**		
vegetables, greens	189,4***	142,6***		
fruits	112,6***	128,4***		
Sugar and confectionery	83,8*	74,2*	81,1	50,9
Fat products:	34,4	27,7*	70,7	43,4
butter	22,7	18,5*		
vegetable oil	11,7	9,2*		
Eggs (pcs/g)	0,5 (20)**	0,5 (20)*	44,0	89,6

Notes: * - $p<0,05$; ** - $p<0,01$; *** - $p<0,001$ in comparison with the recommended norm.

Estimation of consumption of animal products, important to the organism, testifies that the deficit of milk and dairy products in the diet of women of reproductive age of Dnipropetrovsk region reaches 32,3%, being the most pronounced for cheese and sour cream – 56,0% ($p<0,001$). Pregnant women, residents of industrial regions, consume only 53,4% of milk and dairy products from the values recommended ($p<0,001$). At the same time, in contrast to women of reproductive age, in this group the greatest deficit is characteristic for sour-milk drinks consumption – 56,6% ($p<0,001$).

Other proteins of animal origin are not less important in the nutrition of the female population, the intake of the latter in the body is provided mainly at the expense of meat, fish and eggs. The consumption of meat and meat products for adult women is 61,0% ($p<0,001$), fish – 47,2% ($p<0,01$) from the norm recommended. The deficit of these food groups in the daily diet of pregnant women in the Dnipropetrovsk region is even more pronounced and constitutes 63,4% for meat and meat products ($p<0,01$), 68,8% – for fish and fishery products ($p<0,001$). The deficit of egg consumption in both groups is 50,0% ($p<0,05$ - $<0,01$). The obtained results coincide with the data of other authors [3, 4, 6]

regarding the fact that the Ukrainians consume less than a half of the scientifically based ration of meat and meat products, fish which is an evidence of latent hunger.

Such a situation can be explained by national traditions of nutrition, economic opportunities, personal peculiarities of the attitude to consumption of certain foods.

Low level of consumption of vegetables, fruits and berries – sources of vitamins, trace elements and food fibers less than 31,6% ($p < 0,01$) for women and 55,0% ($p < 0,001$) – for pregnant women causes alarm. Taking into account excessive consumption of potatoes by the female population – by 40,6% ($p < 0,01$), the deficit of other vegetables and fruits in this group is even more pronounced being 52,3% and 43,7% respectively ($p < 0,001$).

The consumption of fats by women of reproductive age in general is almost consistent with the recommended needs and makes up 98,3%. At the same time, the diet of pregnant women is limited by 38,7% ($p < 0,05$) regarding the consumption of vegetable oil, as a source of biologically active substances: polyunsaturated fatty acids, fat-soluble vitamins, phospholipids and sterols.

In addition to the above, such a situation shows the total lack of awareness of the basic principles of healthy nutrition and, according to various authors [1, 6], is a factor that causes increase in morbidity and decrease in the life expectancy of the population, an increase in the frequency of complications of pregnancy, childbirth and the postpartum period.

Conclusions.

Nutrition of fertile and pregnant women of industrial region does not meet the requirements of rational nutrition with violation of diet, quantitative and qualitative diet content, with excessive consuming of bread and bakery products, sugar and confectionery – by 9,9%-67,6 % and is characterized by a shortage of other foodstuff groups.

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