

PROBLEMS OF RATIONALIZATION OF NUTRITION OF PREGNANT WOMEN

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ABSTRACT

In the article the importance of the nutrition of pregnant women for the growth and development of healthy child is illustrated.

Keywords: balanced diet, trimester, nutritiology, dietology, ketone, hormonal system, total energy, animal proteins.

BACKGROUND

President Of The Republic Of Uzbekistan Sh.M.Mirziyoyev's decree "on measures to radically improve activities in the field of supporting women and strengthening the Family Institute", adopted on February 2, 2018...protection of reproductive health, implementation of measures aimed at increasing the knowledge and sanitation culture of the population in the field of prevention of maternal and perinatal diseases and mortality" indicates that the priority task is increased to the level of Public Policy on the protection of the health of pregnant mothers and children born and the need to further increase the scope of work in this One of the important activities in this regard is the organization and implementation of their adequate and quality nutrition.

The quality nutrition of pregnant mothers has attracted considerable attention from scientists and doctors since ancient times. Galen, Aristotle and Hippocrates note that the proper amount and quality of nutrition of pregnant women prevent many defects in childbirth. At present, these ideas have been proven completely. Therefore, in the birth of a healthy child, every mother should pay enough attention to what she eats and what she drinks, preventing the body from gaining or decreasing weight. It is also wrong for pregnant mothers to try to reduce body mass immediately during pregnancy to give birth to a healthy baby. Collected ketone bodies (intermediates formed during metabolism) as a result of the efforts to reduce the weight can have a negative impact on the development of the fetus. It should be noted that modern biology, medicine, nutritiology and dietology still do not have enough information about optimal nutrition of pregnant women.

Indeed, the quality of food, type, quantity, timely and nutritious food used during pregnancy is one of the most important factors affecting human life [2-182]. It is well know, during pregnancy significant changes in metabolism and hormonal system occur. The need for vitamins and minerals in pregnant women is 1.5 times higher.

In the first half of pregnancy, women's diet is not fundamentally different from the usual state of nutrition or from that before the embryo appears. It should be borne in mind that, the formation of the embryo members occur in the first trimester so the consumption of biologically acceptable proteins, vitamins and macro and microelements taking into account of their similarity to their level is of great importance. Insufficient nutrition of the pregnant woman reduces the stock of nutrients needed for the fetus, leading to a child's metabolism disorder. Insufficient nourishment has led to the abortion of the child, the loss of the baby's ability to live, the dead birth of the baby, and the death of the mother and the child [3-330]. It is hard to tell exactly how much the pregnant woman eats in one day. This figure depends on the weight of the pregnant woman, age, body weight, occupation, climatic conditions, and season of the year as

well. Depending on the height, body weight, and movement of the woman, every pregnant woman should consume on average 60-90 g protein, 50-70 g of fat and 325-450 g carbohydrates a day. The total caloric value of these nutrients should be around 2200-2700 kcal [2-181]. It is also important for pregnant women to have a healthy diet, which is recommended 4 times a day in the first half of the pregnancy and 5 and 6 times in the second half of pregnancy. It's important not to eat overly at once, it is necessary to eat fruits, vegetables and salads first and then to eat from the main meal. Nutritional supplementation should be achieved by selecting foods that are not too long to be consumed in gastrointestinal tract and easily digested. Otherwise, they will go off producing substances as gas, and different kinds of toxic substances. This can, first of all, cause anxiety in the body, and may adversely affect the developing fetus. The share of acceptable total energy consumption compared to the main food stuffs should be 15-30% for proteins, 25-30% for fat and 40-45% for carbohydrates.

Nutrition of pregnant mothers must meet all requirements physiologically. In this context, the diet should include 5 times, and the last meal should be about at 9 p.m. consisting a cup of yoghurt. White and oily foods should be consumed in the first half of the day and the total energy of the dinner should be about 20% of the daily energy. A pregnant woman should not have a rest immediately after eating.

In the second half of pregnancy, due to the increased fetal weight and development of the function of the liver, kidneys, intestines and nervous system of the fetus, maternal nutritional requirements should be increased slightly to 80- 110 g relative to the protein , 50 to 70 g of fats and 350 to carbohydrates - up to 450 g , the total caloric value of these nutrients should be 2300-2800 kcal. 60% of proteins in pregnant diet are animal proteins, 30% of which should be covered by meat and fish, 25% by milk and dairy products, and respectively the other 5% should be covered by egg. [3-326].

Targeted nutrition for pregnant women can be determined based on the increase in body weight. For example, in women who have a normal pregnancy, body mass growth should be between 300 and 350 gr per week . In case of complete pregnancy, body mass should not be exceeded from 8 to 10 kg of former body weight . If the weekly increase is equal to 1 kg, this is not a good indication, but often this is due to the dramatic accumulation of fluid in the tissues. The normal growth of the mass of the pregnant women is a natural phenomenon, which ensures a sufficient amount of nutrients during lactation. In recent years, according to Korolev and A.Yu. the Baranovskiy recommendation , observations have shown that the daily diet of pregnant women should be as following [3-325]:

Meat or fish 120 to 150 g .

Milk or yoghurt 200 g .

Sour milk 50 g .

One egg.

Bread 200 g .

Pasta and groats 50-60 g .

Potatoes and other vegetables 500 g .

Fruit juices 200- 500 g .

Of course, the aforementioned products and their quantities may not be suitable for many rural conditions, for example, you cannot always find a fish, or sometimes black and white bread is a bit of a difficult to be found. In these cases it is recommended to use polyvitamins for pregnancy.

Milk, sour milk, lean cauliflower and less salty cheese are recommended for pregnant women to provide adequate protein content. The proteins of these products provide an optimal ratio of unchanging amino acids and calcium salts.

Pregnant women should eat fish and meat in boiled form, especially in the second half of the process. It is better not to drink meat, fish, mushrooms soups as they contain extractive substances that are harmful to the body. As a liquid meal, vegetable, milk and fruit soups should be prepared.

Fat serves not only as an energy source, but also an important component of all the tissue and cellulose for the body of the pregnant woman. They also provide normal extraction of calcium and magnesium from fat-soluble vitamins and mineral substances. In addition to fat-soluble vitamins fat also contains phospholipids, sterins, arachidonic and other essential (primary) substances such as linoleic and linolen acids. Milk butter should serve as a source of animal fat for pregnant women's consumption. The daily requirement for it should not exceed 25-30 g. Such women are required to take margarine out of their diet at all . It is not

advisable to consume intestine fat. In daily meals, an average 25-30 grams of vegetable oil is required. Because they contain vitamin E, which is important in the development of the fetus, besides unsaturated fatty acids [2-180] .

In pregnant women folic acid, iodine deficiency, and anemia are common in iron deficiency form. Among them vitamin D, B₆, folic acid (B₉ avitaminosis), as well as calcium, iodine, iron, and zinc deficiency is considered dangerous. Vitamins and micronutrient deficiency can cause 1,000 birth defects and, in particular, nervous system and heart failure. Today prevention of such bad circumstances is not a big problem. It is advisable for women to nourish themselves and their children fully during pregnancy and breastfeeding by eating nutrients and polyvitamin-mineral complexes.

Increasing demand for food in pregnancy period is considered a natural condition This, in turn, plays a crucial role in providing the growing fetus with the necessary nutrients This process is characterized by increased natural energy and fat accumulation in the mother, tissue development, increased demand for major metabolism, and increased demand for energy for physical activity. Due to the overweight increase in body weight during pregnancy: blood pressure, pregnancy diabetes, urinary tract infections, changes in blood vessels, complicated maturates, and body weight control after pregnancy can occur. Due to the lack of body weight during pregnancy, there is a high risk of complications, premature birth, low birth weight, delayed pregnancy and even mortality [3, p. 322].

METHODS

Nutrition of pregnant women is studied by questionnaire method (4, p.39). Quantity calculation of food content is made on the basis of special tables (5, p7-180). The maintenance of fats, protein and carbohydrates in the diet was defined accordingly by methods of Gerber, Keldal and Antron using Keltran device (6, p. 469-472)

RESULT

In our observations, we tried to find out nutrition of a group of 18-29 pregnant women living in the Kasan district of Kashkadarya region through questionnaire surveys in order to study current nutrition and create balanced diet rates in pregnant women and have achieved the following results:

Table 1. Provision of pregnant women (18-29 years old) with macronutrients

Macronutrients	Normal measurement [4]	The result	Relative difference, in%
Proteins	61 (+30) *	77.2	-15.1
Animal protein, g	34 (+20)	34.2	-36.4
Fat, g	67 (+12)	69.4	-12.1
Carbohydrates, g	289 (+30)	315.2	-1.1
Energy, kkal	2000 (+320)	2191.2	-6.6

* Everyday principle addition according to age and physical activeness

It is evident that the acceptance of macronutrients in the respondents is at a much lower level in all nutrients. In particular, protein deficiency is higher than other nutrients (15.1%), particularly the absence of animal protein deficiency (36.4%) is dangerous. Fat consumption is also lower in pregnant women(12.1%) and only the level of carbohydrates is on average. Having understood the results, it is important to notice that in some areas of our Republic, especially in rural areas, the main foodstuffs in the diet are carbohydrates - bread and flour products, while the total energy value is close to the norm, while proteins especially animal proteins was noted to be lower than norm. If defects are not eliminated in time, the deficiencies in the normal course of pregnancy are inevitable. As we have already noted, this can have a negative impact on lower fetus body weight, its physical and mental wellbeing. The following table gives an overview on how the respondents receive vitamins from micronutrients .

Table 2. Provision of pregnant women (18-29 years old) with vitamins

Vitamins	Normal measurement	The result	Relative difference, in%
C (mg)	70 (+20) *	79.6	-11.5
B ₁ (mg)	1.1 (+0.4)	1.1	-26.6
B ₂ (mg)	1,3 (+0,3)	1.3	-18.7
Folate (mkg)	200 (+200)	288.4	-27.9
A (mkg) ret.ekv.	800 (+200)	789.4	-21,0
E (mg) toc. ekv.	8 (+2)	7.6	-24
D (mkg)	2.5 (+1)	2.9	-17.1

* Everyday principle addition according to age and physical activeness [1-13].

As shown in the table, all the studied vitamins were poorly consumed by respondents. In particular, the standard consumption of vitamin C should be about 90 mg every three months of pregnancy. However, the shown result was 79.6 mg. In other words, consumption of vitamin C were 11.5% lower than norm. Whereas normal consumption of vitamin B₁ is 1.4 mg the result was shown to be 1.1 mg. The consumption of this vitamin couldn't meet with requirement too, being 26.6% lower than norm. Likewise, normal consumption of vitamin B₂ is 1.6 mg but the result was shown to be 1.3 mg. This means it was 18.7% lower than the demand. As shown in the table, vitamin B₉ or folate acid is quite deficient in all pregnant women, whereas the demand for it is about 400 mg, the result is 288.4 mg. The demand for fetal acid in pregnant women met only 72%.

Now let's draw attention to the data on the provision of mineral substances to the respondents .

Table 3. Providing pregnant women (18-29 years old) with mineral substances

Mineral substances	Normal measurement	The result	Relative difference, in%
Calcium (mg)	800 (+300)	786.2	-28.5
Phosphorus (mg)	1200 (+450)	1123.1	-31.9
Magnesium (mg)	400 (+50)	379.4	-15.6
Iron (mg)	18 (+20)	21.6	-43.1
Zinc(mg)	15 (+5)	16.2	-19,0
Iodine(mg)	0.15 (+0.03)	0.14	-22.2

* Everyday principle addition according to age and physical activeness [1-13,14]

The deficiency of investigated substances here is even more apparent. Thus, the calcium content of the respondents is 786.2 mg (norm 1100 mg). The deficiency of this element is 28.5%. 1123.1 mg phosphorus instead of 1650 mg was consumed and deficiency is about 32%. If the magnesium element is to be consumed at an average of 450 mg, the result is 379.4 mg. The deficiency of this element is more than 15.5%. The demand for microelement iron, important for fermentation meets only about 57%. (If the norm is 38 mg, the result is 21.6 mg). If the norm of zinc is 20 mg, the result is 16.2 mg it means 19% lower. Iodine is consumed 22% less than the norm.

As can be seen above, there are a number of serious shortcomings in the diet of pregnant women . One of the crucial ways to overcome the issue is to broaden the population's awareness of normal of nutrition, which is an essential component of a healthy lifestyle. This includes reporting on the same topic in the media and at home, as well as organizing workshops or special sessions on rational nutrition for pregnant women, as well as courses.

CONCLUSION

Average fats and protein content of daily diet of investigated pregnant women are less than average standard values. Average amount of carbohydrates in their diet is 98,8 %. Also it is found out that the maintenance of vitamins on the average on 11,5-27,9 %, mineral substances – on 15,6-43,1 % is lowered. It can be explained by lowered maintenance of animal products in their diet and the raised use of bread and flour products.

In conclusion, by studying the nourishment of pregnant women and developing recommendations for their rationalization, it is possible to create a basis not only for women but for the healthy and well-being of the future children.

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