

## Physiological Supply of Main Nutrients of Pregnant Women in The Southern Regions of The Republic of Uzbekistan

Kurbanov Shaniyaz Kurbanovich,

Buranova Gulnoza Boymuratovna

Department of Physiology of Karshi State University

### Abstract:

This article is devoted to the study of macronutrients and their energy value in the daily food intake of pregnant women aged 18-29 and 30-39 years living in rural conditions of Kashkadarya region.

According to the obtained results, the amount of protein in the daily diet of the subjects was relatively low and carbohydrates in the diet was close to or significantly above the norm.

**Keywords:** ration, proteins, fats, carbohydrates, energetic value, trimester.

### Introduction

The Covid-19 coronavirus became a pandemic in 2019. According to the World Health Organization, in 2020, SARS-CoV-2 was declared an international public health emergency in China. In 2020-2021, different variants of SARS-CoV-2 appeared, which led to an increase in the rate of infection with the coronavirus among different groups of the population, especially pregnant women. Observations on the infection of pregnant women with the noted virus were carried out in the conditions of China, the USA and Russia, and appropriate conclusions were drawn on this basis. Covid-19 is dangerous in the second and third trimesters of pregnancy, which is explained by the increased load on various systems of the body. Therefore, it is important for pregnant women to undergo regular medical examinations and, most importantly, to follow a healthy lifestyle. At this point, paying attention to the composition and quality of daily food is one of the important factors in preventing diseases.

It is known that healthy nutrition is of great importance for the normal functioning of all physiological and biochemical processes in the body. This is especially important in the lives of pregnant women. Because the health and perfection of the unborn child depends on the quality, type, quantity, diet and other factors of the food consumed by mothers during pregnancy (2-6).

According to the results of research conducted in our Republic and abroad in recent years, anemia among pregnant women is on average 29.0-50.1%. There are also corresponding deficiencies in their supply of proteins, fats, carbohydrates, vitamins and minerals. In order to



prevent such situations, the authors offer relevant scientific and practical recommendations. At the same time, the government is paying special attention to this issue (5).

The amount of energy consumed is constantly replaced by the breakdown of the main nutrients - proteins, fats, carbohydrates - received by the body from the external environment with daily food. This, in turn, serves for the normal growth and development of the fetus and the formation of tissues and organs (6).

Based on the above considerations, we aimed to study the provision of macronutrients, i.e. proteins, fats and carbohydrates, to pregnant women aged 18-29 and 30-39 living in Kasbi, Kitab and Koson districts of Kashkadarya region. The actual diet of pregnant women was studied using a questionnaire (1).

Proteins are one of the nutrients that have mainly plastic and energy value in the body. It is especially important during pregnancy. Therefore, the amount of proteins in the daily food is more or less than the standard level can cause the corresponding negative changes in the body of the mother and the child. They actively participate in the performance of vital functions such as cell renewal, enzymes, hormones and other biological fluids, as well as the formation of hemoglobin and shaped elements in the blood.

The obtained results are reflected in Tables 1 and 2 below.

**Table 1 Supply of essential nutrients to pregnant women (Kasbi, Kitab and Koson districts combined, average)**

Indicators	18-29 years old (n=153)		30-39 years old (n=108)	
	The norm	Result	The norm	Result
Total protein, g	91	77,06±2,01	89	75,0±1,34
Of this, animal protein, g	54	32,1±0,95	53	30,9±0,58
Total fat, g	79	75,1±1,73	75	78,8±1,39
Total carbohydrates	319	341,7±6,16	304	366,5±5,16
Total calories, kcal	2320	2351,9±35,9	2320	2476,3±25,7

As can be seen in Table 1, the supply of proteins, especially animal proteins, of pregnant women aged 18-39 years is 15.3-41.6% less than the norm. The total amount of protein in the daily diet of 18-29-year-old women is 77.06±2.01 g, and it is 75.0±1.34 g in 30-39-year-old women, and these indicators are on average 15.3 and 15.7, respectively, compared to the norm. It was also shown that the amount of animal proteins was 32.1±0.95 g in the first age group and 30.9±0.58 g in the second, which was 40.5 and 41.6% less than the standard level.

Another of the macronutrients necessary for the body of pregnant women are fats, which are the main source of energy and fat-soluble vitamins in the body. They also ensure adequate



absorption of calcium and magnesium from minerals. The average amount of fat in the daily food of respondents aged 18-29 and 30-39 is  $75.1 \pm 1.73$  g and  $78.8 \pm 1.39$  g, respectively.

Carbohydrates take the first place in terms of quantity from the main nutrients in daily consumption, and they are the main substances that provide energy for the body, and also serve partly as plastic material. Fats, carbohydrates, and total daily calories in their food are normal or significantly higher (30-39-year-old women have 20.5% more total carbohydrates).

The total energy value of the daily meal is explained by the fact that it is at the standard level due to fats and carbohydrates.

**Table 2 The ratio of the main nutrients in the daily diet of pregnant women and their energy value**

(Kasbi, Kitab and Koson districts combined, average)

Indicators	18-29 years old (n=153)		30-39 years old (n=108)	
	The norm	Result	The norm	Result
P : F : C	1:0,86:3,5	1:0,97:4,43	1:0,84:3,41	1:1,05:4,88
P : F : C*	15:30:54	13,1:28,7:58,1	15: 30:54	12,1:28,6:59,2

*\*Note: the proportion of daily food calories corresponding to protein, fat and carbohydrates (in %)*

Usually, the daily food of pregnant women should account for an average of 15% of the total energy value of proteins, 30% of fats and 54% of carbohydrates. In the results we obtained, these indicators differ from the recorded shares. In particular, in our results for the Kasbi district (18-29 year olds), 14.07% of daily food calories correspond to proteins, 28.4% to fats and 57.4% to carbohydrates. 12.5 for 30-39 year olds; It was 29.2 and 58.1%. The following situation was noted in Kitab district. In 18-29-year-olds, the average percentage of proteins is 12.1%, fats - 26.6%, carbohydrates - 61.2%. Among 30-39-year-olds, this figure is 10.9%, 25.8% and 63.1%, respectively. Finally, the contribution of the energy value of these nutrients to 18-29-year-olds and 30-39-year-olds in the Koson district is 13.1 and 12.9% of proteins, 31.2 and 31.1% of fats, and 55.6 and 55.9% of carbohydrates. corresponds to. If we calculate the average for all three districts, 12.6% of daily food calories are proteins, 28.7% are fats, and 58.5% are carbohydrates. This situation is explained by the large consumption of bread and flour products (various pastries, thin, gilmindi, ivy, manti, somsa, etc.) and pasta by pregnant women in rural conditions. At the same time, the quantitative ratio of protein, fat and carbohydrates was 1:1:4.6 instead of the standard 1:0.9:3.5 (SanPiN #0347-17).

In understanding the obtained results, it should be taken into account that the main nutrients in the diet of women living in rural areas in the conditions of our Republic, especially in our region, are carbohydrates, that is, bread and flour products, so although the total energy value is close to the standard level, proteins, in particular, animal proteins, are below the appropriate level. much less was noted. If such a deficiency is not eliminated in time, it is inevitable that there will be defects in the normal continuation of the fetal process. This condition can have a negative impact on the child's low body mass, his physical and mental maturity.



The obtained results show that the intake ratio of the main nutrients contained in the daily menu of the respondents is violated compared to the norm. In particular, the energy value of their daily food is 2414.1 kcal instead of the standard 2320 kcal. This situation, in turn, does not remain without a significant impact on plastic and energy exchange.

In conclusion, it can be said that the timely elimination of noted deficiencies in the food of pregnant women is important in improving the physiological processes in both the mother's and the child's body. One of the first scientific-practical activities in this field is to carry out appropriate promotional and explanatory work on the organization of their healthy diet.

## References:

1. Методические рекомендации по вопросам изучения фактического питания и состояния здоровья населения в связи с характером питания/Зайченко А.И., Волгарев М.Н., Бондарев Г.И и др.-Москва.-1986.-86 с.
2. Смоляр В.И. Рациональное питание.-Киев: Наукова Думка, 1991. 368 с.
3. Соғлом овқатланиш-саломатлик мезони. Ш.И. Каримов тахрири остида. Тошкент, 2015 йил.-355 бет.
4. Шарипова Н.В., Дусчанов В.О., Шайхова Г.И., Курбонов Ш.Қ., Азизова Ф.Л., Рахматуллаев Ё.Ш., Солихова Н.С. “Ўзбекистон Республикаси аҳолиси турли гуруҳларининг озиқ моддалар ва энергияга бўлган физиологик талаб меъёрлари, қоидалари ва гигиена нормативлари. Сан Пин. № 0250 -08, Тошкент, ТТАИФ, 2008 йил, 38 бет.
5. Курбонов Ш.Қ. Овқатланиш маданияти. Тошкент, 2005 йил.-206 бет.
6. Buranova G.B., Kurbanov Sh.K., Rahmatullayev Y.Sh. Supplying of Certain Vitamins for Pregnant Women in the Southern Regions of the Republic of Uzbekistan // Annals of the Romanian Society for Cell Biology. ISSN: 1583-6258, Vol. 25, Issue 4, 2021, – P. 7609-7615. <https://www.annalsofrscb.ro/index.php/journal/article/view/3415>.
7. Buranova G.B. Maternal nutrition in the birth and development of a healthy baby // Austria Science. – Austria, 2019. – part 2. – №26. – P. 3-5.
8. Buranova G.B. Qishloq sharoitida homilador ayollarning vitaminlar bilan ta'minlanishi // «Охрана и рациональное использование природных ресурсов южного Приаралья» материалы Международной научно-практической конференции. – Нукус, 23-24 июня, 2020. – С. 325-328.
9. Buranova G.B., Baratova Sh.S., Pulatova K.N. Problems of rationalization of nutrition of pregnant women. International journal of innovations in engineering research and technology. ISSN: 2394-3696 web-site: [www.ijert.org](http://www.ijert.org), vol. 8, issue 4, Apr. 2021. – P. 22-26.
10. Qurbonov Sh.Q., Buranova G.B., Pulatova K.N. The role of macronutrients in the healthy diet of pregnant and lactating mothers. Journal For Innovative Development in Pharmaceutical and Technical Science (JIDPTS) Special Issue: International conference on Applied and



---

Natural Sciences (JIDPTS) ISSN(O): 2581-6934, Apr. – 2021. Available at: [www.jidps.com](http://www.jidps.com). – P. 182-183.

11. Buranova G.B., Hamzayeva N.R., Hazratova H. N., Norchayev U.T. The Role of Vitamins in Health of Pregnancy Women. “International journal on orange technologies” [www.journals\\_research\\_parks.org/index.php/IJOT](http://www.journals_research_parks.org/index.php/IJOT) ISSN: – P. 2615-8140. ISSN: 2615-7071. Volume: 03, Issue: 04 April, 2021. – P. 128-131.

