

The Role of Nutritional Factors in Maintaining the Health of Pregnant Women

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Annotation: This article is devoted to studying the content of proteins, fats, carbohydrates, and their energy value in the daily diet of pregnant women aged 18–29 living in rural areas of the Kashkadarya region. According to the obtained results, the amount of protein in the daily diet of the examined women was relatively lower than the recommended norm, while the amounts of fats and carbohydrates were found to be close to or significantly higher than the norm.

Keywords: diet, proteins, fats, carbohydrates, energy value, trimester.

INTRODUCTION. It is well known that healthy nutrition plays a crucial role in ensuring the normal course of all physiological and biochemical processes in the human body. This is especially important in the lives of pregnant women, as the health and proper development of the unborn child are directly dependent on the quality, type, and quantity of food consumed by the mother during pregnancy, as well as on her dietary habits and other related factors (2–6).

According to the results of recent studies conducted both in our Republic and abroad, the prevalence of anemia among pregnant women ranges from 29.0% to 50.1% on average. In addition, deficiencies in the intake of proteins, fats, carbohydrates, vitamins, and mineral substances have also been observed. To prevent such conditions, various authors have proposed relevant scientific and practical recommendations. At the same time, this issue has received particular attention from the government as well (5).

The body's energy expenditure is continuously compensated by the breakdown of essential nutrients—proteins, fats, and carbohydrates—received daily from external sources through food. This, in turn, ensures the normal growth and development of the fetus, as well as the formation of its tissues and organs (6,7).

LITERATURE REVIEW AND METHODS. The main nutrients—particularly proteins, fats, and carbohydrates—play a decisive role in ensuring the normal functioning of the body's tissues and cells. This significance becomes especially evident during pregnancy, both for the fetus and

the expectant mother. Specifically, proteins are actively involved in fetal growth and development, the enlargement of the uterus, placenta, and mammary glands, the formation of amniotic fluid, and the regulation of blood circulation in the above-mentioned organs. Typically, the demand for protein does not change significantly during the first trimester (6–7).

In our study, we aimed to investigate the supply of macronutrients—namely proteins, fats, and carbohydrates—among pregnant women aged 18–29 living in the Koson district of the Kashkadarya region. The actual dietary patterns of pregnant women were studied using a questionnaire survey method (1). The observations were conducted during the autumn, winter, and spring seasons from 2017 to 2021.

As the object of the study, women living in the same area and under identical climatic conditions were selected. The content of macro- and micronutrients in the daily diet of the participants was analyzed and compared with existing physiological norms.

RESULTS AND DISCUSSION. Proteins are among the essential nutrients in the human body, serving primarily as structural (plastic) and energetic components. During pregnancy, their importance becomes particularly significant. Therefore, both an excess and a deficiency of proteins in the daily diet can lead to adverse changes in the health of the mother and the developing fetus. Proteins play a vital role in cell renewal, the synthesis of enzymes, hormones, and other biological fluids, as well as in the formation of hemoglobin and the cellular components of blood.

According to the obtained data, the average amount of protein in the daily diet of pregnant women aged 18–29 living in rural areas was 73.6–78.0 g in the first trimester, 82.9–85.5 g in the second trimester, and 77.0–81.6 g in the third trimester. Compared to the standard requirement of 102 g, these values are on average 17.4–25.6% lower.

Another essential macronutrient necessary for the body of pregnant women is fat, which serves as a major source of energy and fat-soluble vitamins. Moreover, fats contribute to the proper absorption of minerals such as calcium and magnesium.

Our observations revealed that the total amount of fat in the daily diet of pregnant women was significantly higher than the recommended norm. Specifically, the daily intake of fats among 18–29-year-old pregnant women averaged 90.3–99.9 g in the first trimester, 103.1–108.3 g in the second trimester, and 101.6–110.0 g in the third trimester. These indicators were found to exceed the recommended level (93 g) by approximately 2.2–13.7% on average.

Carbohydrates and Energy Value

Among the main nutrients in the daily diet, carbohydrates occupy the first place in terms of quantity. They serve as the primary source of energy for the body and, to some extent, act as plastic (structural) materials as well.

According to the obtained results, the total amount of carbohydrates in the daily diet of pregnant women was found to be close to, or slightly below, the recommended level. While the standard requirement for carbohydrates in the diet of pregnant women is 388 g per day, our findings indicate that this amount averages 351 g.

When interpreting these results, it is important to note that in our Republic—particularly in rural areas of the Kashkadarya region—the diet of women mainly consists of carbohydrate-rich foods such as bread and flour products. As a result, although the overall energy value of their diet is close to the norm, the intake of proteins, especially animal-derived proteins, is significantly below the recommended level. If this deficiency is not addressed in time, it may lead to developmental abnormalities in the fetus, resulting in low birth weight and potentially affecting the child's physical and mental development.

Our findings demonstrate that the proportion of essential nutrients in the daily diet of respondents is imbalanced. This, in turn, inevitably affects both structural (plastic) and energy

metabolism. Consequently, the average daily energy value of their diet was found to be 2,644.1 kkal, compared to the recommended range of 2,100–2,300 kkal.

CONCLUSION

In conclusion, it can be stated that timely correction of the identified dietary deficiencies among pregnant women is of great importance for improving the physiological conditions of both the mother and the child. Organizing proper nutrition and implementing educational and awareness-raising programs on healthy eating habits among pregnant women should be considered one of the primary scientific and practical measures in this field.

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