THE INFLUENCE OF NUTRITIONAL SECURITY DURING PREGNANCY ON THE PECULIARITIES OF PREGNANCY, DELIVERY AND POSTPARTUM PERIOD

RESEARCH GROUP:

Semenyna Halyna MD, PhD, DSc, Professor of the Department of Obstetrics and Gynecology
Danylo Halytsky Lviv National Medical University, Ukraine

Fartushok Tetiana PhD, Associate Professor of the Department of Obstetrics and Gynecology
Danylo Halytsky Lviv National Medical University, Ukraine

Alieva Karolina
Department of Obstetrics and Gynecology
Danylo Halytsky Lviv National Medical University, Ukraine

Tsap Marianna
Department of Obstetrics and Gynecology
Danylo Halytsky Lviv National Medical University, Ukraine

Summary. The application of balanced vitamin-mineral complexes Fertilovit for 2 in the planning of pregnancy, during gestation and postpartum is considered as a necessary and compulsory component of rational tactics of pregnant women during the gestation and postpartum period, which makes it possible to reduce the number of obstetric complications and optimize perinatal outcomes.

Key words: pre-pregnancy pre-pediatric preparation, perinatal and obstetric complications, vitamin-mineral complexes.

Introduction. The health of the unborn child depends on many factors: heredity, parental health, the state of the environment, the peculiarities of pregnancy and childbirth. In the absence of obvious diseases, spouses and their close relatives still have a risk of having a child with developmental disabilities, and it usually does not exceed 5%. Given this, pre-pregnancy counseling should be the main form of prevention for women planning a pregnancy [2].

Lack of vitamins and trace elements in the body is a common problem of all civilized countries. The physiological needs of the human body in them are formed by the evolution of the species, adapted to the consumption of large amounts of...
food, as well as to the high level of energy consumption, which has decreased in recent decades by 2-2.5 times. Accordingly, the amount of food portions decreased by the same amount, otherwise overeating would be inevitable and as a result - obesity, diabetes, hypertension, atherosclerosis, etc. Studies in many countries have shown that the average diet of modern man, even balanced and varied, is imperfect and 20 - 30% deficient in most vitamins and trace elements [1, 11].

Vitamins, minerals and trace elements ensure the normal functioning of the mother’s body and the adequate formation of the placenta and fetus. Adequacy of vitamins reduces oxidative processes, supports the uteroplacental system, prevents the formation of congenital malformations by normalizing hydrocarbon metabolism, calcium metabolism, immunomodulation and normalization of lipid metabolism [4,8,12].

The purpose of the work: to find out the effectiveness of pre-pregnancy training of women of reproductive age and pregnancy taking into account nutritional status to reduce obstetric and perinatal complications.

Materials and methods. The study involved 63 pregnant women of reproductive age without extragenital pathology, who were randomly divided into two groups. The first group - 33 women who underwent pre-pregnancy training in the autumn-winter period and during pregnancy during the winter-spring period received nutritional support. Correction of nutritional status was carried out with multivitamin complex Fertilovit for 2 (Gonadosan AG, Germany) as follows: 1 capsule daily before conception and during pregnancy in the autumn-winter or winter-spring periods. Fertilovit for 2 is an antioxidant vitamin complex containing 11 vitamins, 4 trace elements and coenzyme Q10, with clinically proven effectiveness in Europe’s leading reproductive centers.

The second group included 30 pregnant women who did not receive nutritional support.

Estradiol, estriol, progesterone, total testosterone, sex steroid-binding globulin, dehydroepiandrosterone, prolactin and cortisol were determined by ECLIA electrochemiluminescent immunoassay and enzyme-linked immunosorbent assay using standard Immunotech kits. Ultrasound and Doppler were performed on an ultrasound machine Aloka SSD-2000.

Resistance index, pulsation index, systolic-diastolic ratio in uterine and spiral arteries and trophoblast vessels were determined.

Statistical processing of the obtained data was performed using standard methods of descriptive and categorical statistics and the package of certified programs Statistica 8.0 (Statsoft Inc., USA).

The results of the study and their discussion. Analysis of the first trimester showed that in women of group I pregnancy was complicated (miscarriage risk) in 2 cases (6.0%), and in the second - in 14 (46.7%; p <0.01): miscarriage (5 women), cessation of embryo development (3), early preeclampsia (4).

In women receiving the multivitamin complex Fertilovit for 2, the hormonal profile showed a tendency to increase the level of E2 (p <0.01) and Pg (p <0.001), which is evidence of improved relationships in the hypothalamic-pituitary-ovarian system, and stress hormones (p <0.05) did not exceed the reference values, which demonstrates normal adaptation to pregnancy of the adrenal glands, while in the second group the values of K and PRL were slightly inflated (p <0.05).
In the second trimester of pregnancy in women of the first group of miscarriages was in 9.1% of cases, the best hormonal indicators in 90.1%, improved well-being in 100.0% against 33.3%, 66.7% and 50.0% in the second group (p <0.05). In addition, in the second group, 43.3% of pregnant women had anemia and 56.6% did not report improvement in general condition (p <0.001).

The greatest effect of vitamin prophylaxis on pregnancy was found in the third trimester of pregnancy: all patients reported improvement in well-being (100.0%), anemia, preeclampsia and fetal distress were in 3.0% of pregnant women (p <0.05). In the group of women who did not receive nutritional support during pregnancy, the palette of complications was more diverse: premature birth (23.3%), preeclampsia (26.7%), placental abruption (10.0%), fetal growth retardation syndrome 10.0%, placental dysfunction (16.7%), fetal distress (20.0%), anemia (56.7%). 43.3% of pregnant women noticed an improvement in their well-being.

Based on the results of the analysis of pregnancy in the I, II and III trimesters, we can conclude that there is a significant positive effect of the drug Fertilovit for 2 on gestational process. This includes miscarriage (p <0.001), early and late preeclampsia (p <0.001), improvement in hormonal parameters (p <0.05), anemia (p <0.0001), placental pathology (p <0.05) and improvement of fetal condition (p <0.01).

The results of studies have shown that in newborns of the first group there were no cases of malformations of the heart, nervous system, congenital hypothyroidism. In the second group there were 3 (10.0%) cases of congenital malformations: one (3.3%) malformations of the heart and two (6.7%) spina bifida.

Breastfeeding up to three months was in 33 (100%) women of the first group, up to six months - in 30 (90.9%), up to one year - in 27 (81.8%) against 25 (83.3%), 21 (70.0%) and 13 (43.3%) women in the second group, respectively. Hypogalactia was detected in only one (3.0%) woman in the first group.

Thus, the studies state the fact (p <0.05) of the positive effect of the use of the antioxidant complex Fertilovit for 2 on pregnancy, childbirth and the postpartum period.

Deficiency of vitamins in the pre-implantation period, especially during pregnancy, when the female body's need for these essential nutrients is particularly high, negatively affects not only the health of women but also the unborn child, which increases the risk of perinatal pathology, infant mortality. and is one of the causes of infertility, congenital malformations, disorders of physical and mental development in children [6, 9,10, 12].

There is no doubt about the need to take vitamin supplements during pregnancy for both therapeutic and prophylactic purposes. The high frequency of hypovitaminosis in women with hope, including with a high socio-economic standard of living, necessitates regular use of vitamin supplements throughout pregnancy [3,5,7].

Prescribing vitamin complexes to pregnant and postpartum women is important not only in case of hypovitaminosis and mineral deficiency, but also for the prevention of various complications (miscarriage, preeclampsia, placental dysfunction, infectious diseases) [9, 10]. For the prevention of endothelial dysfunction, adequate supply of micronutrients is necessary from the period of pre-pregnancy training. This contributes to the formation of a normal antioxidant reserve.
of the body, prevention / correction of micronutrient deficiency and hyperhomocysteinemia.

Conclusions
The use of balanced vitamin-mineral complexes Fertilovit for 2 in pregnancy planning, gestation and postpartum is considered in modern conditions a necessary and mandatory component of rational management of pregnant women, which reduces obstetric complications and optimizes perinatal outcomes.

References: