FACTOR ANALYSIS OF THE CAUSES OF UNSATISFACTORY OUTCOMES IN THE PERINATAL PERIOD IN WOMEN INFECTED WITH COVID-19

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The Purpose of the Study

To carry out a factor analysis of the causes of unsatisfactory outcomes in the perinatal period in women infected with COVID-19.

Material and methods

The study was based on the results of examination and treatment of 3080 pregnant women and young mothers infected with SARS-CoV-2 during the COVID-19 pandemic in the maternity ward of the Republican Specialized Infectious Diseases Hospital Zangiota-1 from December 2020 to January 01, 2022. The majority of women (48.0%; 1478 out of 3080) were in the age range of 26-30 years, as well as the majority of women (84.0%; 2586 out of 3080) had no history of miscarriages. According to the number of pregnancies in the anamnesis, the most cases were with two (31.0%; 956 out of 3080) and one pregnancy (27.5%; 847 out of 3080) in the anamnesis. Only 5.9% (183 out of 3080) of pregnant women were primiparous. At the time of admission of patients to the hospital, 889 out of 3080 women (28.9%) were in the first trimester of pregnancy (13 weeks of gestation), 1056 women (34.3%) were in the second trimester of pregnancy (13-27 weeks of gestation) and most of all in the third trimester of pregnancy (≥28 weeks of gestation) – 1135 women (36.8%). According to international criteria for assessing the severity of COVID-19 infection in pregnant women, the vast majority (64.3%; 1980 out of 3080) cases, a moderate course of pneumonia was diagnosed. The clinical picture of pregnant women with COVID-19 infection was represented by bilateral pneumonia in 48.0% (1478 out of 3080). At the same time, up to 50% of lung lesions according to MSCT had the majority (60.0%; 1848 out of 3080) of patients. The identification and assessment of the severity of psychoemotional disorders were carried out according to the GTR-7 anxiety disorders assessment scale, the IES-6 post-traumatic stress disorder (PTSD) assessment scale, and the PHQ-9 depressive syndrome assessment scale. The combined psychoemotional pathology was detected using a special combined PHQ-ADS scale, which is the sum of the scores from the PHQ-9 and GTR-7 questionnaires (the maximum score is 48, the combination of PTSD, anxiety and depression manifests itself at 20 or more points).

Results

Analysis of the results of psychological evaluation of pregnant women with COVID-19 pneumonia using special questionnaires and scales showed that the most vulnerable aspects of mental health of this category of patients are issues of increasing social support and personal self-esteem. Women with a long history of infertility and induced pregnancy or IVF, difficulties in overcoming infertility-related stress and repeated failures of ovulation induction require special attention. Even a satisfactory pregnancy is associated with the so-called ambivalent psychological experiences of a woman, which in itself is a non-standard situation, and if the psychotraumatic COVID-19 pandemic is also superimposed on it, then the course of pregnancy becomes much more complicated. The above circumstances emphasize the need for a thorough consideration of the inclusion of specialized psychological consultations in the treatment program, the purpose of which will be the prevention and correction of psychoemotional disorders associated with COVID-19. In our study, the most frequently reported concerns were related to pregnancy and childbirth, including the inability to visit relatives after childbirth (59%), infection of the child with COVID-19 (59%), lack of support during childbirth (55%), COVID-19 associated psychoemotional disorders in terms of childbirth (41%). Greater anxiety related to children (i.e. inadequate child care, risk of infection) and missed doctor visits were associated with significantly higher chances of post-traumatic stress, anxiety and depression. A significant correlation between the development of psychoemotional disorders and the clinical and demographic characteristics of patients with COVID-19 was noted for such predictors as SAPS II over 40 points, severe and extremely severe course of the disease, the presence of 2 or more miscarriages in the anamnesis, the second trimester of pregnancy, as well as more than 50% volume of lung damage. Purely depressive syndrome has a high frequency in the first trimester, manifests itself in the second trimester with a significantly low frequency and has the lowest frequency of occurrence in the third trimester. This circumstance was caused by an increase in the number of women with PTSD and combinations of depression with anxiety as the pregnancy status increased. The second trimester of pregnancy is characterized by a high incidence of PTSD in its pure form with a significant statistical difference ($p= 0.002$) than the first and third trimesters. The prevalence of combinations of various mental disorders in pregnant women in the second trimester had an even more significant statistical difference ($p<0.001$). The influence of pregnancy status has been clearly demonstrated in relation to PTSD, anxiety and combined disorders, which confirms the predictors of the development of psychoemotional disorders in perinatal women with COVID-19 pneumonia identified during factor analysis. Ambiguous results of the influence of the severity of COVID-19 pneumonia on the development of disorders of the psychoemotional state of pregnant women were revealed. So, if, when calculating the total number of examined patients with a moderate course, a high frequency of all types of disorders was noted, then a particular structural analysis demonstrated a significant

effect of the severe course of COVID-19 pneumonia on the development of anxiety and combined disorders, and a minor effect of the moderate course on the development of PTSD.

Conclusion

Significant predictors of the development of psychoemotional disorders in pregnant women and women in labor on the background of COVID-19 are: SAPS II more than 40 points, severe and extremely severe course of the disease, the presence of 2 or more miscarriages in the anamnesis, the second trimester of pregnancy, as well as more than 50% volume of lung damage.