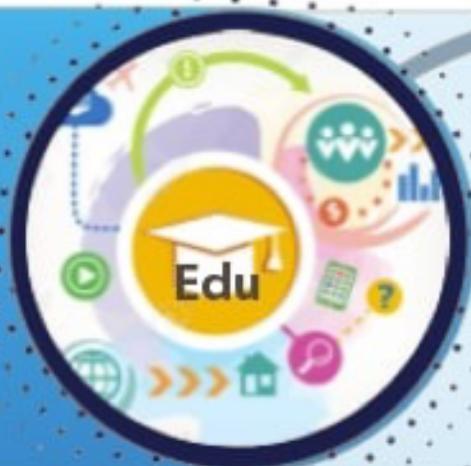




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Retrospective Analysis of Fetoplacental Dysfunction in Pregnant Women with Coronavirus Infection

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ABSTRACT

Background. Fetoplacental dysfunction (FPD) is a general term that describes some disorders of the interaction between the fetus and the placenta, which can lead to various complications of pregnancy and the birth of premature or sick children. The purpose of the study is to study the frequency and risk factors of fetoplacental dysfunction in pregnant women with COVID-19.

Materials. The study included 100 pregnant women who underwent COVID-19 in various stages of pregnancy. The study was conducted in the period from 2021 to 2022 in the Obstetric Complex # 9 in Tashkent. A retrospective study of cases of fetoplacental dysfunction was conducted in 100 pregnant women, 50 in the second trimester and 50 in the third trimester of pregnancy.

Results. As a result of the study, we found that 80% of pregnant women with COVID-19 had a deterioration in fetoplacental function during pregnancy. The frequency of fetoplacental dysfunction in the second trimester was 43% in the third trimester in 37% of pregnant women. Analysis of the outcomes of childbirth in women with fetoplacental dysfunction on the background of COVID-19 showed that 27% of women had children born with low weight, and 31% had asphyxia of varying severity.

Conclusion. COVID-19 can cause deterioration of fetoplacental function in 80% of pregnant women in the second and third trimesters of pregnancy. The frequency of fetoplacental dysfunction in the second trimester was 43% in the third trimester in 37% of pregnant women. An analysis of the outcomes of childbirth in women with fetoplacental dysfunction against the background of COVID-19 showed that 27% of women had children born with low weight, and 31% had asphyxia of varying severity.

Keywords: pregnancy, coronavirus infection, fetoplacental dysfunction, retrospective analysis

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INTRODUCTION

Fetoplacental dysfunction is one of the most common causes of pregnancy complications, which can lead to various adverse outcomes, such as premature birth, low newborn weight and even fetal death [1-3].

Fetoplacental dysfunction is a condition in which the function of the placenta is impaired, which can lead to various complications of pregnancy and risks to the health of the child [4-9]. Women with COVID-19 may have a risk of premature birth, increased intrauterine growth retardation and other problems with fetal development [10-15].

Some studies have shown that women with COVID-19 may have an increased risk of fetoplacental dysfunction, which can lead to various complications of pregnancy and child health [16-20].

Therefore, the urgency of the problem of fetoplacental dysfunction in women with COVID-19 should be considered when assessing the condition of pregnant patients, as well as when planning treatment and monitoring their health and the health of the child [21-25].

In recent years, it has been revealed that coronavirus infection can exacerbate fetoplacental dysfunction in pregnant women. In this regard, a retrospective analysis of cases of fetoplacental dysfunction in women with COVID-19 is an important and relevant study. Despite significant efforts in the fight against coronavirus infection, its consequences for pregnant women remain insufficiently studied, especially with regard to the effect on fetoplacental dysfunction [26-30].

The purpose of the study to study the frequency and risk factors of fetoplacental dysfunction in pregnant women with COVID-19.

MATERIALS AND METHODS

The study included 100 pregnant women who underwent COVID-19 in the second and third trimesters of pregnancy, from 2020 to 2021 and sought medical help at Obstetric Complex # 9 in Tashkent. The following data will be collected: demographic information, medical history, laboratory and imaging findings, obstetrical history, and pregnancy outcomes.

Study Design: This will be a retrospective study design. The medical records of pregnant women with confirmed COVID-19 infection who were admitted to the hospital will be reviewed and analyzed.

Participants: The participants in this study will be pregnant women with confirmed COVID-19 infection who were admitted to the hospital between a specific period.

Data Collection: The data will be collected from the hospital's electronic database. The data that will be collected include demographic information, medical history, laboratory and imaging findings, obstetrical history, and pregnancy outcomes. The data will be anonymized to maintain the privacy of the participants.

Data Analysis: The data will be analyzed using statistical software. Descriptive statistics will be used to summarize the data. Inferential statistics will be used to determine if there is an association between COVID-19 infection and fetoplacental dysfunction.

In summary, this study will use a retrospective study design to analyze the medical records of pregnant women with confirmed COVID-19 infection.

To conduct the study, we used a retrospective analysis of the patient's medical records, including the results of blood tests for the presence of inflammatory markers, as well as data on hormone levels, fetal weight, placenta condition, date of birth and the development of complications.

Statistical analysis was performed using SPSS software, and results were presented as mean \pm standard deviation. The significance level was set at $p < 0.05$.

RESULTS

Of the women included in the study, 71 (71%) were from the city of Tashkent and 29 (29%) were from different regions of Uzbekistan. As for social status, 37 (37%) women were employed, and 63 (63%) women were housewives. The composition of patients by profession was as follows: women with higher education made up 34 (34%) and 66 (66%) women with secondary education ($p < 0.001$).

The study of somatic analysis showed that 71 women (71%) revealed the presence of one or another somatic pathology. The structure of somatic pathology was as follows: gastrointestinal tract diseases – 11 women (11%), arterial hypertension – 21 women (21%), anaemia – 37 women (37%), urinary tract diseases – 11 women (11%), respiratory diseases – 13% (13%) and diseases endocrine system – 7 women (7%) ($p > 0.05$) (see figure-1).

At the same time, among pregnant women suffering from coronavirus disease, there were many cases in women with anaemia and hypertension, and in women of

this category, the incidence of coronavirus disease was 2 times higher.

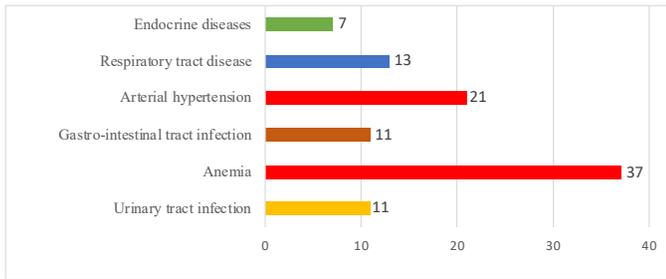


Figure 1. Frequency of somatic diseases in pregnant women infected with COVID-19, %

In addition, our study showed that the deterioration of fetoplacental function was observed not only in the second but also in the third trimesters of pregnancy in women infected with COVID-19.

In the second trimester, 43% of pregnant women infected with the virus had fetoplacental dysfunction, in the third trimester this indicator was low and amounted to 37% in women with COVID-19.

The results of the study showed that COVID-19 can cause deterioration of fetoplacental function in 80% of pregnant women in the second and third trimesters of pregnancy. The frequency of fetoplacental dysfunction in the second trimester was 43% in the third trimester in 37% of pregnant women.

Analysis of fetal conditions in pregnant women with fetoplacental dysfunction on the background of COVID-19 showed that 31% had fetal growth restriction syndrome, 27% had water scarcity, and 33% had inconclusive fetal condition.

Analysis of the treatment of fetoplacental dysfunction in pregnant women with COVID-19 showed that they mainly received the drugs curantil and aspirin according to the scheme.

Analysis of the outcomes of childbirth in women with fetoplacental dysfunction on the background of COVID-19 showed that 27% of women had children born with low weight, and 31% had asphyxia of varying severity. Pathology respiratory organs were manifested in 11 (11%) children in the form of intrauterine pneumonia and in 11 (11%) children with respiratory multi-distress syndrome (see figure 2).

Out of 100 newborns, 34 (34%) premature infants were hospitalized in the intensive care unit, of which 14 (14%) patients needed artificial lung ventilation. There were no fatal cases among children born to mothers with confirmed COVID-19.

All newborns born to mothers with confirmed COVID-19, were examined by the end of the first day of life by PCR on the RNA of the SARS-CoV-2 virus (smear from the mucous membrane of the nasopharynx or oropharynx).

When examining a smear from the throat of 100 children from mothers with confirmed COVID-19 on the first day after birth by PCR on the RNA of the SARS-CoV-2 virus in 9 (9%) cases, the result was positive. In the remaining 91 (91%) cases, the virus RNA was not identified.

68% of the patients had an increased level of inflammatory markers in the blood, which indicated the presence of an inflammatory process in the body. In 63% of women with fetoplacental dysfunction, the level of the hormone progesterone was reduced by 1.5 times, which may indicate a violation of placental function.

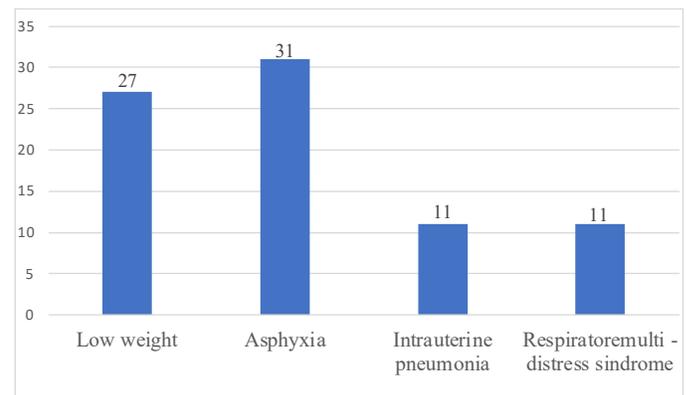


Figure 2. The condition of newborns born to mothers with fetoplacental dysfunction against the background of COVID-19

DISCUSSION

The relevance of the study is related to coronavirus infection (COVID-19), which continues to have a significant impact on the well-being of pregnant women and on the fetus [3-7].

A retrospective analysis of fetoplacental dysfunction in pregnant women with COVID-19 is of great importance for understanding the consequences of this infection on the health of mother and child. It can also help in the development of new strategies for the prevention and treatment of COVID-19 in pregnant women, which can improve pregnancy and birth outcomes [8-11].

Based on this, the study of fetoplacental dysfunction in pregnant women with COVID-19 is extremely relevant and may have important clinical significance for

improving the health of mother and child during and after pregnancy [12-14].

Our results confirm that COVID-19 can lead to deterioration of fetoplacental function in pregnant women. The inflammatory process and impaired placental function may be one of the mechanisms that underlie this process. In addition, fetal weight loss may be associated with a deterioration of fetoplacental function, which may affect the child's health in the future.

A retrospective analysis of medical data showed the presence of inflammatory processes and impaired placental function, which can lead to the risk of complications in the fetus and newborn baby. Further research is needed to establish a causal relationship between COVID-19 and fetoplacental dysfunction, as well as to develop effective prevention and treatment strategies in pregnant women with COVID-19.

This analysis can help to better understand the mechanisms of the impact of coronavirus infection on the health of a pregnant woman and her child, as well as determine the optimal methods of diagnosis and treatment of this condition. In addition, the results of the study can be used to develop recommendations for the prevention of fetoplacental dysfunction in pregnant women with coronavirus infection.

The data of the retrospective analysis can be useful for optimizing pregnancy management strategies in women infected with coronavirus, as well as for improving the effectiveness of preventive measures in order to reduce the risk of fetoplacental dysfunction.

In general, a retrospective analysis of fetoplacental dysfunction in pregnant women with coronavirus infection is of great importance for understanding the impact of this disease on pregnancy and the child, as well as for developing effective strategies for the treatment and prevention of this condition.

CONCLUSION

C COVID-19 can cause deterioration of fetoplacental function in 80% of pregnant women in the second and third trimesters of pregnancy. The frequency of fetoplacental dysfunction in the second trimester was 43% in the third trimester in 37% of pregnant women. Analysis of the outcomes of childbirth in women with fetoplacental dysfunction on the background of COVID-19 showed that 27% of women had children born with low weight, 31% had asphyxia of varying severity.

Ethics approval and consent to participate - All patients gave written informed consent to participate in the study.

Consent for publication - The study is valid, and recognition by the organization is not required. The author agrees to open the publication.

Availability of data and material – Available.

Competing interests – No.

Financing – No financial support has been provided for this work.

Conflict of interests - The authors declare that there is no conflict of interest.

REFERENCES:

1. American College of Obstetricians and Gynecologists. Practice advisory: COVID-19 vaccination considerations for obstetric-gynecologic care. Accessed March 26, 2023.
2. Chen H., Guo J., Wang C, et al. Clinical characteristics, and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. *Lancet*. 2020;395 (10226): P.809-815.
3. Mamajanova D.M., Shukurov F.I. COVID-19ga qarshi emlangan homilador ayollarda gemostaz tizimining xususiyatlari//Jurnal Tibbiyotda yangi kun. 10 (48) 2022.,S.47-51. [in Uzbek]
4. Diyorakhon M.Mamajonova., Shukurov F.I. Features State of The Fetoplacental System in Pregnant Women Vaccinated Against COVID-19//American Journal of Medicine and Medical Sciences 2022, 12(6): 682-685.
5. Kuhrt K, McMicking J, Nanda S. Coronavirus disease 2019 (COVID-19) in pregnancy: A systematic review. *J Matern Fetal Neonatal Med*. 2020;33(18): P.3179-3187.
6. Mamajanova D.M Shukurov F.I. Homilador ayollarni COVID-19ga qarshi emlash: xavfsizligi, samaradorligi, emlashdan keyingi immunogenlik darajasini baholash va prognozlash usullari//Uslubiy tavsiyanoma.Toshkent. 2022. 40v. [in Uzbek]
7. Mamajanova D.M. Shukurov F.I. Clinical and laboratory features of vaccination against COVID-19 in pregnant women // *Journal of Educational Scientific Medicine*,#2, 2022.P.32-37.
8. Mamajanova D.M. Shukurov F.I. Cytokine Status in Pregnant Women Vaccinated Against COVID-19// *Journal of Educational Scientific Medicine*, №3(2), 2022.P.90-94.
9. Mamajanova D.M., Shukurov F.I. Otsenka sostoyaniya novorojdennix, rojdennix ot materey, poluchiv shix vaktsinatsiyu vo vremya beremennosti//Materiali kongressa «Novie texnologii v diagnostike i

- lechenii ginekologicheskix zabolevaniy» M., 2022., S.58-59. [in Russian]
10. Mamajanova D.M., Shukurov F.I. Koronavirus infektsiyasi kasalligini o'tkazgan ayollarda homiladorlik va tug'ruq natijalarining retrospektiv taxlili//Jurnal infektsiya, immunitet i farmakologiya, №3, 2022.B.140-146. [in Uzbek]
 11. Mamajanova D.M., Shukurov F.I. Osobennosti diagnostiki i kliniki COVID-19 pri beremennosti//Materiali kongressa «XVI mejdunarodniy kongress po reproduktivnoy meditsine» M., 2022 –S.133-134. [in Russian]
 12. Mamajanova D.M., Shukurov F.I. Otsenka reaktogennosti kombinirovannoy vektornoy vaksini «Gam-Kovid-Vak» pri primeneni u beremennix//Materiali kongressa «Novie texnologii v diagnostike i lechenii ginekologicheskix zabolevaniy» M., 2022.,S.60-61.[in Uzbek]
 13. Mamajanova D.M., Shukurov F.I. Rezultati izucheniya mneniy vrachey i beremennix jenshin o vaksinatсии protiv COVID-19 vo vremya beremennosti//Materiali kongressa «XVI mejdunarodniy kongress po reproduktivnoy meditsine»M., 2022 – S.132-133.[in Russian]
 14. Mamajanova D.M., Shukurov F.I. Sostoyanie gormonalnogo statusa u beremennix, vaksinirovannix protiv COVID-19//Materiali kongressa «XVII mejdunarodniy kongress po reproduktivnoy meditsine» M., 2023 –S.115-116.
 15. Panahi L., Amiri M., Pouy S. Risks of Novel Coronavirus Disease (COVID-19) in Pregnancy; a Narrative Review. Arch Acad Emerg Med. 2020;8(1):P.34.
 16. Ruzmetova N.F., Shukurov F.I. COVID-19 bilan kasallangan ayollarda rivojlanmagan homiladorlikni to'xtatishda xavfsiz va samarador usullar // Jurnal infektsiya, immunitet i farmakologiya, №3, 2022. S.209-213. [in Uzbek]
 17. Ruzmetova N.F., Shukurov F.I. Koronavirusli infeksiyasining rivojlanmagan homiladorlikni kelib chiqishidagi o'rni//Vestnik Tashkentskoy meditsinskoy akademii.-2022. Spets vipusk. S.31-34. [in Uzbek]
 18. Ruzmetova N.F., Shukurov F.I. Otsenka effektivnosti medikamentoznogo metoda prerivaniya nerazvivayusheysya beremennosti u jenshin s COVID-19 // Materiali kongressa «Novie texnologii v diagnostike i lechenii ginekologicheskix zabolevaniy» M., 2022, S.64-65. [in Russian]
 19. Ruzmetova N.F., Shukurov F.I. Otsenka kliniko-diagnosticheskix kriteriev nerazvivayusheysya beremennosti u jenshin s COVID-19//Materiali kongressa «XVII mejdunarodniy kongress po reproduktivnoy meditsine»-M., 2023 –S.80-81. [in Russian]
 20. WHO. Coronavirus disease (COVID-19) situation report-173. Accessed March 26, 2023.
 21. Xolova Z.B., D.A.Xolmatova, Shukurov F.I. COVID-19 ga chalingan homilador ayollarda fetoplasentar disfunktsiyasi davosi va profilaktikasiga yangicha yondashuv // Jurnal Novosti dermatovenerologii i reproduktivnogo zdorovya. №3-4 [99-100]. S.38-39. [in Uzbek]
 22. Xolova Z.B., Shukurov F.I. COVID-19 bilan kasallangan homilador ayollarda fetoplasentar qon aylanishining xususiyatlari//Jurnal infektsiya, immunitet i farmakologiya, №3, 2022 .S.269-273. [in Uzbek]
 23. Xolova Z.B., Shukurov F.I. Morfologicheskie osobennosti fetoplasentarnoy disfunktsii u beremennix COVID-19 // Materiali kongressa «XVII mejdunarodniy kongress po reproduktivnoy meditsine» M., 2023 –S.133-134. [in Russian]
 24. Xolova Z.B., Shukurov F.I. Vliyaniya COVID-19 na sostoyanie fetoplasentarnogo kompleksa i razvitie oslojneniy dlya materi i ploda // Materiali kongressa «Novie texnologii v diagnostike i lechenii ginekologicheskix zabolevaniy» M., 2022 ., S.70-71. [in Russian]
 25. Yuldasheva N.Z., Shukurov F.I. COVID-19 bilan kasallangan ayollarda gormonal holati//Jurnal infektsiya, immunitet i farmakologiya, №3, 2022. S. 294 - 300 [in Uzbek]
 26. Yuldasheva N.Z., Shukurov F.I. Korrektsiya narusheniy menstrualnoy funktsii u jenshin s COVID-19//Materiali kongressa «XVII mejdunarodniy kongress po reproduktivnoy meditsine»M., 2023 –S.141-142. [in Russian]
 27. Yuldasheva N.Z., Shukurov F.I. Vliyanie COVID-19 na funktsiyu yaichnikov u jenshn raznogo reproduktivnogo vozrasta // Materiali kongressa «Novie texnologii v diagnostike i lechenii ginekologicheskix zabolevaniy» M., 2022 .,S.129-130. [in Russian]
 28. Yuldasheva N.Z.,Shukurov F.I. COVID-19 bilan kasallangan ayollarda xayz sikli buzilishlarini davolashda yangicha yondashuv//Jurnal Tibbiyotda yangi kun. 11(49) 2022.,S.344-348. [in Uzbek]
 29. Zaigham M, Andersson O. Maternal and perinatal outcomes with COVID-19: A systematic review of 108 pregnancies. Acta Obstet Gynecol Scand. 2020;99(7): P.823-829.

KORONAVIRUS INFYEKSIYASI O‘TKAZGAN HOMILADOR AYOLLARDA FETOPLASYENTAR DISFUNKSIYANI RETROSPYEKTIV TAHLILI

Xolova Z.B.

Toshkent tibbiyot akademiyasi

Dolzarbligi. Fetoplatsentlar disfunktsiya (FPD) - bu homila va platsenta o‘rtasidagi o‘zaro ta’sirning ba’zi buzilishlarini tavsiflovchi umumiy atama bo‘lib, homiladorlikning turli xil asoratlariga va erta tug‘ish yoki kasal bolalar tug‘ilishiga olib kelishi mumkin.

Materiallar. Tadqiqotda homiladorlikning turli bosqichlarida COVID-19 o‘tkazgan 100 homilador ayol ishtirok yetdi. Tadqiqot 2021 yildan 2022 yilgacha Toshkent shahar 9-sonli akusherlik majmuasida o‘tkazildi. Fetoplatsentlar disfunktsiya holatlarini retrospektiv o‘rganish 100 nafar homilador ayollarda, undan 50 nafari ikkinchi trimestrda va 50 homiladorlikning uchinchi trimestrda koronavirus kasalligini o‘tkazildi.

Natijalar. Tadqiqot natijasida biz COVID-19 bilan kasallangan homilador ayollarning 80%da homiladorlik paytida fetoplatsentlar funktsiyasi yomonlashganini aniqladik. Ikkinchi trimestrda fetoplatsentlar disfunktsiyaning salmog‘i homilador ayollarning 43%da uchinchi trimestrda 37% ni tashkil etdi. COVID-19 fonida fetoplatsentlar disfunktsiyali ayollarda tug‘ilish natijalarini tahlil qilish shuni ko‘rsatdiki, ayollarning 27% kam vaznli chaqaloqlarni, 31% turli og‘irlikdagi asfiksiya bilan tug‘ilgan bolalari bor.

Xulosa. COVID-19 homiladorlikning ikkinchi va uchinchi trimestrilarida homilador ayollarning 80 foizida fetoplatsentlar funktsiyaning yomonlashishiga olib kelishi mumkin. Ikkinchi trimestrda fetoplatsentlar disfunktsiyaning salmog‘i homilador ayollarning 43%a uchinchi trimestrda 37% ni tashkil etdi. COVID-19 fonida fetoplatsentlar disfunktsiyali ayollarda tug‘ilish natijalarini tahlil qilish shuni ko‘rsatdiki, ayollarning 27% kam vaznli chaqaloqlarni va 31% turli og‘irlikdagi asfiksiya bilan tug‘ildilar.

Kalit so‘zlar: homiladorlik, koronavirus infeksiyasi, fetoplatsentlar disfunktsiya, retrospektiv tahlil

РЕТРОСПЕКТИВНЫЙ АНАЛИЗ ФЕТОПЛАЦЕНТАРНОЙ ДИСФУНКЦИИ У БЕРЕМЕННЫХ С КОРОНАВИРУСНОЙ ИНФЕКЦИЕЙ

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Ташкентская медицинская академия

Актуальность. Фетоплацентарная дисфункция (ФПД) — это общий термин, который описывает некоторые нарушения взаимодействия между плодом и плацентой, которые могут приводить к различным осложнениям беременности и рождения недоношенных или больных детей.

Материалы. В исследование были включены 100 беременных женщин перенесших COVID-19 в различных сроках беременности. Исследование проводилось в период с 2021 по 2022гг в акушерском комплексе №9 г.Ташкента. Проведено ретроспективное исследование случаев фетоплацентарной дисфункции у 100 беременных женщин 50 - во втором триместре и у 50 женщин в третьем триместре беременности.

Результаты. В результате исследования мы обнаружили, что у 80 % беременных женщин с COVID-19 во беременности наблюдалось ухудшение фетоплацентарной функции. Частота фетоплацентарной дисфункции во втором триместре составил 43% в третьем триместре у 37% беременных. Анализ исходов родов у женщин с фетоплацентарной дисфункцией на фоне COVID-19 показал, что у 27% женщин дети родились с низким весом, у 31% была асфиксия различной степени тяжести.

Заключение. COVID-19 может вызывать ухудшение фетоплацентарной функции у 80% беременных женщин во втором и третьем триместрах беременности. Частота фетоплацентарной дисфункции во втором триместре составил 43% в третьем триместре у 37% беременных. Анализ исходов родов у женщин с фетоплацентарной дисфункцией на фоне COVID-19 показал, что у 27% женщин дети родились с низким весом, у 31% была асфиксия различной степени тяжести.

Ключевые слова: беременность, коронавирусная инфекция, фетоплацентарная дисфункция, ретроспективный анализ