Original Article

Investigation of the Motivations and Thoughts of Women Planning a Pregnancy During the Covid-19 Pandemic

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Abstract

Background: Today, with the COVID-19 pandemic, we see that health should be handled as a whole, including physical, mental, social, and economic dimensions. Planning a pregnancy during the pandemic is a personal choice despite all possible risks.
Aim: To evaluate women's motivations for planning pregnancy during the COVID-19 pandemic and their thoughts about the effects of the pandemic on their pregnancy
Method: This study used a descriptive research design based on a general survey model using a quantitative approach and was conducted with 145 women who accessed the online questionnaire, conceived during the COVID-19 pandemic.
Findings: It was found that the frequency of sexual activity of the women included in the study did not change during the pandemic process, and 107 (73.8%) of them had a planned pregnancy. The participants decided to get pregnant for several reasons during the pandemic; for example, they thought it was a natural consequence of marriage (37, 34.6%), they wanted to fill in the gap in their life (36, 33.6%), and that the pandemic would continue for a long time (35, 32.7%). A statistically significant relationship was found between the status of women's willingness for pregnancy and their status of feeling concerned and receiving midwife support during pregnancy follow-up ($\chi 2 = 13.856$; $p = 0.000$ and $\chi 2 = 9.944$; $p = 0.007$, respectively).
Conclusion: Concerns about COVID-19 negatively impact people's lives; yet, women continue pregnancy plans. Planning a pregnancy during a pandemic is a personal choice despite all possible risks. Women who feel stress and anxiety even under normal pregnancy conditions experience increased stress and anxiety levels in such a global pandemic. It is very important to ensure that women have access to more intensive midwife-supported information, care, and support in this process.

Keywords: Coronavirus; COVID-19; planning pregnancy; pregnancy; midwife support

Introduction

COVID-19, caused by the coronavirus, is a respiratory infection that emerged in the Wuhan city of China in the late 2019 and spread throughout the world (Yang, Wang & Poon, 2020). While the vast majority of people infected with COVID-19 experience a mild infection or an infection without complications, about 14% experience severe symptoms requiring hospitalization and oxygen support. Approximately 5% of hospitalized patients require intensive care treatment (Team NCPERE, 2020). The most common symptoms of COVID-19 include fever, cough, dyspnea, fatigue, muscle pain, expectoration, and headache. In cases with worsening conditions, pneumonia, severe acute respiratory tract infection, and kidney failure

may develop or may even lead to mortality (Karimi-Zarchive et al., 2020). The virus is transmitted from droplets and contaminated surfaces through hands, eyes, nasal mucosa, or mouth. The pandemic has brought about drastic measures on all continents, including nationwide lockdowns and border closures, with significant morbidity and socioeconomic impact. The incubation period of the virus is 5 days on average and can last between 2-14 days. In particular, a distance of about 2 m (6 feet) from infected individuals is important in preventing contamination. Global and local quarantine and isolation methods have been put into effect to stop the spread of infection (McIntosh, 2020; WHO, 2021).

Pregnancy is a process that causes partial suppression in women's immune system and can make them susceptible to viral infections (Chen et al., 2020; Liang & Acharya, 2020). According to current data, there is not enough evidence that pregnancy increases the rate of getting COVID-19 infection (Rasmussen et al., 2020). However, the effects of previous pandemics were different in women during pregnancy. Viruses such as SARS, MERS, and H1N1 are known to cause more complications in pregnant women (Monteleone et al., 2020; Schwartz & Graham, 2020). There is neither enough scientific data in the literature regarding the consequences of COVID-19 infection in pregnancy, nor is there evidence that women with pregnancy are at higher risk than the general population (Uytenbogaardt, 2020). However, it should not be ignored that the COVID-19 pandemic may lead to serious health consequences in women with pregnancy when considering the morbidity rates increase in pregnancy even during the seasonal flu seen in winter.

While the pregnancy and birth process, which is a natural physiological phenomenon, causes stress in women even in normal conditions, facing such a global pandemic causes stress and anxiety levels to increase. Even if they are not infected with coronavirus, this stress and anxiety that women experience during pregnancy can lead to complications, such as preeclampsia, depression, nausea, vomiting, premature birth, low birth weight, and low APGAR score (Korucu, Sahan & Terzioglu, 2020; Qiao, 2020). There are many stress factors that may affect women during pregnancy, such as follow-ups, the type and setting of birth, having no accompaniment at birth, preventive measures, postpartum mother and baby follow-ups, and not getting enough support from relatives for baby care (Brooks, Weston, & Greenberg, 2020). Apart from the health field, the COVID-19 pandemic keeps affecting women economically, socially, and culturally. Strict measures taken against the pandemic negatively affect the economy, thereby decreasing the family income, increasing prices, and bringing on livelihood problems, unrest, and future anxiety (Baltaci & Cosar, 2020).

Today, with the COVID-19 pandemic, we see that health should be handled as a whole, including physical, mental, social, and economic dimensions. Planning a pregnancy during the pandemic is a personal choice despite all possible risks. Those who want to conceive during this period should consider that it will be necessary to go to hospital and doctor examinations for pregnancy follow-ups, the risk due to frequent contact with healthcare personnel may increase, necessary social isolation should be achieved as much as possible, and that possible pregnancy complications may develop if the person is infected with coronavirus. In this context, the study aimed to evaluate women's motivations for planning pregnancy during the COVID-19 pandemic and their thoughts about the effects of the pandemic on their pregnancy.

Methods

Study design: This study, which used a quantitative approach, employed a descriptive research design based on a general survey model.
Study group: The population of the study was limited to the social media circle of the researcher. The sample of the study, on the other hand, consisted of 145 women who accessed the online questionnaire, volunteered to participate in the study, conceived during the COVID-19 pandemic, and conceived and gave birth during the pandemic.
Data collection tool: A questionnaire form developed by making use of the related literature was used as the data collection tool in the study. The questionnaire includes 13 questions that examine women's socio-demographic characteristics and their thoughts on their motivations for making a pregnancy decision during the COVID-19 pandemic and the effects of the pandemic on pregnancy.
The process: Before data collection began, the approval of the Non-Invasive Clinical Research Ethics Committee of the Turkish Republic

Cukurova University Faculty of Medicine was obtained (Issue: 110/39). In the study, participation was voluntary, and all participants were given written information about the study prior to the applications. The participants were asked to read the informed consent form and then approve it.

The research questionnaire was created on an online platform due to social distance precautions during the COVID-19 period, and though all survey responses covered Turkey general, they were obtained online. The questionnaire form used in the data collection process was created on Google Forms, and the link to the form and information about participation in the study was shared on a large scale via the Internet and social media tools. The online data collection process was completed between the second and sixteenth of April, 2021. According to the data obtained, there were no missing data for any item of the questionnaire form.

Data analysis: Statistical analyses were conducted on the SPSS (IBM SPSS Statistics 24) software package. Frequency tables and descriptive statistics were used in the interpretation of the findings. Continuity correction according to expected value levels and Pearson-$\chi 2$ test statistics were used to examine the relationship between two qualitative variables. $P < 0.05$ was accepted as the significance value.

Findings

The mean age of the women in the study was 30.68 ± 4.87 years, and 118 (81.4%) were between 19 and 34 years old. Also, 112 women (77.2%) had a university or higher level of education, 46 (31.7%) were housewives, 84 were not currently working, 94 (64.8%) had 2 or more pregnancies, and 91 (62.8%) of them stated that the frequency of their sexual activity did not change during the pandemic period (Table 1).

When the status of planning pregnancy by women who got pregnant during the pandemic was examined in the study, it was determined that 107 (73.8%) of them had a planned pregnancy. Regarding women's motivations for deciding to get pregnant, it was found that they got pregnant because it was a natural consequence of marriage (37, 34.6%), they wanted to fill in the gap in their life (36, 33.6%), and they thought the pandemic would continue for a long time (35, 32.7%). It was also found that 83 of the women (57.2%) were concerned while making the pregnancy decision and that the concerns included the following issues: I can transmit the infection to my baby if am infected (99, 68.3%); I can get infected during hospital follow-ups (92, 63.4%); and I can lose my baby (85, 58.6%). Moreover, the women were found to not feel regret for conceiving (90.3%). They took the following measures against COVID-19 infection: wearing a mask (97.6%), paying attention to cleanliness and hygiene (97.9%), and keeping a social distance (97.2%). Also, it was determined that 62 of them (42.8%) did not receive midwife support during pregnancy follow-up (Table 2).As seen in Table 3, a statistically significant relationship was found between women's desire for pregnancy and their status of feeling concerned and receiving midwife support during pregnancy follow-ups ($\chi 2 = 13.856$; $p = 0.000$ - $\chi 2 = 9.944$; $p = 0.007$, respectively). In both cases, it was determined that the proportion of women who had a planned pregnancy was higher than those without a planned pregnancy (Table 3).

Table 1. Distribution of findings about the women

Variable (N=145)	n	%
Age groups [$\bar{X} \pm$ S.D →30,68±4,87 (yıl)]		
19-34	118	81.4
≥35	27	18.6
Level of education		
Primary Education	5	3.5
High school	28	19.3
University and above	112	77.2
Job		
Housewife	46	31.7

Healthcare worker	33	22.8
Teacher	36	24.8
Other	30	20.7
Current employment		
Working	61	42.1
Not working	84	57.9
Number of pregnancies		
Primipara	51	35.2
Multiparous	94	64.8
Frequency of sexual activity during the pandemic period	91	62.8
Not impacted	32	22.1
Reduced	22	15.2
Increased		

Table 2. Distribution of women by their motivations and thoughts of willingness for pregnancy during the pandemic

Variable (N=145)	n	%
Status of having a desired pregnancy		
Planned	107	73.8
Unplanned	38	26.2
Motivation to get pregnant (n=107)*		
A natural consequence of marriage	37	34.6
Filling in the gap in life	36	33.6
Thinking the pandemic will continue for a long time	35	32.7
Thinking the age of fertility will be over	27	25.2
Wanting a sibling for the existing child	16	15.1
Status of concerns during decision-making for pregnancy	83	57.2
Yes	62	42.8
No		
Reasons for concerns (n=83)*	63	43.4
Transmission of the virus to pregnant women more easily	99	68.3
Transmission of the virus to the baby	85	58.6
Losing the baby	92	63.4
Virus contamination during hospital follow-up	15	10.3
Inability to give a normal birth	31	21.4
Inability to breastfeed the baby	36	24.8
Inability to get enough support for the baby care	39	26.9
Economic difficulties due to the pandemic		
Feeling regret for conceiving		
Yes	14	9.7
No	131	90.3
Measures for prevention from COVID-19*		
Wearing a mask	142	97.9
Paying attention to cleanliness and hygiene	142	97.9
Obeying social distance	141	97.2
Avoiding closed and crowded places	125	86.2
Not using public transportation	107	73.8
Avoiding visiting relatives	100	69.0
Not eating out	71	49.0
Not leaving home	42	29.0
Evaluation of midwife support in pregnancy follow-up		
I got enough midwife support	48	33.1
I did not get any midwife support	62	42.8
No idea	35	24.1

***Since the women gave more than one answer, the calculations were made according to the count of responses, not according to the number of participants.**

Table 3. Relationship between women's desire for pregnancy and some characteristics

Status of having a desired pregnancy	Planned (n=107)	Unplanned (n=38)	Statistical analysis*
Variable (N=145)	n,%	n,%	Probability
Age groups			
19-34	91(%85.0)	27(%71.1)	χ^2=3.624
≥35	16(%15.0)	11(%28.9)	p=0.057
Level of education			
Primary Education	3(%2.8)	2(%5.3)	χ^2=0.842
High school	22(%20.6)	6(%15.8)	p=0.656
University and above	82(%76.6)	30(%78.9)	
Frequency of sexual activity			
Not impacted	73(%68.2)	18(%47.4)	χ^2=5.227
Reduced	20(%18.7)	12(%31.6)	p=0.073
Increased	14(%13.1)	8(%21.1)	
Number of pregnancies			
Primipara	36(%33.6)	15(%39.5)	χ^2=0.418
Multiparous	71(%66.4)	23(%60.5)	p=0.518
Status of feeling concerned			
Yes	71(%66.4)	12(%31.6)	χ^2=13.856
No	36 (%33.6)	26 (%68.4)	**p=0.000**
Feeling regret after conceiving			
Yes	8(%7.5)	6(%15.8)	χ^2=2.221
No	99(%92.5)	32(%84.2)	p=0.136
Midwife support			
I got enough midwife support	54(%50.5)	8(%21.1)	χ^2=9.944
I did not get midwife support	31(%29.0)	17(%44.7)	**p=0.007**
No idea	22(%20.6)	13(%34.2)	

** Pearson-χ2 cross tabulation was used to examine the relationship between two qualitative variables. P <0.05 was accepted as the statistical significance value.*

Discussion

Although the fertility period of women is between the ages of 15 and 49, the biologically, psychologically, and socially ideal gestational age is between the ages of 20 and 34 (Ozkan & Arslan, 2007). It was determined that 81.4% of the women in our study group were between the ages of 19 and 34. The COVID-19 pandemic, which has affected the whole world, has become the only agenda of all humanity. This pandemic, which threatens human life, deeply affects people physiologically, psychologically, and socially, thereby increasing people's anxiety and stress levels. During the pandemic, people are expected to comply with social restrictions and quarantines to reduce the risk of transmission. One of the behaviors that can be affected by social isolation and stressful lifestyle is sexual activity. Studies examining the effects of mass disasters on women's sexual behavior have found that there is a decrease in the frequency of sexual intercourse, the degree of satisfaction with sexual life, and the desire for pregnancy (Liuvd, 2010; Kissinger et al., 2017). In their study evaluating the impact of the COVID-19 pandemic on the sexual behaviors of women in Turkey, Yuksel and Ozgor (2020) found significantly higher sexual desire and frequency of sexual intercourse during the pandemic. In a study conducted in China, it was found that 25% of the participants experienced a decrease in sexual desire (Grabovac et al., 2020). Most of the women in our study (62.8%) stated that there was no change in the frequency of sexual activity during the pandemic process, 22.1% stated there was a decrease, and 15.2% reported increased activity. Although it seems that the isolation during the pandemic process may allow people to spend more time with their spouse and to have sexual activity more regularly and frequently, it can be said that quarantine measures taken during the epidemic process cause psychological problems, such as anxiety, stress, social isolation, and loneliness, which affect sexual activity negatively. There is limited research into the effect of COVID-19 on pregnant women. However, considering previous outbreaks such as

SARS and MERS, it was reported that pregnant women were at risk for mental and physical changes (Monteleone et al., 2020). COVID-19 infection can also affect women's plans to conceive. According to a study with 1482 participants conducted in Italy, 37.3% of the people who had a pregnancy plan previously gave up their plan (Micelli et al., 2020). Women's desire to have children may be affected due to possible perceived effects of the virus on the fetus, possible difficulties in accessing the health system during the pandemic, and economic concerns. Yuksel and Ozgor (2020), too, found that there was a significant decrease in the rate of women who planned to conceive during the pandemic. In their study examining how the COVID-19 pandemic affected women's plans to get pregnant, Flynn et al. (2021) found that COVID-19 affected 53% of women's pregnancy plans, 71.9% of those who were affected by the pandemic postponed pregnancy, 27% changed their plan and implemented it earlier, and that 1.1% of them gave up their plan due to the pandemic. In addition, 84.8% of the participants who reported that COVID-19 did not affect their pregnancy plans (47%) stated that they were still trying to conceive and 13.5% of them stated that they managed to conceive (Flynn et al., 2021). In our study, it was found that 73.8% of women planned pregnancy during the pandemic process. In most societies, having a baby is considered very valuable because it is believed to be the continuation of the family and to strengthen the marriage and the bonds of love within the family. Arslan and Ozkan (2017) found that women decided to give birth with some motivations; for example, 66% thought it was the continuation of the family, 61.5% saw it as a natural consequence of marriage, and 52.5% gave birth because their spouse wanted a child. In our study, it was found that despite the pandemic, 34.6% of the women thought it was a natural result of marriage, according to 33.6%, it filled the gap in their lives, and that 32.7% of them thought the pandemic would continue for a long time. Such a risky situation causes expectant mothers who plan pregnancy and birth processes in pandemics and infections to experience increased stress and anxiety (Blakey & Abramowitz, 2017; Huang et al., 2020). During pregnancy, concerns, prevention methods, follow-ups, planning the birth, birth method, whether a companion is accepted at birth, and the breastfeeding process create stress (Brooks et al., 2020).

In a study examining the anxiety levels of 8 pregnant women with SARS infection, it was reported that mothers experienced negative affect, sleep problems, and disappointment during their pregnancy (Dodgson et al., 2010). In another study, anxiety and depression levels of pregnant women were found to be higher in the SARS outbreak (Lee et al., 2006). In the study of Flynn et al. (2021), participants with pregnancy cited changing lack of prenatal care/support, absence of the spouse in prenatal appointments, and changing birth plans as causes of anxiety and stress during the pandemic process. In addition, they reported working from home and saving time for personal care thanks to less travel and commuting as positive effects of the pandemic. It was found that 57.2% of the women in our study were concerned while they were making the pregnancy decision and during their pregnancy. When the reasons for women's anxiety were examined, it was determined that 68.3% of them were concerned that their baby would be infected if they had an infection, 63.4% of them were concerned about virus infection during hospital follow-ups, and 58.6% were afraid of losing their baby. Besides, 90.3% of the women stated that they did not regret being pregnant. Vaccines are the best defense against many infectious diseases, including coronavirus disease. Since the COVID-19 mRNA vaccines currently used for mass vaccination (BNT162b2 of Pfizer BioNTech and mRNA-1273 of Moderna) are not live attenuated vaccines, the American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM), stating that women should make their decision individually whether to be vaccinated, recommends that pregnant or breastfeeding women should not be excluded from COVID-19 vaccination. However, none of the approved COVID-19 vaccines have been tested for safety, immunogenicity, reactogenicity, or efficacy or effects on fetal programming in pregnant women so far (Klein, Creisher & Burd, 2021). Since there is no accepted vaccine and treatment for COVID-19, preventive measures need to be taken. Protection of pregnant women from COVID-19 infection can be achieved by applying social protection methods. Therefore, pregnant women are recommended to avoid unnecessary travels, crowds, public transportation, and contact with sick people, and more importantly, to apply and maintain personal and social hygiene rules (TMFTP Association, 2020). Pregnant women in our study reported

that they wore masks (97.6%), paid attention to cleanliness and hygiene (97.9%), kept social distance (97.2%), and avoided closed and crowded environments (86.2%) as part of such measures. Pregnancy and childbirth are natural and physiological processes that every woman can experience and which progress independently from the COVID-19 pandemic process. In this challenging pandemic process, midwives, who are fully trained and equipped, are the health professionals who are qualified to positively affect women's physical, mental, emotional, and social health with the care and support they will provide for the best health outcomes (Yilmaz, Esencan & Demir Yildirim, 2020). During the COVID-19 pandemic, limited information about pregnancy, birth, and postpartum period makes it difficult for women with pregnancy or in the puerperal period to access information. The decisions women make for themselves and their babies should be supported by evidence-based practices. Especially during the pandemic process, midwives should be the most important source of information, support for women, and advocates of childbirth. At the same time, midwives should provide supportive care by playing a key role in ensuring that women diagnosed with COVID-19 benefit equally from health services and in making all complex information intelligible (Aydin et al., 2020). According to the evaluations of the women in our study for midwife support in pregnancy follow-up during the pandemic process, 42.8% of the women stated that they did not receive midwife support. However, the Royal College of Midwifery (RCM) and Royal College of Obstetricians and Gynecologists (RCOG) state in the pregnancy follow-up guideline that antenatal follow-ups should be carried out in the company of physicians only for fetal ultrasonography evaluation in low-risk pregnant women and that the remaining follow-up procedures should be carried out by midwives, which will make important contributions to healthy maternal and fetal outcomes. Also, it is recommended that during COVID-19, antenatal midwife follow-ups should continue face to face or via phone calls or virtual interviews (RCM / RCOG, 2020).

In this study, in which the pregnancy planning behaviors of women during the COVID-19 pandemic were evaluated, it was found that women who planned their pregnancy were more concerned during pregnancy and evaluated midwife support more. This may be due to the high number of women who had a planned pregnancy in the study. Planned pregnancies are very important for the health of the mother and baby. Since readiness of women for pregnancy and planning the pregnancy has a significant effect on their need for receiving information and support, women can get concerned by approaching the process more carefully and agreeably.

Conclusion: Although concerns about COVID-19 have negatively impacted people's lives, women continue to make pregnancy plans. The pregnancy period, which is an extremely important life event for women's life, may expose women to some risks due to physical and hormonal changes. While the physiological problems experienced during pregnancy and the uncertainty of the birth process can affect women psychologically and cause stress, anxiety, and fear, with the presence of the pandemic, women and their families need more information, care, and support. Social support mechanisms are of great importance when women are concerned about pregnancy, the birth process, and their babies. In particular, they need more midwife-supported pregnancy follow-up. Besides, family planning and fertility services of health systems should reach all women of reproductive age, especially in cases of future diseases and pandemics, and contribute to healthier pregnancy decisions and maintenance of pregnancy.

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References

Aydin, R., Kizilkaya, T., Aytac, S. H., & Taslar, N. (2020). In the COVID-19 Pandemic; Social Support Needs of Women in Pregnancy, Childbirth and Postpartum Period and Midwifery Approaches. Electronic Turkish Studies, 15(4).

Baltaci, N.N, Cosar, B. (2020). COVID-19 pandemic and the soul-body relationship. Cosar B, editor. Psychiatry and COVID-19. 1st Edition. Ankara: Turkey Clinics, p.1-6.

Blakey, S. M. &Abramowitz, J. S. (2017). Psychological Predictors of Health Anxiety in Response to the ZikaVirus. Journal of Clinical Psychology in MedicalSettings, 24(3), 270-278. https://doi.org/10.1007/s10880-017-9514-y

Brooks, S.K.,Weston, D. & Greenberg, N. (2020). Psychological impact of infectious disease outbreaks on pregnant women: Rapid evidence review. MedRxiv, 2020.04.16.20068031. https://doi.org/10.1101/2020.04.16.20068031

Chen, D., Yang, H., Cao, Y., Cheng, W., Duan, T., Fan, C., et al. (2020). Expert consensus for managing pregnant women and neonates born to mothers with suspected or confirmed novel coronavirus (COVID-19) infection. Int J GynaecolObstet, 149(2):130-36.

Dodgson, J.E., Tarrant, M., Chee, Y.O. &Watkins, A. (2010). New mothers' experiences of social disruption and isolation during the severe acute respiratory syndrome outbreak in Hong

Kong. Nursing & health sciences, 12(2), 198–204.

Flynn, A. C., Kavanagh, K., Smith, A. D., Poston, L., & White, S. L. (2021). TheImpact of the COVID-19 Pandemic on Pregnancy Planning Behaviors. Women'sHealthReports, 2(1), 71-77.

Grabovac I, Smith L, Yang L, Soysal P, Veronese N, Işık AT, et al. (2020). The relationship between chronic diseases and number of sexual partners: an exploratory analysis. BMJ Sex Reprod Health, 46:100–7.

Huang, J.,Zhou, X., Lu, S., Xu, Y., Hu, J., Huang, M., Wang, H., Hu, C., Li, S., Chen, J., Wang, Z., Hu, S.,&Wei, N. (2020). Dialectical behavior therapy-based psychological intervention for woman in late pregnancy and early postpartum suffering from COVID-19: A case report. Journal of Zhejiang University-SCIENCE B, 21(5), 394-399.

Karimi-Zarchi, M.,Neamatzadeh, H., Dastgheib, S. A., Abbasi, H., Mirjalili, S. R., Behforouz, A., ... &Bahrami, R. (2020). Verticaltransmission of coronavirusdisease 19 (COVID-19) from infected pregnant mothers to neonates: a review. Fetal and Pediatric Pathology, 39:3, 246-250, DOI: 10.1080/15513815.2020.1747120

Kissinger, P., Schmidt, N., Sanders, C., Liddon, N. (2017). The effect of the Hurricane Katrina disaster on sexual behavior and Access to reproductive care for young women in New Orleans. SexTransmDis, 34:883–886.

Klein, S. L., Creisher, P. S., &Burd, I. (2021). COVID-19 vaccine testing in pregnant females is necessary. The Journal of Clinical Investigation.

Korucu, A.E., Sahan, F.U., & Terzioglu, F. (2020). Management of Coronavirus Disease 2019 in the Perinatal Period. Suleyman Demirel University Journal of Health Sciences, 11(4), 475-485.

Lee, D.T., Sahota, D., Leung, T. N., Yip, A. S., Lee, F. F., &Chung, T. K. (2006). Psychological responses of pregnant women to an infectious outbreak: A case-control study of the 2003 SARS outbreak in Hong Kong. Journal of psychosomatic research, 61(5), 707–713.

Liang, H., & Acharya, G. (2020). Novel coronavirus disease (COVID-19) in pregnancy: What clinical recommendations to follow. Acta Obstet Gynecol Scand, 99(4): 439-42.

Liu, S., Han, J., Xiao, D., Ma, C., Chen, B.A. (2010). Report on the reproductive health of women after the massive 2008 Wenchuan earthquake. Int J Gynecol Obstet, 108:161–164.

McIntosh, K. (2020). Coronavirüsdisease 2019 (COVID-19). In: Up To Date Hirsch CH, Bloom H(ed), UpToDate.

Micelli, E., Cito, G., Cocci, A., Polloni, G., Russo, G.I., Minervini, A., et al.(2020). Desire for parenthood at the time of COVID-19 pandemic: an insight into the Italian situation. J Psychosom Obstet Gynaecol. doi:10.1080/0167482X.2020.1759545

Monteleone, P.A., Nakano, M., Lazar, V., Gomes, A.P., Martin, H., Bonetti, T.C. (2020). A review of initial data on pregnancy during the COVID-19 outbreak: implications for assisted reproductive treatments. JBRA Assist Reprod, 24(2):219-225. doi:10.5935/1518-0557.20200030.

Ozkan, A.,& Arslan, H. (2007). Deciding on pregnancy, perception of physiological complaints and educational needs. Zeynep Kamil Medical Bulletin, 38(4), 155-161.

RCM/RCOG Guidance for antenatal and postnatal services during the evolving Coronavirus (COVID-19) pandemic. Accessed:16.04.2021. Available at: https://www.rcog.org.uk/en/guidelinesresearchservices/guidelines/coronaviruspregnancy 2020.

Schwartz, D.A., Graham, A.L. (2020) Potential Maternal and Infant Outcomes from (Wuhan) Coronavirus 2019-nCoV Infecting Pregnant Women: Lessons from SARS, MERS, and Other Human Coronavirus Infections.Viruses, 12(2):194. doi:10.3390/v12020194.

Team NCPERE. (2020). Vitalsurveillances: the epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) – China. China CDC Weekly. 2 (8), 113-22.

Turkish Maternal-Fetal Medicine and Perinatology Association (TMFTP). (2020) Opinion on Coronavirus Infection (COVID-19) in Pregnancy. Access address (15.0.202): https://www.tmftp.org/files/Duyurular/3.bilgilendirme.pdf

Uytenbogaardt, A. (2020). Does COVID-19 affect pregnant women?.Br J Midwifery, 28(4), 1.

Yang, H., Wang, C., Poon, L.C. (2020). Novel coronavirus infection and pregnancy. Ultrasound Obstet Gynecol, 55(4):435-37.

World Health Organisation (WHO). Coronavirus disease (COVID-19) pandemic. Izlem tarihi: 20.03.2021 https://www.who.int/emergencies/diseases/novelcoronavirus-2019

Qiao, J. (2020). What are the risks of COVID-19 infection in pregnant women?. Lancet, 395(10226): 760-762.

Yilmaz Esencan, T. , Demir Yildirim, A. (2020). Antenatal, Innatal And Postnatal Ministerial Care in the Light of International Guidelines and Expert Opinions During the Covıd-19 Process. STED / Journal of Continuing Medical Education, 29 (5) , 261-372 . DOI: 10.17942/sted.763258