


Needs and Concerns of Sexual and Reproductive Health of Pregnant Women in the COVID-19 Pandemic

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ABSTRACT

Background & Objective: Understanding the reproductive and sexual needs of pregnant women seems to be crucial in increasing the effectiveness of services and addressing their needs and expectations. Therefore, the aim of this study was to explain the needs and concerns of reproductive and sexual health of pregnant women during the COVID-19 pandemic.

Materials & Methods: This is a qualitative study with a content analysis approach. In this probe, 16 interviews were accomplished with 15 pregnant women who had been referred to pregnancy care centers. Data analysis was performed predicated on the content analysis approach using MAXQDA software version 12.

Results: Based on 17 interviews conducted with pregnant women during the COVID-19 pandemic, pregnant women were found to be suffering from mental disorders, fears, disrupting prenatal care, and sexual problems.

Conclusion: Reproductive and sexual health of pregnant women in the Covid-19 epidemic should not be neglected and considered in health planning.

Keywords: Pregnancy, Covid-19, Sexual health, Reproductive health, Women



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Introduction

COVID-19 infection is a global public health emergency. The first case of the virus was reported in December 2019 in Wuhan, China. The infection rapidly spread to the rest of China and beyond. According to the World Health Organization, since then (April 14, 2022), 500,186,525 confirmed cases of Covid-19 have been identified, of which 6,190,349 deaths from the disease have been reported. According to the World Health Organization, the number of confirmed cases in Iran reached 7,199,861 and the number of deaths reached 140,711 (1).

With the continuous increase in the number of confirmed cases and the mortality rate in all countries and regions of the world, preventive measures have

become more and more critical, and among these, vulnerable groups are of great importance (2). One of the most risky and important groups in the health care systems is pregnant women. This group may be at the greater risk of becoming infected with SARS-CoV-2 and may suffer from more complex clinical events (3). Due to physiological changes in the immune and cardiopulmonary systems, pregnant women are more likely to develop severe cases of the disease after infection with respiratory viruses (4-6). Studies have shown that coronavirus infections are associated with maternal and fetal complications (7-9). In COVID-19 studies, complications such as preterm delivery, high rate of cesarean section, hospitalization in intensive care unit and fetal death have been reported (10-13).

The number of pregnant women with COVID-19 is also increasing (14). Therefore, taking heed of this group is of critical importance in the health system. Most studies of pregnant women in the area of this pandemic virus have focused on maternal and fetal complications and preventive and therapeutic measures in this high-risk group (8, 15-17), but the reproductive and sexual needs of women in this stressful period have all been ignored.

The issue of sexual needs, as is considered a taboo by many people in the community, is less discussed and attended to in the evaluation of these patients. This is especially true in the current situation where all the focus has been directed to preventive care in high-risk groups including pregnant women (16-19). Recognizing the reproductive and sexual health needs and concerns of these individuals will help health planners and policymakers to tailor practical programs based on the patients' priorities. Evidently, pregnant women have the right to participate in making decisions about their well-being and what may or may not be accomplished for their care. Understanding the reproductive and sexual needs of pregnant women seems to be crucial in increasing the effectiveness of services and addressing their needs and expectations. Therefore, the aim of this study was to explain the needs and concerns of reproductive and sexual health of pregnant women during the COVID-19 pandemic.

Methods

The present study was conducted after obtaining ethics approval from the ethics committee of Tehran University of Medical Sciences (IR.TUMS.VCR.REC.1399.321). This is a qualitative study with a content analysis approach. In this probe, 17 interviews were accomplished with 15 pregnant women who had referred to public and private pregnancy care centers. The fourth and fifth participants were interviewed twice. Sampling was performed purposefully with maximum diversity (Gravida, Para, gestational age, history of abortion, economic and social status, etc.) and continued until data saturation.

In-depth individual interviews were used to collect data. These interviews were based on the interview guide. The interviews were conducted after getting informed consent in an appropriate environment and the recommended health protocols were followed in the COVID-19 pandemic (20).

The participants were asked to express their reproductive and sexual health needs and concerns. Subsequent questions were asked based on the individuals' initial answers and the interview guide. Questions such as "What do you mean" or "If you can explain more" were also used as needed during the interview.

The number of interview sessions was selected depending on the condition of the participants and their

answers to the research questions. Due to the high risk of the COVID-19 pandemic, all participants were interviewed during one session and contacted by telephone if further explanations were needed.

The interviews were recorded with the permission of the participants; they were assured that all interviews would be confidential, which were then transcribed verbatim. At the end of the interview, they were asked to comment on anything left unsaid. As the interviews continued, new questions were added to the interview guide. In other words, in most cases the questions were not fixed but flexible, thus being formed based on the interview process. The collected qualitative data were investigated using the conventional content analysis method proposed by Zhang and Wildmouth (2016) (21, 22). The eight steps proposed by these researchers included: preparing the content, making decision about the unit of analysis, classifying the information, coding, expanding the coding, coding stability, making conclusions, and reporting. Followed by each interview, the recorded files were transcribed verbatim and the texts were reviewed several times by the researchers to resolve any misunderstandings. At this stage, the participants' moods during the interview such as silence, crying, anger and sadness were also included. Later, the initial codes were extracted from the meaning units (the participants' quotes), the subcategories were formed based on the similarities among these codes, and finally, categories were formed based on the relationship among these subcategories. In this process, the first researcher coded a sample of the text and the data encoding consistency was checked by other researchers. After agreement was achieved on the coding stability, the same coding process was performed for the whole text. Furthermore, the coding stability (primary codes, subcategories, and categories) was re-examined by two members of the research team and experts in qualitative research. The MAXQDA software (version 12, MAXQDA, Germany) was used.

Results

After 17 interviews with 15 people, results are reported in 4 categories and 13 subcategories. Table 1 projects the characteristics and features of the participants, and Table 2 illustrates the categories and subcategories extracted from the qualitative interviews. Based on 17 interviews conducted with pregnant women during the COVID-19 pandemic, women were found to be suffering from mental disorders, fears, disrupting prenatal care, and sexual problems.

1- Category 1: mental disorders

Pregnant women bear a weaker immune system than their peers in the general population. This is due to their special circumstances and physiological changes in pregnancy, which has triggered psychological disturbances in this group during the COVID-19 pandemic. This category includes 4 subcategories: sensitivity and irritability, obsessive-compulsive

disorder in COVID-19, obsessive-compulsive disorder in keeping health, and depression in quarantine.

1-1- Sensitivity and irritability

Sensitive and irritable people usually bear a negative attitude towards all the words and behaviors of others and take them to heart, which is why they prefer to be alone rather than being in public. However, this isolation can lead to their irritability and aggression more than before and overshadow their health and that of their fetus. For example, participant 11, a 26-year-old pregnant woman who was 28 weeks pregnant experiencing her first pregnancy, said: "Since the coming of Corona, I feel nervous, not being in a good mood to talk to others. Whatever others say to me, I take to heart, I get upset and thus nervous again" (Participant 11).

Another participant said: "I react to the smallest talk around me, I realize how sensitive I have become for the stress of this disease" (Participant 1).

1-2- Obsessive-compulsive disorder in COVID-19

Fear is a defense mechanism that is shown by a person in the face of dangerous situations. However, fear that is not appropriate for the current situation may lead to a variety of psychological disorders. One of the pregnant women, for instance, said, "When I get up in the morning, I feel a tingling sensation in my throat. I keep telling myself, can it be Corona virus? Although I have seasonal allergies, I am like this every year, but well, I am so scared" (participant 6). Another pregnant mother expresses her fear of COVID-19 in this way, "I get tested every month for fear of not getting it, I always think I got sick" (Participant 8).

1-3- Obsessive-compulsive disorder in keeping health

Considering that regular handwashing and proper use of the mask is one of the most critical methods in preventing the spread of COVID-19 virus. The risk of being affected with practical and intellectual obsessions during the pandemic seems to be very high, and unfortunately pregnant women are no exception to the rule for their special physiological conditions. In this regard, one of the participants said: "As soon as I sit at the table, I think I haven't washed my hands properly, may I take it? I get up at least twice before eating, even if I, for example, incidentally touch the table when eating, I go to wash my hands again" (participant 1).

Another pregnant woman who had a history of infertility and had become pregnant through assisted reproduction methods and was then pregnant with twins said: "In the news they say 20 seconds, but I don't wash for less than two minutes, because I have two other peoples' lives in my hands" (participant 15).

1-4- Depression in quarantine

Being in quarantine has induced us to distance ourselves from our social life, which leads to

complications such as depression. One participant, a 35-year-old pregnant woman, said: "I'm all asleep, not in the mood to see others, I burst out crying, and I'm really upset that I cannot see my family" (Participant 3).

Another pregnant woman also stated that "pregnancy without corona was less stressful, one would at least go somewhere, there would be a variety, our mood would change, we are all home for three months" (participant 7). About the bad condition of Corona quarantine another participant mentioned: "I was happier before Corona came, I wasn't so depressed, I could go out, I could walk, I didn't gain so much weight, and I could see my family much more. My mother is dead, well, when at least you can hug your father, that's great" (participant 6).

Category 2: Fear and apprehension

In the outbreak of viral diseases, one of the high-risk groups is the one with weakened immune system and pregnant women are attended to due to their immunological changes in pregnancy. Higher susceptibility of the pregnant women and their infants compared to the general public has contributed to fear and anxiety among women. This category includes 5 subcategories: fear of fetal or infant infection, fear of contracting the disease, fear of contamination of the delivery site with COVID-19, fear of separation of mother from child if infected, and fear of death due to COVID-19.

2-1- Fear of the fetus or baby getting COVID-19

Pregnancy as one of the sweetest experiences of a woman's life can, however, be somewhat stressful for various physical, psychological and social reasons. These reasons can include fear of the birth process, concerns about the health of the baby, consequences, and problems of pregnancy and childbirth. In the current context of COVID-19 pandemic, which is itself a stressful situation, pregnant women are far more concerned about their pregnancy health than before. A 37-year-old pregnant woman who also had an unwanted pregnancy asserted, "I always tell myself that someone who wanted to get pregnant in this situation is really crazy... I do not know what to do because of the stress that my baby may get the disease. I won't fall asleep at nights... If I didn't have a history of miscarriage, I would likely have an abortion"(participant 5).

Another pregnant woman said, "I always tell myself what happens if my baby gets it ... I don't care for myself, but what about my baby" (Participant 15)?

2-2- Fear of being affected by the disease

Fear of COVID-19 disease is a common problem; however, it is higher in pregnant mothers due to their physiological and high-risk conditions of pregnancy. One participant, a 41-year-old pregnant woman experiencing her third pregnancy, said, "When Corona came, I was very stressed that I may take Corona."

(participant 12) Also, another participant had said: "Whenever I want to go to the doctor's office, I go trembling with fear ... I have not had half of my visits so far" (participant 4).

2-3- Fear of contamination of the delivery site with COVID-19

According to national guidelines as for the admission of coronary patients, pregnant women have expressed concern that their place of delivery may be contaminated with the virus. In this regard, one participant who had a twin pregnancy said, "I'm always looking for a hospital that does not admit Corona cases ... I'm so scared." (participant 15) Another participant said, "Corona cases have been hospitalized everywhere. Any place you look is infected; this is so bad." (Participant 2)

2-4- Fear of separation of mother from child in case of COVID-19

One of the concerns raised by pregnant women was that they would be separated from their children if they developed COVID-19. The 32-week-old pregnant mother who was experiencing her first pregnancy expressed, "I'm all scared to go to Corona Hospital to give birth and then have my baby separated from me. I'm very stressed about this" (Participant 9). Another pregnant woman who was pregnant with twins said, "I hear if you have Corona, you won't be able to see your baby after giving birth. This bothers me a lot." (Participant 15)

2-5- Fear of death due to COVID-19

The stress during pregnancy and its coincidence with the covid-19 pandemic and the fear of the possibility of contracting the virus and its consequences for the mother and fetus have marked difficult days for these loved ones. One of the participants in this regard expressed: "We are different cases. Our immune system is weak and I am afraid that I will get the virus and die in this condition." (participant 6). A 41-year-old pregnant woman also said: "Even the thought of getting infected is painful." (participant 12). Another participant said, "Well, we still have to learn to deal with it like AIDS, but well, I don't think AIDS is as horrible as this."

Category 3: Disrupting prenatal care

Promoting the health condition of pregnant mothers is one of the basic principles of health care; paying attention to the importance of pregnant women's health leads to family health and ultimately community health. With continuous care and controlling the course of pregnancy, dangerous problems and complications of this period can be diagnosed and prevented or treated in time. One of the issues raised by pregnant women was the disruption of pregnancy care due to the COVID-19 pandemic. This category includes two subcategories: no referral for pregnancy care, and no required tests undergone.

3-1- Failure to refer for prenatal care

Pregnancy changes or problems occurred for the mother may prove abnormal, endangering the lives of the mother and the fetus, or both, and sometimes causing permanent complications for the mother and baby. With continuous care and control of the course of pregnancy, risky problems and complications in this period can be diagnosed and treated in time. One of the problems reported during the COVID-19 pandemic was that pregnant women failed to return for appointments on time due to quarantine and fear of infection. One of the participants, for example, said, "Of course, I do not go out much; if there was pregnancy without a Corona, you could go to the doctor more easily. I don't visit my doctor on time because of the corona." (participant 10). Also, another pregnant mother said: "I had pain, backache, and...but I did not come for fear of Corona" (participant 2). "I was not checked up for 3 months ... my doctor wasn't around and I didn't go anywhere." (Participant 8).

3-2- Failure to undergo required tests

Routine pregnancy tests are an integral part of pregnant women's care, and maternal fetal morbidity and mortality can be prevented by identifying diseases and treating them at the right time. Unfortunately, in these stressful conditions of the COVID Pandemic, pregnant mothers paid little attention to the pregnancy tests requested by the midwife or doctor. One of the participants stated in this way: "I think this quarantine is very good. I accept the quarantine myself. It's now several months I haven't come for a check-up, but at least I feel at ease." (participant 8). Still another mother expressed, "Well, I decided not to go out at all because I felt like I was getting Corona every time I went out. I didn't take more than half of the tests my doctor had ordered." (Participant 9).

Category 4: Sexual problems

Due to the novelty of the COVID-19 virus, especially in the early days of the announcement of the virus pandemic, many speculations about the methods of transmission of this virus were discussed. One of the speculations was the possible transmission of the virus through sexual intercourse, which has obsessed pregnant women and thus has led to their sexual problems. This category encompasses two subcategories: lack of sexual relationship due to lack of knowledge about the transmission of COVID-19, and decreased libido.

4-1- Lack of sexual relationship

Although sexual transmission of the virus remains to be proven, concern about sexual transmission of the virus has led to sexual dysfunction in pregnant women. In this regard one of the pregnant women said, "I have not been close to my husband since Corona has come. We are afraid that my husband who goes to work may catch the virus and give it to me." (Participant 13). Another participant stated, "No intimacy, not at all, I

hear the virus is transmitted through intercourse" (Participant 14).

4-2- Decreased libido

One of the most critical issues in marital psychology is enjoying healthy sexual relations as one of the necessities of living together. One of the sexual issues of pregnant women in the COVID-19 pandemic was decreased libido. As an example, a participant said: "I

am so afraid of having a relationship with my husband because his job is to be with people. We didn't have it so much at first and now though I hear it's not transmitted through sex, still I'm not inclined." (participant 3). Another pregnant woman stated in this way, "Ever since the virus came out, one is so stressed they aren't usually in the mood for doing anything, let alone sex" (Participant 13).

Table 1 Participant Profiles

No.	Age	Gravid	Abortion	para	Gestational age (in weeks)	Interview time (minutes?)	Past medical history	Education	Other Details
1	28	1	0	0	22	40	-	Diploma	-
2	32	2	0	1	30	35	Hypothyroidism	Bachelor	-
3	35	2	1	0	34	50	-	Bachelor	IUGR
4	34	2	0	1	12	First interview: 40 minutes Second interview: 20	-	Bachelor	High-risk first-stage screening. CVS Consulting
5	37	2	1	0	19	First interview: 40 minutes Second interview: 35	Hypothyroidism	Diploma	unwanted pregnancy
6	32	2	0	1	21	40	- Hypothyroidism -Seasonal allergies	Diploma	-
7	31	4	1	2	23	50	-	Diploma	-
8	3	3	1	1	34	40	- Hypothyroidism -Gestational diabetes	High school	IUGR
9	27	1	0	0	32	40	-Gestational diabetes - High blood pressure in pregnancy	High school	-
10	24	1	0	0	15	45	-	Diploma	-
11	26	1	0	0	28	40	-	Bachelor	-
12	41	3	1	1	18	40	-	Bachelor	-
13	34	2	0	1	38	40	-	Diploma	-
14	30	1	0	0	32	45	-	Bachelor	-
15	20	2	1	0	28	40	Two years of infertility	Diploma	Pregnancy with IVF Twins/cervical cerclage

IUGR= Intrauterine Growth Restriction/ CVS=Chorionic Villus Sampling/ IVF= In vitro fertilization

Table 2. Categories extracted from qualitative interviews

Categories	Subcategories
mental disorders	<ul style="list-style-type: none"> • Sensitivity and irritability • Obsessive-compulsive disorder in COVID-19 • Obsessive-compulsive disorder in keeping health • Depression in quarantine
Fear and apprehension	<ul style="list-style-type: none"> • Fear of the fetus or baby getting COVID-19 • Fear of being affected by the disease • Fear of contamination of the delivery site with COVID-19 • Fear of separation of mother from child in case of COVID-19 • Fear of death due to COVID-19
Disrupting prenatal care	<ul style="list-style-type: none"> • Failure to refer for prenatal care • Failure to undergo required tests
Sexual problems	<ul style="list-style-type: none"> • Lack of sexual relationship • Decreased libido

Discussion

A critical component in managing any contagious disease threat is caring for vulnerable populations. Pregnant women and their fetuses are at risk during outbreaks of infectious diseases (8). According to the findings of 16 interviews with pregnant women as for COVID-19 pandemic, reproductive and sexual health needs during the COVID period include mental disorders, fear and anxiety, disrupting prenatal care, and sexual problems. For the category of mental disorders, we identified sensitivity and irritability, obsessive-compulsive disorder in COVID-19, obsessive-compulsive disorder in keeping health and depression in quarantine. During pregnancy, women may experience stress and anxiety with possible adverse delivery outcomes such as fetal death or fetal abnormalities. Stress and anxiety may also increase during infectious diseases. Studies also show that the COVID-19 virus pandemic has induced mental health problems and disorders (1, 23-27). A study on 200 pregnant women revealed that the level of anxiety in pregnant women has increased during the pandemic of this virus (1). A comparative study of anxiety, depression and psychological problems in two groups of pregnant women before the COVID-19 pandemic in 2018 and after the pandemic of the virus in Canada, identified that pregnant women who were evaluated during the COVID-19 pandemic showed higher depression and symptoms of anxiety, distress, and psychiatric symptoms than pre- pandemic pregnant women (28). A study in China also found moderate psychological symptoms being common in more than half of the respondents. In effect, the prevalence of moderate to severe anxiety, moderate to severe depression, and moderate to severe stress amounted to 28.8%, 16.5%, and 8.1%, respectively. Moreover, women and students were more affected by these symptoms (29). Further, in a study conducted in Italy, women with a reported history of anxiety and / or depression in particular were significantly more concerned about COVID-19 and at the higher risk for post-traumatic stress disorder (30). Psychological problems during pregnancy bear detrimental

consequences for the woman and her fetus (31, 32). These results give us an awareness of the psychological problems triggered by the COVID-19 virus pandemic and draw our attention to the fact that pregnant women need preventive approaches in the first place and a therapeutic approach to reduce or eliminate these problems if necessary.

Pregnant women bear a weaker immune system than the general population of their peers due to special conditions and physiological changes in pregnancy. In some studies, COVID-19 was associated with maternal and fetal morbidity and mortality (33-35) which caused several psychological disturbances in this group during the COVID pandemic.

In the category of fear and apprehension, pregnant women pointed to fear of infection of the fetus or baby, fear of disease, fear of infection of the delivery site with COVID-19, fear of separation of mother and child in case of disease, and fear of death due to COVID-19. Fear is a defense mechanism that a person shows against dangerous situations and includes the basic reactions necessary to survive from these threatening situations. However, fear that if not appropriate for the current situation, may stimulate various psychological disorders such as obsessive-compulsive disorder. In a study by Yassa et al., it was reported that anxiety and obsessive-compulsive symptoms increase in pregnant women during the COVID-19 pandemic (36). In a study conducted in Iran on 25 pregnant women during the COVID-19 outbreak, the symptoms of depression, stress and anxiety were detected in 32.7%, 32.7% and 43.9% of participants with varying degrees ranging from mild to very severe, respectively (37). A study on pregnant women in Italy also found that positive psychological constructs were prevalent before COVID-19 while negative constructs were dominant following the pandemic. "Happiness" was the most common emotion expressed before COVID-19 among the participants, and the feeling of "fear" was greater after the outbreak of the virus. Women were concerned about COVID-19 and a history of psychological

disorders was significantly associated with higher concerns (38). Another study conducted on 1987 pregnant woman in Canada, identified symptoms of anxiety and depression significantly augmenting in this group compared with similar groups of pre-pandemic pregnancies, accounting for 37% of depression and 57% of anxiety symptoms. Higher symptoms of depression and anxiety were associated with greater concern about COVID-19 threats to maternal and child life, as well as concerns about lack of prenatal care, relationship stress, and social isolation due to COVID-19 (39). Also, in a study performed on 331 pregnant women, fear and depression were the most common psychological responses among pregnant women during the COVID-19 pandemic (40). Examining the results of studies, it is clear that women who have a history of psychological disorders or an unfavorable pregnancy history, need special attention for they seem to experience a higher level of anxiety; this should be considered by the authorities when planning the health systems.

Incidents and disasters lead to reproductive and sexual health problems including inadequate access to medical services, inadequate nutrition and hygiene, and an increase in sexually-transmitted diseases (41, 42). Studies have shown that, due to psychological problems, pregnant women have problems with their pregnancy care process and fail to properly undergo the tests and visits specified by their health care providers. Studies have also demonstrated that the social distance program which is carried out due to efforts to control the disease and the fear of pregnant women in the community leads to a reduction in referrals for prenatal care (43-45). A study in Turkey also reported that pregnant women suffered from a disorder of their prenatal care during the COVID-19 pandemic (46). Withdrawal from the hospital may reduce the risk of infection, but if alternative measures for prenatal care are not taken, it may adversely affect pregnancy outcomes. Studies show that proper prenatal care reduces fetal maternal morbidity and mortality including preterm delivery, low birth weight, very low birth weight, and intrauterine growth restriction (47-49). Therefore, it is necessary to pay attention to adequate prenatal care when applying restrictions and quarantines during the pandemic of viral diseases. Sexual and reproductive health was discussed at the International Conference on Population and Development (ICPD) in Cairo, referring to the complete physical, mental, emotional and social health of individuals associated with the reproductive system. This conference was designed to gain insight into how to live a healthy and satisfying sexual life in individuals, develop reproductive ability, and enjoy

freedom to make decisions about the timing and interval of fertility. Sexual and reproductive health is a broad concept comprising health and well-being specifically related to sex, pregnancy, childbirth and other private aspects of one's life. Studies have identified that these women have sexual problems during the COVID period. Decreased libido and lack of sexual intercourse due to the possibility of transmitting the virus were among the issues raised. In contrast to our study, a study in the general population showed that the average frequency of sexual intercourse during the pandemic increased significantly compared to 6-12 months before, but the tendency to become pregnant decreased (50). Some studies have reported a decrease in the quality of sexual life during the COVID-19 pandemic (1). Pregnancy generally affects sexual function (51-53), but the stressful condition of COVID-19 and the associated mental disorders mentioned may have a synergistic effect on decreased sexual function in women during pregnancy and lactation periods during the COVID-19 pandemic. In a study comparing pregnant and non-pregnant women, sexual function was significantly lower in the pregnant than non-pregnant group (54, 55). According to the results of this study and other studies in the area of reproductive and sexual health, due to its importance in the quality of individual and married life, it should be considered in health planning activities and scores of studies and interventions in these areas are thus suggested.

Conclusion

According to the results of this study and other studies in the area of reproductive and sexual health, due to its importance in the quality of individual and married life, it should be considered in health planning activities and scores of studies and interventions in these areas are thus suggested.

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Conflict of Interest

We declare no competing interests.

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References

1. Mappa I, Distefano FA, Rizzo G. Effects of coronavirus 19 pandemic on maternal anxiety during pregnancy: a prospective observational study. *J Perinat Med*. 2020;48(6):545-50. [DOI:10.1515/jpm-2020-0182] [PMID]

2. Ayenigbara IO. COVID-19: An International Public Health Concern. *Cent Asian J Glob Health*. 2020;9(1):e466. [PMID] [PMCID] [DOI:10.5195/-cajgh.2020.466]
3. Liu Y, Chen H, Tang K, Guo Y. Clinical manifestations and outcome of SARS-CoV-2 infection during pregnancy. *J infect*. 2020;10(4). [DOI:10.1016/j.jinf.2020.02.028] [PMCID]
4. Van Kerkhove MD, Vandemaële KAH, Shinde V, Jaramillo-Gutierrez G, Koukounari A, Donnelly CA, et al. Risk factors for severe outcomes following 2009 influenza A (H1N1) infection: a global pooled analysis. *PLoS Med*. 2011;8(7):e1001053. [PMID] [PMCID] [DOI:10.1371/-journal.pmed.1001053]
5. Silasi M, Cardenas I, Kwon J-Y, Racicot K, Aldo P, Mor G. Viral Infections During Pregnancy. *Am J Reprod Immunol*. 2015;73(3):199-213. [DOI:10.1111/aji.12355] [PMID] [PMCID]
6. Meijer WJ, van Noortwijk AGA, Bruinse HW, Wensing AMJ. Influenza virus infection in pregnancy: a review. *Acta Obstet Gynecol Scand*. 2015;94(8):797-819. [DOI:10.1111/aogs.12680] [PMID]
7. Payne DC, Iblan I, Alqasrawi S, Al Nsour M, Rha B, Tohme RA, et al. Stillbirth During Infection With Middle East Respiratory Syndrome Coronavirus. *J Infect Dis*. 2014;209(12):1870-2. [DOI:10.1093/infdis/jiu068] [PMID] [PMCID]
8. Dashraath P, Wong JLI, Lim MXK, Lim LM, Li S, Biswas A, et al. Coronavirus disease 2019 (COVID-19) pandemic and pregnancy. *Am J Obstet Gynecol*. 2020;222(6):521-31. [PMCID] [DOI:10.1016/j.ajog.2020.03.021] [PMID]
9. Assiri A, Abedi GR, Al Masri M, Bin Saeed A, Gerber SI, Watson JT. Middle East Respiratory Syndrome Coronavirus Infection During Pregnancy: A Report of 5 Cases From Saudi Arabia. *Clin Infect Dis*. 2016;63(7):951-3. [DOI:10.1093/cid/ciw412] [PMID] [PMCID]
10. Wang X, Zhou Z, Zhang J, Zhu F, Tang Y, Shen X. A Case of 2019 Novel Coronavirus in a Pregnant Woman with Preterm Delivery. *Clin Infect Dis*. 2020;71(15):844-6. [DOI:10.1093/cid/ciaa200] [PMID] [PMCID]
11. Mullins E, Evans D, Viner RM, O'Brien P, Morris E. Coronavirus in pregnancy and delivery: rapid review. *Ultrasound Obstet Gynecol*. 2020;55(5):586-92. [DOI:10.1002/uog.22014] [PMID]
12. Li N, Han L, Peng M, Lv Y, Ouyang Y, Liu K, et al. Maternal and Neonatal Outcomes of Pregnant Women With Coronavirus Disease 2019 (COVID-19) Pneumonia: A Case-Control Study. *Clin Infect Dis*. 2020;71(16):2035-41. [DOI:10.1093/cid/ciaa352] [PMID] [PMCID]
13. 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):e34.
14. Yu N, Li W, Kang Q, Xiong Z, Wang S, Lin X, et al. Clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19 in Wuhan, China: a retrospective, single-centre, descriptive study. *Lancet Infect Dis*. 2020;20(5):559-64. [DOI:10.1016/S1473-3099(20)30176-6] [PMID]
15. Rasmussen SA, Smulian JC, Lednický JA, Wen TS, Jamieson DJ. Coronavirus Disease 2019 (COVID-19) and pregnancy: what obstetricians need to know. *Am J Obstet Gynecol*. 2020;222(5):415-26. [PMID] [PMCID] [DOI:10.1016/-j.ajog.2020.02.017]
16. Poon LC, Yang H, Lee JCS, Copel JA, Leung TY, Zhang Y, et al. ISUOG Interim Guidance on 2019 novel coronavirus infection during pregnancy and puerperium: information for healthcare professionals. *Ultrasound Obstet Gynecol*. 2020;55(5):700-8. [DOI:10.1002/uog.22013] [PMID] [PMCID]
17. Karimi-Zarchi M, Neamatzadeh H, Dastgheib SA, Abbasi H, Mirjalili SR, Behforouz A, et al. Vertical Transmission of Coronavirus Disease 19 (COVID-19) from Infected Pregnant Mothers to Neonates: A Review. *Fetal Pediatr Pathol*. 2020;39(3):246-50. [PMID] [PMCID] [DOI:10.1080/-15513815.2020.1747120]
18. Avci D, Dogan S. The Impact of Sexual Dysfunction on Quality of Life of Patients with Asthma in Turkey. *Sex Disabil*. 2017;35(1):107-18. [DOI:10.1007/s11195-016-9468-2]
19. Davies C. Sexual taboos and social boundaries. *Am J Sociol*. 1982;87(5):1032-63. [DOI:10.1086/227554]
20. Organization W. World Health Organization coronavirus disease 2019 (COVID-19) situation report. 2020.
21. Assarroudi A, Heshmati Nabavi F, Armat MR, Ebadi A, Vaismoradi M. Directed qualitative content analysis: the description and elaboration of its underpinning methods and data analysis process. *J Res Nurs*. 2018;23(1):42-55. [PMID] [DOI:10.1177/1744987117741667] [PMCID]
22. Wildemuth BM. Applications of social research methods to questions in information and library science: Abc-Clio; 2016.
23. Abdoli A, Falahi S, Kenarkoobi A, Shams M, Mir H, Jahromi MAM. The COVID-19 pandemic, psychological stress during pregnancy, and risk of neurodevelopmental disorders in offspring: a neglected consequence. *J Psychosom Obstet*

- Gynaecol. 2020;41(3):247-8. [PMID] [DOI:10.1080-0167482X.2020.1761321]
24. Preis H, Mahaffey B, Lobel M. Psychometric properties of the pandemic-related pregnancy stress scale (PREPS). *J Psychosom Obstet Gynaecol.* 2020;41(3):191-7. [PMID] [PMCID] [DOI:10.1080-0167482X.2020.1801625]
 25. Salehi L, Rahimzadeh M, Molaei E, Zaheri H, Esmaelzadeh-Saeieh S. The relationship among fear and anxiety of COVID-19, pregnancy experience, and mental health disorder in pregnant women: A structural equation model. *Brain Behav.* 2020;10(11):e01835. [DOI:10.1002/brb3.1835] [PMID] [PMCID]
 26. Khatri S, Murthy A, Hashim U, Kuruthukulangara S, Kumari A, Lele P. Psychological status of pregnant women during COVID-19 pandemic: A cross-sectional study from Mumbai. *J Mar Med Soc.* 2020;22(3):113-7. [DOI:10.4103/jmms.jmms_120_20]
 27. Moyer CA, Compton SD, Kaselitz E, Muzik M. Pregnancy-related anxiety during COVID-19: a nationwide survey of 2740 pregnant women. *Arch Womens Ment Health.* 2020;23(6):757-65. [DOI:10.1007/s00737-020-01073-5] [PMID] [PMCID]
 28. Berthelot N, Lemieux R, Garon-Bissonnette J, Drouin-Maziade C, Martel É, Maziade M. Uptrend in distress and psychiatric symptomatology in pregnant women during the coronavirus disease 2019 pandemic. *Acta Obstet Gynecol Scand.* 2020;99(7):848-55. [DOI:10.1111/aogs.13925] [PMID]
 29. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *Int J Environ Res Public Health.* 2020;17(5):1729. [DOI:10.3390/ijerph17051729] [PMID] [PMCID]
 30. Ravaldi C, Ricca V, Wilson A, Homer C, Vannacci A. Previous psychopathology predicted severe COVID-19 concern, anxiety, and PTSD symptoms in pregnant women during "lockdown" in Italy. *Arch Womens Ment Health.* 2020;23(6):783-6. [PMID] [PMCID] [DOI:10.1007/s00737-020-01086-0]
 31. Field T. Prenatal depression effects on early development: A review. *Infant Behav Dev.* 2011; 34(1):1-14. [PMID] [DOI:10.1016/j.infbeh.2010.09.008] [DOI:10.1016/j.infbeh.2009.10.005] [DOI:10.1016/0163-6383(95)90003-9] [DOI:10.1016/j.infbeh.2004.06.003]
 32. Rees S, Channon S, Waters CS. The impact of maternal prenatal and postnatal anxiety on children's emotional problems: a systematic review. *Eur Child Adolesc Psychiatry.* 2019;28 (2):257-80. [DOI:10.1007/s00787-018-1173-5] [PMID] [PMCID]
 33. Muhidin S, Behboodi Moghadam Z, Vizheh M. Analysis of Maternal Coronavirus Infections and Neonates Born to Mothers with 2019-nCoV; a Systematic Review. *Arch Acad Emerg Med.* 2020;8(1):e49.
 34. Kasraeian M, Zare M, Vafaei H, Asadi N, Faraji A, Bazrafshan K, et al. COVID-19 pneumonia and pregnancy; a systematic review and meta-analysis. *J Matern Fetal Neonatal Med.* 2022;35(9):1652-9. [DOI:10.1080/14767058.2020.1763952] [PMID]
 35. Gajbhiye RK, Modi DN, Mahale SD. Pregnancy outcomes, Newborn complications and Maternal-Fetal Transmission of SARS-CoV-2 in women with COVID-19: A systematic review. *MedRxiv.* 2020:2020-04. [DOI:10.1101/2020.04.11.20062356]
 36. Yassa M, Yassa A, Yirmibeş C, Birol P, Ünlü UG, Tekin AB, et al. Anxiety levels and obsessive compulsion symptoms of pregnant women during the COVID-19 pandemic. *Turk J Obstet Gynecol.* 2020;17(3):155-60. [PMCID] [DOI:10.4274/tjod.galenos.2020.91455] [PMID]
 37. Effati-Daryani F, Zarei S, Mohammadi A, Hemmati E, Ghasemi Yngykn S, Mirghafourvand M. Depression, stress, anxiety and their predictors in Iranian pregnant women during the outbreak of COVID-19. *BMC Psychol.* 2020;8(1):99. [PMID] [PMCID] [DOI:10.1186/s40359-020-00464-8]
 38. Ravaldi C, Wilson A, Ricca V, Homer C, Vannacci A. Pregnant women voice their concerns and birth expectations during the COVID-19 pandemic in Italy. *Women Birth.* 2021;34(4):335-43. [PMID] [PMCID] [DOI:10.1016/j.wombi.2020.07.002]
 39. Lebel C, MacKinnon A, Bagshawe M, Tomfohr-Madsen L, Giesbrecht G. Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. *J Affect Disord.* 2020;277:5-13. [PMID] [PMCID] [DOI:10.1016/j.jad.2020.07.126]
 40. Zheng Q-X, Jiang X-M, Lin Y, Liu G-H, Lin Y-P, Kang Y-L, et al. The influence of psychological response and security sense on pregnancy stress during the outbreak of coronavirus disease 2019: A mediating model. *J Clin Nurs.* 2020;29(21-22):4248-57. [DOI:10.1111/jocn.15460] [PMID]
 41. Swatzyna RJ, Pillai VK. The effects of disaster on women's reproductive health in developing

- countries. *Glob J Health Sci.* 2013;5(4):106-13. [DOI:10.5539/gjhs.v5n4p106] [PMID] [PMCID]
42. Zotti ME, Williams AM, Robertson M, Horney J, Hsia J. Post-disaster reproductive health outcomes. *Matern Child Health J.* 2013;17(5):783-96. [DOI:10.1007/s10995-012-1068-x] [PMID] [PMCID]
 43. Rashidi Fakari F, Simbar M. Coronavirus Pandemic and Worries during Pregnancy; a Letter to Editor. *Arch Acad Emerg Med.* 2020; 8(1):e21.
 44. Masjoudi M, Aslani A, Khazaeian S, Fathnezhad-kazemi A. Explaining the experience of prenatal care and investigating the association between psychological factors with self-care in pregnant women during COVID-19 pandemic: a mixed method study protocol. *Reprod Health.* 2020; 17(1):1-7. [DOI:10.1186/s12978-020-00949-0] [PMID] [PMCID]
 45. Chen Y, Li Z, Zhang Y-Y, Zhao W-H, Yu Z-Y. Maternal health care management during the outbreak of coronavirus disease 2019. *J Med Virol.* 2020;92(7):731-9. [DOI:10.1002/jmv.25787] [PMID]
 46. Mizrak Sahin B, Kabakci EN. The experiences of pregnant women during the COVID-19 pandemic in Turkey: A qualitative study. *Women Birth.* 2021;34(2):162-9. [PMID] [PMCID] [DOI:10.1016/j.wombi.2020.09.022]
 47. Liu C-M, Chang S-D, Cheng P-J. Relationship between prenatal care and maternal complications in women with preeclampsia: Implications for continuity and discontinuity of prenatal care. *Taiwan J Obstet Gynecol.* 2012; 51(4):576-82. [DOI:10.1016/j.tjog.2012.09.013] [PMID]
 48. Basso CG, Neves ET, Silveira Ad. Associação entre realização de pré-natal e morbidade neonatal. *Texto Contexto Enferm.* 2012;21:269-76. [DOI:10.1590/S0104-07072012000200003]
 49. Barbosa IRC, Silva WBM, Cerqueira GSG, Novo NF, Almeida FA, Novo JLVG. Maternal and fetal outcome in women with hypertensive disorders of pregnancy: the impact of prenatal care. *Ther Adv Cardiovasc Dis.* 2015;9(4):140-6. [DOI:10.1177/1753944715597622] [PMID]
 50. Yuksel B, Ozgor F. Effect of the COVID-19 pandemic on female sexual behavior. *Int J Gynaecol Obstet.* 2020;150(1):98-102. [DOI:10.1002/ijgo.13193] [PMID] [PMCID]
 51. Khalesi ZB, Bokaie M, Attari SM. Effect of pregnancy on sexual function of couples. *Afr Health Sci.* 2018;18(2):227-34. [DOI:10.4314/ahs.v18i2.5] [PMID] [PMCID]
 52. Kharaghani R, Khani ME, Dangesaraki MM, Damghanian M. The effects of psychological interventions on sexual function of women: a systematic review and meta-analysis. *Nurs Pract Today.* 2020;7(3):169-82. [DOI:10.18502/npt.v7i3.3345]
 53. Erbil N. Sexual function of pregnant women in the third trimester. *Alexandria J Med.* 2018;54 (2):139-42. [DOI:10.1016/j.ajme.2017.03.004]
 54. Mirzaei N, Jahanian Sadatmahalleh S, Bahri Khomami M, Moini A, Kazemnejad A. Sexual function, mental health, and quality of life under strain of COVID-19 pandemic in Iranian pregnant and lactating women: a comparative cross-sectional study. *Health Qual Life Outcomes.* 2021;19(1):1-8. [PMID] [PMCID] [DOI:10.1186/s12955-021-01720-0]
 55. Karakas LA, Azemi A, Simsek SY, Akilli H, Esin S. Risk factors for sexual dysfunction in pregnant women during the COVID-19 pandemic. *Int J Gynaecol Obstet* 2021;152(2):226-30. [DOI:10.1002/ijgo.13462] [PMID] [PMCID]

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