KAROLINSKA INSTITUTET
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Mental health among pregnant women during the COVID-19 pandemic

- A qualitative interview study

Gravida kvinnors psykiska hälsa under COVID-19 pandemin

- En kvalitativ intervjustudie

Degree project in sexual, reproductive and perinatal health, 15 credits
(Advanced level), 2020

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Preface

We would like to express our gratitude to all fantastic pregnant women participating in our study, for sharing all your thoughts and feelings with us. We would also like to thank our supervisor, Simone Schwank, for always believing in us during this process. We are grateful for your support, patients and advice.

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*Anxiety – Cognitive, anxiety is rooted in the experience of threat or danger. The physical experience is a result of increased muscle tension, palpitations and other physical expressions of an alarm condition that the organism has mobilized in order to neutralize or avoid the danger. Anxiety can psychologically vary from mild anxiety or worry to severe anxiety in the form of strong fear or fear of panic.

*Depression – Depression in the psychiatric sense is a relatively lasting condition of feelings of weakness and emptiness, irritability, feelings of worthlessness, suicidal thoughts etc. in a way that gives rise to significant difficulties personally, socially and professionally, in some cases with psychotic traits such as auditory hallucinations and delusions of persecution and aiming without emotional reaction, in half of the cases with aggression in the form of grumpiness, quarrelsome and violent emotional outbursts. Depression in the clinical sense is thus not a normal basic mood lowered at the bottom as in grief and great disappointments but a change of mood of another kind. Clinical depression is divided into a number of depressive syndromes that can be mild, moderate or severe, with or without psychotic symptoms.

*Fear – A fundamental reaction to danger or threat. When animals or humans are exposed to something that they experience can harm them psychically or socially, they react to it depending on how complex the situation is and how much control they feel over what is happening.

*PTSD – Post-traumatic stress disorder is a lasting and recurring state of anxiety that arises after a traumatic experience e.g. rape, a traffic accident or war.

*Definitions from Psykologiguiden (u.å.).

Abstract

Background: The COVID-19 pandemic has had an impact on society and caused more severe symptoms of depression and anxiety among pregnant women. Mental health problems among pregnant women and mothers can affect negatively in several areas. A more in-depth understanding for pregnant women's mental health and need for support can contribute to a more sufficient care.
Aim: Describe how pregnant women in Sweden experience support and their mental health during the COVID-19 pandemic
Method: A qualitative, semi-structured interview study was conducted with 16 pregnant women living in Sweden. Data was analyzed using a thematic analysis with an inductive approach according to Braun and Clarke (2006).
Result: The analysis resulted in six themes and 18 subthemes. The themes described an impact on their mental health and lack of support based on several factors, which emerged into six themes: restrictions in society, worry, loneliness, partner impact, powerlessness in perinatal care and media's impact on pregnant women.
Conclusion: Pregnant women's description of their perceived mental health during COVID-19 was mostly negative. Described feelings of loneliness, worries, and uncertainties may be signs of mental ill-health. This shows an urgent need for evident guidelines and information for pregnant women, along with adequate support and care throughout the perinatal period to secure beneficial outcomes.

Key words: COVID-19, pregnancy, partner support, mental health, perinatal care

Sammanfattning

Bakgrund: COVID-19-pandemin har påverkat hela samhället. Pandemin har orsakat svårare symtom på depression och ångest hos gravida jämfört med gravida innan pandemin. Psykisk ohälsa hos gravida och mödrar kan bidra med negativa konsekvenser för kvinnan och familjen. En ökad förståelse för kvinnornas psykiska hälsa och behov av stöd kan bidra till bättre vård för kvinnorna.

Syfte: Beskriva hur gravida kvinnor i Sverige upplevde stöd och sin psykiska hälsa under COVID-19 pandemin.

Metod: En kvalitativ semistrukturerad intervjustudie genomfördes med 16 gravida kvinnor från Sverige. Data analyserades med hjälp av tematisk analys med induktiv ansats enligt Braun och Clarke (2006).

Resultat: Analysen resulterade i sex teman med 18 underteman. Temana beskrev gravida kvinnors påverkan på deras psykiska hälsa och en brist på stöd i graviditeten baserat på flera faktorer vilka är beskrivna i temana: restriktioner i samhället, oro, ensamhet, partners påverkan, maktlöshet i perinatal vård och medias påverkan på den gravida kvinnan.

Slutsats: Gravida kvinnors beskrivning av deras upplevda psykiska hälsa under COVID-19 pandemin var främst negativ. Beskrivna känslor av ensamhet, oro och osäkerhet kan vara tecken på psykisk ohälsa. Det påvisar ett brådskande behov av tydliga riktlinjer och information för gravida kvinnor, tillsammans med adekvat stöd och vård under den perinatala perioden för att säkerställa fördelaktigt utfall.

Nyckelord: COVID-19, graviditet, partners stöd, psykisk hälsa, perinatal vård.

Karolinska Institutet

Innehållsförteckning

1 Introduction

The COVID-19 pandemic has affected human beings around the world for the past ten months. Death rates are high and increasing every day. The spread of the corona virus is closely monitored and the fear of a "second wave" in the fall/winter is present. There is an ongoing debate, which strategies should be applied in order to stop the COVID-19 outbreak. As of October 21st, 2020, 5929 people have died from COVID-19 and 107'355 people have been infected in Sweden (Public Health Agency of Sweden, 2020a). During our internship as midwifery students, we have met women in perinatal care and therefore seen pregnant women's reality and how they are affected by the ongoing pandemic. This is a contributing factor motivating us to carry out this research, aiming to increase knowledge and therefore provide pregnant women with adequate care.

2 Background

The present study is part of an ongoing international study with the purpose to explore the relationship of perinatal mental health disorders, such as anxiety, depression, and in severe situations posttraumatic stress disorder (PTSD) symptoms during the COVID-19 pandemic. Furthermore, the main study will assess effectiveness of web-based psychosocial peer-to-peer support for perinatal women. It is a multinational project including Hong Kong, Taiwan, Sweden, Norway, Switzerland, Mainland China, and the United States. The main study initiated with a digital survey on mental health impacts in pregnant and postpartum women during the COVID-19 pandemic. It intends to provide insight into the consequences of the COVID-19 pandemic on women's mental health status and the potential long-term consequences for both mother and child.

2.1 Mental health

The Public Health Agency of Sweden (2020b) defines mental health as both mental health and mental illness. A good mental health is a state of mind that creates both function and well-being as it is not only absence of disease and symptoms. It describes how we experience emotions, enjoy life and our ability to cope with life's ups and downs. Mental health includes our social, as well as emotional and psychological well-being. Mental illness affects both function and well-being and may have different degrees of severity. It includes both severe psychiatric conditions and milder conditions of anxiety and depression (Public Health Agency of Sweden, 2020b).

2.2 Pregnant women and mental health

Pregnancy and the first year postpartum include a significant change and adjustment for all parents (Rubertsson, 2016). This period can be extra challenging for those who have psychosocial risk factors

or who have preconditioned mental illness. Risk factors for experiencing mental illness during pregnancy can be previous anxiety or depression, isolation due to cultural or linguistic factors, background or stress due to stressful life events (Rubertsson, 2016). Ogbo et al. (2020) adds insufficient partner support and history of domestic violence as risk factors to develop maternal depressive symptoms, which affects mental health. Pregnancy itself can, for some women, include negative feelings with a risk to develop anxiety and/or depression. Mental health problems among mothers can affect their health and function both in short and long term (Thapa et al., 2020). Ogbo et al. (2020) report a strong association between self-reported depressive symptoms during pregnancy and postnatal depressive symptoms. The negative effects of mental health problems are not limited to the mother, their children can be affected as well (Thapa et al., 2020). Self-reported mental health disorder during pregnancy can be associated with preterm birth, APGAR < 7 at one minute and five minutes age and low birth weight (Mongan et al., 2019).

2.3 Previous pandemics/epidemics effects on pregnant women

During the current pandemic, research from previous pandemics and epidemics can contribute valuable knowledge. Infectious outbreaks naturally lead to fear, anxiety, and uncertainty in the society (Lee et al., 2006). Pregnant women are particularly vulnerable as they are concerned about the safety of their fetus besides themselves (Lohm et al., 2014). During the SARS epidemic in Hong Kong 2003, pregnant women seemed to be at risk for worsened clinical picture and outcome (Lee et al., 2006). Pregnant women in Hong Kong presented with higher levels of anxiety compared to pregnant women before the infectious outbreak. Furthermore, pregnant women reported worry about their newborn, themselves or their partner contracting SARS. The SARS epidemic in Hong Kong contributed to some pregnant women being home bound and refrained from leaving home. Fear of going to the hospital for perinatal care were stated, which negatively impacts perinatal outcome (Lee et al., 2006).

2.4 COVID-19 pandemic and SARS-CoV-2 virus

The first cases of COVID-19 were reported from Wuhan, Hubei Province in China, in December 2019. Since then, the infection has quickly spread all over the world (World Health Organization [WHO], 2020b). COVID-19 was declared a pandemic on March 11th 2020 (WHO, 2020a).

COVID-19 is a disease caused by the corona virus SARS-CoV-2. 31th of January, the first patient in Sweden with confirmed COVID-19 was identified. During the next months, there was an increase in numbers of identified cases, though several cases were transmitted abroad. Same day WHO declared COVID-19 as a pandemic, the first death due to COVID-19 occurred in Sweden. During the next

days and weeks, the Swedish government, together with Swedish Authorities and experts within the area declared several restrictions that should help to decrease the transmission of COVID-19 (Choghrich, 2020).

The respiratory tract is commonly manifested by COVID-19, therefore the infection often comes with a range of respiratory symptoms such as breathing difficulty, cough, sore throat and symptoms from the nose. In addition, fever and muscle/joint pain are other common symptoms of COVID-19 (Public Health Agency of Sweden, 2020d). With increased knowledge about the virus, extrapulmonary manifestations have been detected. Thromboembolism is a known complication caused by COVID-19. Embolisms can be catheter related thrombosis, pulmonary embolism and deep vein thrombosis. COVID-19 can manifest and create complications in several other organs such as cardiac, endocrine, neurological, renal, hepatic, gastrointestinal, and dermatological systems. Thus, COVID-19 can cause acute kidney failure, cardiomyopathy, hyperglycemia, diabetic ketoacidosis in different severities (Gupta et al., 2020). Currently, there is no medical treatment for COVID-19 available, however research for medical treatment and vaccines are in progress. As a result, present treatment is characterized by symptomatic treatment (Ryan et al., 2020).

2.5 COVID-19 and pregnant women's physical health

Initial information from China suggested no increased risk for infection and morbidity among pregnant women, compared to the general population (Chen et al., 2020). In line with the COVID-19 pandemic development, the knowledge about COVID-19 has increased. Recent research shows that preterm birth rates are higher in pregnant women infected with COVID-19, compared to pregnant women in general (Allotey et al., 2020). Furthermore, Allotey et al. (2020) report a higher risk for pregnant or recently pregnant women to be admitted to the ICU with a need of invasive ventilation compared to non-pregnant women in reproductive age. According to the Public Health Agency of Sweden (2020c), the risk of being admitted to the ICU should be considered relative and is about 5 times higher among pregnant women compared to non-pregnant women. However, this must be interpreted with caution as some pregnant women infected with COVID-19, were cared for at the ICU primarily by other causes (Public health agency of Sweden, 2020c). Among the pregnant women in need for ICU care, comorbidities such as chronic hypertension, high body mass index, high maternal age and pre-existing diabetes have been identified (Allotey et al., 2020). The Public Health Agency of Sweden (2020f) states that pregnancy itself is not a risk factor for severe illness of COVID-19. However, illness from 36 weeks of gestational age may lead to difficulties for pregnant women

to cope with the respiratory infection. Pregnant women are therefore, recommended to take precautions and be extra careful in order to avoid transmission from 36 weeks of gestational age (Public Health Agency of Sweden, 2020f). Furthermore, pregnant women in general may be vulnerable due to partly immune suppression (Risberg, 2016).

The Public Health Agency of Sweden (2020d) and Dana et al. (2020) state that vertical transmission of COVID-19 during pregnancy is unlikely. However, cases and findings that reveal vertical transmission cannot be dismissed (Zaigham & Andersson, 2020). COVID-19 infection among newborns and children may appear, however it is rare, as is severe illness. Therefore, healthy newborns are not recommended to be separated from their mothers after delivery due to the risk of transmission. According to available studies, there is no reason to prevent mothers from breastfeeding as the virus has not been detected in breast milk and therefore should not be considered a source of transmission of COVID-19 (Amatya et al., 2020; Centers for Disease Control and Prevention [CDC], 2020). The World Health Organization (2020c) recommends mothers with suspected or confirmed COVID-19 infection to initiate and continue breastfeeding. Evidence shows that the benefits of breastfeeding substantially outweigh the potential risks of transmission (CDC, 2020; WHO, 2020c).

2.6 The Swedish approach for the COVID-19 pandemic

In summary, the Public Health Agency of Sweden's (2020d) restrictions state:

- Stay home when you are sick. Those who have a confirmed COVID-19 infection should stay at home for at least one week after feeling ill.
- You should test yourself if the symptoms do not go away within a day or if the symptoms have no other explanation such as e.g. allergies.
- Maintain good hand hygiene: wash your hands with water and soap for at least 20 seconds.
- Keep a distance from other people, both indoors and outdoors.
- Refrain from organizing or participating in larger social contexts. Social gatherings have been limited to a maximum of 50 people from the 25th of March 2020.
- You should, if possible, work from home and avoid public transport when traveling within Sweden. Furthermore, avoid traveling during rush hour.

Face masks have, to date October 2020, not been recommended in public settings (Public Health Agency of Sweden, 2020d). This differs from many other countries. Furthermore, Sweden has not had any national lockdown.

2.7 Changes in perinatal care due to the COVID-19 pandemic

The Swedish healthcare system has been forced to rearrange in order to care for the high quantity of patients with COVID-19. The perinatal care has been affected, there are limitations in visiting rules and because caregivers e.g. midwives can seize COVID-19, it may result in temporarily reduced staff, which can increase the workload. The midwives' responsibility and competence include working with preventing diseases and injuries, as well as physical, mental, and social problems contributing to ill-health (Swedish Association of Midwives, 2018). This does include to identify and actively prevent health risks. Preventing complications involves identifying physiological and psychosocial risk factors and conditions. The midwife has the competence to assess when a situation deviates from the normal and does this independently. When necessary, the midwife is supposed to consult and collaborate with other professions (Swedish Association of Midwives, 2018).

Despite the ongoing COVID-19 pandemic, perinatal care and the midwives work is essential to provide for a safe and healthy pregnancy. This exposes the midwives, who provide care for pregnant women throughout the perinatal care irrespective of COVID-19 infection or not. The exposed position and the risk of transmission while providing care can affect the midwives. No research specific to how midwives are affected by working during the pandemic with patients infected by COVID-19 have been found. However, existing research in how health care workers are affected claims negative effects on mental health with identified depression, anxiety, PTSD, acute stress reaction, insomnia and occupational burn-out in various prevalence (Sanghera et al., 2020). Sanghera et al. described exposure to COVID-19 positive patients to be a major risk factor to a negatively affected mental health. This research by Sangehra et al. is conducted on health care workers such as nurses and physicians, therefore, it may be transferable to midwives as their work environment is comparable. With this knowledge Sanghera et al. recommends working patterns which safeguards the health care works health and available psychological support.

Compared to the midwife's perspective, the pregnant woman and her eventual partner may be affected by the changes in perinatal care. The caregiver guide (2020a) recommends units to offer visits at a distance, e.g. through video link or phone. Thus, there should be an individual assessment if the physical visit can be replaced with distance contact. This does not apply to emergency medical care (The caregiver guide, 2020a). Pregnant women and their eventual partners may be affected by the restrictions as no company is allowed at ultrasound clinics. Furthermore, all parent education meetings are cancelled and replaced with optional digital education instead (The

caregiver guide, 2020b). The regional guidelines in Stockholm county give caregivers the opportunity to refuse companionship, e.g. the partner, in all units of care even if the companion has no symptoms (The caregiver guide, 2020b). Several prenatal care units in Sweden have restrictions in bringing eventual partners to the prenatal visits. It is currently common that pregnant women attend their visits alone. A majority of the delivery departments in Sweden allow one healthy person, besides the woman, to be present during delivery (The caregiver guide, 2020b). In postnatal care, some departments allow the other parent or another person to stay while some only have room for the mother and her newborn. The restrictions may differ around the country.

2.8 COVID-19 and pregnant women's mental health

Extreme events in a pregnant woman's life, such as emergencies, extreme stress, natural disasters, and conflict situations can increase the risk of perinatal mental health morbidity, and in severe cases PTSD (Thapa et al., 2020). Thapa et al. (2020) therefore describe that the COVID-19 pandemic may increase the vulnerability to mental ill-health. Uncertainties in how COVID-19 affects pregnant women, may increase psychological stress (Thapa et al., 2020). Berthelot et al. (2020) describe a higher level of prenatal distress during the COVID-19 pandemic, compared to pregnant women before COVID-19 pandemic. The pregnant women during COVID-19 pandemic showed more severe symptoms of depression and anxiety than pregnant women who were pregnant prior to COVID-19 pandemic. Symptoms of PTSD and dissociation were explored and women pregnant during COVID-19 pandemic had reported more symptoms (Berthelot et al., 2020). Zhao et al. (2020) describe how self-isolation caused adverse symptoms of anxiety, depression and PTSD in the general population. In addition, media exposure and a high flow of information could lead to symptoms of PTSD (Zhao et al., 2020). Nanjundaswamy et al. (2020) describe how pregnant women expressed concerns regarding transmission when visiting the hospital and therefore, they limited their visits. Berthelot et al. (2020) describe findings on pregnant women's mental health to be an urgent call for strategies to support and care for pregnant women during COVID-19 pandemic. Peculiarly, for pregnant women with an anamnesis of mental illness and pregnant women with low-income (Berthelot et al., 2020).

3 Problem definition

Due to the COVID-19 pandemic, there is a considerable amount of ongoing research in the field. A gap of knowledge in pregnant women's mental health in Sweden has been identified, even prior to the COVID-19 pandemic. Much of the published research is focusing on pathophysiology and medical treatment of COVID-19. Existing research shows that pregnant women's mental health is

affected by the ongoing pandemic. However, there is an uncertainty in how their mental health is affected by the COVID-19 pandemic. Worry, fear, anxiety, and depression can be side-effects of the extraordinary situation. As stated, mental illness during pregnancy can affect both mother and child in the perinatal period. A more in-depth understanding of pregnant women's experiences and their mental health during the pandemic, can provide a greater understanding for their needs to get support and care. With increased understanding, midwives and clinicians will have greater knowledge and the opportunity to adjust the care given to the women during the perinatal period.

4 Aim

The aim of the study was to describe how pregnant women in Sweden experience support and their mental health during the COVID-19 pandemic.

- What emotions do pregnant women experience during the COVID-19 pandemic and how these emotions affect their mental health?
- Do external factors, such as restrictions from the Publish Health Agency of Sweden, social factors or media have an impact on pregnant women's mental health?
- How can midwives care for pregnant women to satisfy their needs for support during the COVID-19 pandemic?

5 Method

5.1 Study design

To answer the research question, a qualitative interview study with an inductive approach was conducted according to Henricson and Billhult (2017). Qualitative methods are considered appropriate, when the authors seek understanding and intend to study people's lived experiences of a phenomenon (Henricson & Billhult, 2017). This can provide us, an in-depth understanding of the phenomenon. There is no truth to a phenomenon as it will be affected by factors as our social, cultural and individual contexts (Korstjens & Moser, 2017). The inductive approach with no frames from a theory or hypothesis can give us an insight of the participants' lived experience (Henricson & Billhult, 2017).

5.2 Sample

The sample was composed of pregnant women in Sweden. Adult pregnant women, over the age of 18, who volunteered to participate in the research project and were available at the time, were included in the present study. In our patient recruitment, a convenience sampling together with an unintended snowball sampling was applied (Moser & Korstjens, 2018). Henricson and Billhult (2017) state that participants in a qualitative interview study should have experienced the phenomenon. The pregnant women recruited for the present study had all been pregnant during the COVID-19 pandemic and therefore an experience of the phenomenon.

Facebook and Instagram were used to recruit participants. Social media such as Facebook is a acknowledge and effective way of recruiting participants (Fenner et al., 2012). Information about the present study was published in specific Facebook groups, for women and pregnant women. We chose Facebook groups with pregnant women, both specific groups for pregnant women and non-specific groups for women in general, with purpose to have a more heterogenous sample. The groups were "925" (13 008 members), "Gravidgäris och ickebinäris" (375 members), "Honeys and the bees" (155 422 members), "Bf oktober 2020" (1611 members), "Gravid med BF november 2020" (1210 members), "Gravida med bf december 2020" (1073 members), "Gravida med BF januari 2021" (1126 members) and "Att föda under Corona" (487 members). Some of the groups were closed for non-members and we did not have access to the groups. Therefore, we had to contact the group administrators, who published the ads in the closed groups. One of us shared the ad on their personal Facebook page, with the opportunity for friends to share it further. The ad was published on Instagram

by one of us and shared by followers. In addition, the information about the present study was orally spread to pregnant women by acquaintances.

The published ad included a short description of the present study and our contact information (Appendix 1). The recruitment was based on women voluntarily contacting us willing to participate in the present study. After contacting us, they received an information letter (Appendix 2) including consent form, and an interview was scheduled with those who were willing to participate. The participants were able to decide an appointment that suited them. They were offered to be interviewed in person (residents in Stockholm) or online. This was due to the COVID-19 pandemic and the recommendation for social distancing.

We recruited 16 pregnant women in Sweden over three weeks' time. The first 16 pregnant women that volunteered to participate in the present study, were included undependable of the gestational age. No exclusion criteria have been applied. The sample size was believed to provide the present study a variety in descriptions of the phenomenon and a reasonable number of interviews to fulfill in the given time.

5.2.1 Inclusion criteria

Pregnant women over the age of 18, who speak Swedish and are resident in Sweden.

5.3 Data collection

Data collection took place between September 13th to 27th 2020, simultaneously as more women were recruited to the present study. We applied semi-structured interviews in Swedish, as it is the authors and participants' mother tongue. We developed an interview guide based on the research questions (Appendix 3). Interviewing as a data collection method gave us a description of the phenomenon in the participants life (Moser & Korstjens, 2018).

Interviews can, according to Moser and Korstjens (2018), be on telephone, online or face-to-face. We did the interviews online, where we were able to have a visual contact during the interview via Zoom, Skype, Google Meet or Facebook Messenger video call. After the participants consent, the interviews were recorded using the voice memo application on our mobile phone, alternatively voice and video recordings using Zoom.

We trained on interviewing each other before a pilot interview was conducted. The pilot interview was performed to assess the relevance and coverage of the interview guide towards the research questions, according to Moser and Korstjens (2018). We both read the transcript of the pilot interview

and adjusted the interview guide (Moser & Korstjens, 2018). One question was added, and the order of a few questions was changed in the interview guide.

Both authors did eight separate interviews, which were between 15 minutes to 45 minutes long. During the interviews, we have been flexible and open-minded to the data and confirmed the participants' answers (Henricson & Billhult, 2017). We performed the interviews, as well as recorded and transcribed them.

5.4 Data analysis

We chose to conduct a thematic analysis as described by Braun and Clarke (2006). Thematic analysis is a method used to analyze qualitative data by identifying and analyzing repeated patterns within the dataset to create themes. Thematic analysis is described to be easily available for beginners in the field of qualitative research. It did not require specific technological or theoretical knowledge from the authors. Thematic analysis is a flexible research method which can develop detailed and rich data, nevertheless complex (Braun & Clarke, 2006). Braun and Clarke described the process of thematic analysis in six phases which we followed for the thematic analysis.

The first phase describes familiarization with the data (Braun & Clarke, 2006). To transcribe is the first phase in familiarizing with the data (Braun & Clarke, 2006). The interviews were in nearby time transcribed by each interviewer. Rigorously, the interviews were transcribed verbatim by listening to the recordings. All verbal communication was transcribed along with nonverbal events, such as expressed emotions (e.g. laughter, crying), sighs, coughs and pauses (Braun & Clarke, 2006). There were a few episodes where we were unable to hear the participants, which was clearly featured in the transcripts. Six transcripts were relistened to assure an accurate content in the transcripts, compared to the interviews. This was followed by repeated reading of all 16 transcripts individually, by both authors. According to Braun and Clarke, this approach contributes to a wide and deep understanding of the data set. During the reading, we were taking notes on initial thoughts and ideas of what was interesting and answered to the research question. In the next phase, an initial coding of the data was completed. Initially, we used margin notes and highlighting pens to code interesting and valuable content in the transcripts. Together with our supervisor, we read through and coded similar findings in some of the transcripts. The authors unitedly cut out all extracts of data quotes and paired all codes in envelopes, exemplified in table 1 (Braun & Clarke, 2006).

Phase three, dedicated to finding themes. Together, the authors visually laid out codes and data extracts to sort codes into potential themes. In the process of finding themes we discussed the

relevance of themes with our supervisor. An initial thematic map emerged, with themes and sub-themes (Braun & Clarke, 2006). In phase four, all data extracts were reread under respective themes and sub-themes. Refinement in data extracts and themes took place. Data extracts and themes not answering the research question were discarded. In phase five, defining and naming of themes was performed. Phase six, writing of the result, has been performed simultaneously to phase five. To strengthen the themes and analysis, quotes are provided as part of the written report (Braun & Clarke, 2006).

Table 1.
Example of the coding process.

Data extracts	Code - envelopes	Theme	Sub-theme
"I read that one should be particularly careful, but it didn't say what it really meant."	Uncertainty in restrictions	Restrictions in Society	The Swedish approach and pregnant women
"I would rather have had some information from the maternity ward and postnatal care in how they treat the pregnant women and her partner during the pandemic."	Information from the midwife	Powerless in the perinatal care	The midwife's information

5.5 Ethical aspects

History has proven the importance of an ethical approach in conducting research. An ethical approach includes researchers taking responsibility for the participants and caring for them with respect. Both participants' well-being along with correct management of gathered data is included in the researchers' responsibility (Kristensson, 2014). According to Swedish law, Etikprövning av forskning som avser människor (SFS 2003:469) the only accepted research, is research done with respect for human dignity. Research processing personal sensitive information regarding health, needs to have an ethical approval. Studies performed by students are excluded from this, however students are obligated to discuss ethical considerations (Kjellström, 2017). The supervisor for the present study has an ethical approval for doing research within the subject.

Kristensson (2014) describes the importance of the research questions being ethically defensible, in order to conduct research. We believe the research question to be ethically defensible as it can lead to good psychological support and care for pregnant women. The present study can be relevant to individuals, clinically relevant to perinatal care and to society.

In qualitative interview studies, situations may arise where the participants react negatively to questions concerning sensitive topics. This requires the researchers' sensitivity and ethical knowledge to handle (Kjellström, 2017). Interviewing pregnant women about their mental health during the COVID-19 pandemic could be a sensitive topic. We have acknowledged the risk of having affected the participants on a psychological level.

Since all research is based on volunteering, we made it clear that the participants had the right to end their participation, whenever they wanted, without any further explanation or consequences (Kjellström, 2017). This information was included in the written consent (Appendix 2) which was collected before or nearby after the interview. An oral consent was declared before the interview started together with a consent to video and voice recording.

According to Kjellström (2017), confidentiality is about ensuring that unauthorized persons are not allowed to access sensitive information and personal information that makes it possible to identify the participants. The principle consists of two parts; storing data in a secure way to avoid dissemination to unauthorized persons, and that certain information is excluded when data is reported to avoid tracing it to a specific individual (Kjellström, 2017). We applied confidentiality, in order to reach an adequate ethical approach. Only we as authors have access to the participants personal information and the collected data has been coded to ensure confidentiality. In addition, data has been accounted for on a group level to protect that data can be traced back to individual participants. Research data will be stored for at least 10 years after the results have been reported and published (Karolinska Institutet, 2020).

5.5.1 Ethical approval

The interview study is a sub-study in a larger international study, which has ethical approval from the Regional Ethics Review Board in Stockholm (Dnr: 2019-01170)

6 Result

The study included 16 pregnant women who voluntarily participated in this semi-structured interview study. Among all of the participants, ten were nulliparous, four primiparous and two multiparous. The age ranged between 26-38 years. 12 women had a college or university degree and four women had a high school education. Four women described an anamnesis of mental ill-health and 12 women denied any earlier mental ill-heath or mental illness. All pregnant women but one had a partner. They were between 19-39 gestational weeks of age. All women were Swedish residents from five different regions. Two women could not fulfill their participation due to unexpected obstetric events and one woman did not fulfill her participation for unknown reason. From the thematic analysis of the data set, six themes were identified with in total 18 sub themes, clearly shown in Table 2.

Table 2.
Description of themes and subthemes conducted of analysis.

Themes	**Subthemes**
Restrictions in society	• The Swedish approach and pregnant women • Work environment in conflict with restrictions • Isolation in a social context
Worry	• Worries about the COVID-19 pandemic • Worries for the fetus? • Worries within the family
Loneliness	• Loneliness in pregnancy • Lost experience of pregnancy • Fear of loneliness
Partner impact	• Seeing the baby together • Partners health and its outcomes • Partners perception
Powerlessness in perinatal care	• Injustice • Cancelled perinatal care • The need for an alternative • The midwife's information
Media and COVID-19	• Media's impact on pregnant women • Social media and stories from others

6.1 Restrictions in society

Pregnant women in the study expressed negative impact on their mental health due to the restrictions in society. However, some pregnant women some positive effects on their mental health. The restrictions impacted their life in several contexts, such as in a societal context, work environment and social context.

6.1.1 The Swedish approach and pregnant women

This spring, when the COVID-19 pandemic reached Sweden and later on had its culmination, some of the pregnant women participating in the study experienced being unnoticed/ignored by society. They felt they were being pregnant during a pandemic without knowing how to approach the new situation. Guidelines from the Public Health Agency of Sweden did not provide any specific advice, as pregnancy itself was not considered to be a risk factor. However, there was an initial uncertainty, due to limited knowledge in COVID-19 impact on pregnant women and the fetus. The pregnant women described conflicting information and ambiguity on how to act which led to uncertainty and fear. Therefore, they did not know how to protect themselves and their fetus adequately.

> *"When I talked to friends who also were pregnant/.../ it felt like you were being forgotten and that it was some kind of test, I got a bit of a guinea pig feeling" (P5)*

Uncertainty arouse, as the guidelines for pregnant women in several other countries were stricter than in Sweden, which made a few pregnant women in the study feel insecure. Some women turned to foreign media to get an understanding of how pregnant women in other European countries adjusted and approached the COVID-19 pandemic.

> *"There was such incredibly contradictory information, when you read the BBC or something. And it stressed me out, not being able to trust it/.../." (P5)*

Some women described that they were extra vulnerable as pregnant. Partly emotionally, but also physiologically, as they are temporarily immunosuppressed and therefore, required to be noticed and provided with adequate advice.

"Then I also felt during the COVID-19 pandemic in Sweden, that people have absolutely not cared about pregnant women/.../. We are more vulnerable; our immune system isn't as strong as if we weren't pregnant. So, I think, that in general the whole society's view of pregnant women during the pandemic has been completely ignored." (P17)

On the other hand, some pregnant women expressed an understanding for the ambiguity in information. Mentioning that it can be difficult to state guidelines for all groups in society due to the new situation and limited knowledge. Thus, they expressed an understanding of the ambiguity.

6.1.2 Work environment in conflict with the restrictions

Some women participating in the study stated having professions, with work environments that prevented them from following the restrictions provided by the Public Health Agency of Sweden. As a result, the pregnant women described emotions in different severity depending on the risk of exposure to COVID-19 virus in the work environment.

"Yes, I am... Just because I work in a store, now I'm on sick leave, but otherwise you meet a lot of people and before I got pregnant, I did not care so much about it, but now (pause). I really don't want to... Be exposed to it." (P1)

"/.../It's difficult, it's impossible to help children from two meters distance." (P8)

The pregnant women in the study, who were forced to be exposed to COVID-19 at work, expressed several negative emotions. Some pregnant women described how their stress levels increased since they could not follow the restrictions. They expressed fear of getting infected by COVID-19 in their work environment. It led to sadness and anxiety as consequences of being infected of COVID-19 were uncertain.

"You easily forget how it was during, when I worked, because I actually cried before each work shift due to Corona." (P12)

However, pregnant women who worked from home and did not have to be exposed to COVID-19 at work or during transport between their workplace and home, expressed tranquility and safety. This

due to the possibility to follow the restrictions of social distancing and by themselves, having control over their social contacts.

6.1.3 Isolation in a social context

The pregnant women participating in the study described isolation due to restrictions in society and therefore changes in their social life. The restrictions and impacts on social life contributed to both positive and negative effects on pregnant women's life. Some pregnant women in the study described negative impact on their social lives. Fewer social contacts and working from home contributed to a lack of social context and social interactions. Absence of social context affected their mental health. Pregnant women described boredom, lack of energy and loneliness.

> *"/.../You really try to survive in your own little bubble and find social interactions within your bubble, but the Corona pandemic absolutely affects social life and mental illness. And for me, the feelings were loneliness and fear of even more loneliness." (P17)*

The pregnant women described socializing with colleagues or friends to be energizing. On the other hand, it was described as a difficult balance between taking responsibility to meet the restrictions during the COVID-19 pandemic and doing things to increase well-being. Feelings of guilt and anxiety were described, when meeting people in order to get energizing social contacts.

> *"/.../The longer the time went on, the more you realized that you missed meeting people. When you started meeting people, you got pretty bad conscience that now I might be doing something I'm not allowed to do/.../ a pretty inconvenient feeling, when you try to do something that you feel good about, meeting people, but at the same time get anxious that you might be doing something wrong." (P3)*

In contrast, some pregnant women described positive aspects of isolation, due to the COVID-19 pandemic. The major contributing factor to the positive impact on life has been the ability to spend more time at home. This was due to reduced exposure to other people. Due to the pandemic they enjoyed seeing their partner more, as both have been working from home. Isolation, however, led to a slowdown everyday life, which contributed to less stress within the women. In addition, some of the pregnant women experienced physical pregnancy symptoms and felt relieved to stay at home and

accordingly, could avoid feeling bad in front of other people. Positive feelings, as a result of isolation sometimes contributed to bad conscience.

"We have come closer to each other and it has felt enormously luxurious to be able to have that time/.../ We almost had a bad conscience about how cozy and nice we had it, so that we down-shifted, that we had a much calmer life/.../." (P7)

6.2 Worry

Worry has been a recurrent finding in the interviews and the majority of the pregnant women described worry in several areas. They described pregnancy to some extent being characterized by worry and the pandemic has contributed with an external dimension of worry.

6.2.1 Worries about the COVID-19 pandemic

Two worries frequently expressed by pregnant women participating in the study were worry about the pandemic and what would happen in society respectively, getting infected by the disease. The pandemic as a phenomenon contributed to worry in pregnant women. There were uncertainties in how their life would be affected and how the pandemic might make their life more difficult.

> *"/.../It was unpleasant, you kind of imagined all possible, yes but, soon people will walk around in space suits in the streets. It was uncertain, how will this be handled and what will happen, and will one catch it?" (P7)*

The cause of worry regarding being infected by COVID-19, partly depended on worry for catching a respiratory infection such as COVID-19 prior to giving birth. This was because of the physical limitations in coping with the infection. The risk of getting infected led to worry, as it could contribute to difficulties attending routine check-ups in prenatal care. In addition, the uncertainty in how COVID-19 affects pregnant women and their fetus, if getting infected, contributed to worry for transmission among some pregnant women.

6.2.2 Worries for the fetus?

Some of the pregnant women participating in the study stated no concern for their fetus and referred to information stating that there were no known risks for vertical transmission. The belief, that the baby is protected as long as it is in the womb made the pregnant women calm.

> *"There is no proven research that says that it's dangerous for babies in the womb in any way. So as long as it's at that level in terms of research, I am not particularly worried." (P13)*

In contrast, to the women who were convinced that their fetus was well protected, another group of participants in the study described their worries for the fetus. Some pregnant women described their worries being mainly about their fetus instead of for themselves. They described concern about the uncertainty in how it affects the fetus in both short and long term, as the information and research is limited.

> *"Also, a lot of fear and anxiety that you are unaware of what can happen to the baby in the womb. Studies are limited to time, so we don't know what will happen to the children, who have had COVID-19 now. We don't know what will happen to them in five years, because it hasn't been five years and we don't know how it really affects, we still know very little." (P12)*

6.2.3 Worries within the family

Some pregnant women described their relatives being worried for them and their fetus due to the COVID-19 pandemic, while other relatives did not express any worry. Worry from relatives may be transmitted to the pregnant women and was described to affect their emotions in both positive and negative ways. Feelings the pregnant women experienced prior to relatives worries, were in the spectrum of being cared to feelings of guilt. Sometimes, they described the worry from relatives major to the worry they expressed for themselves.

> *"So, my mother is the most worried person there is, it also makes me feel so incredibly guilty and gives me such feelings of guilt as soon as I have met a friend indoors." (P8)*

In parallel, worry for relatives was described by some pregnant women as some relatives were old or sick. Relatives belonging to a risk group were at greater risk for getting a more severe disease, if infected. Some described it as the only worry they had. They were not concerned about themselves or the fetus.

> *"My mother is multimorbid, so it would not be so good if she got it. So, it's above and beyond all the worry I have, for her. And of course, grandma and grandpa and the elderly, there I can feel more anxious. But regarding myself I have not felt any major concern." (P4)*

6.3 Loneliness

Loneliness is a feeling frequently described by pregnant women in the interviews. They described loneliness in pregnancy and a strong feeling of fear for being lonely when giving birth and during the first postnatal period.

6.3.1 Loneliness in pregnancy

Pregnant women described loneliness on their journey to becoming parents. Partly due to restrictions that prevent the partner or support person from being involved in segments of perinatal care. Many women described that this made the partner feel less included and distanced to the pregnancy, which contributed to loneliness in the pregnancy. In addition, loneliness was described due to others' incapacity to understand how it feels being pregnant during the ongoing pandemic.

> *"Sadness, I have been very sad, felt lonely. Then you are more emotional, when you are pregnant, but I feel that those feelings have increased due to the pandemic, because it has been very lonely." (P17)*

6.3.2 Lost experience of pregnancy

Pregnant women described that COVID-19 restrictions forced the partner to be excluded from the journey to becoming parents. The experience has not been shared as they wished for. Some women expressed anger and injustice, because they had to do parts of the journey on their own, which contributed to loneliness.

"Yes but quite a lot of anger and also injustice, it feels it's so unfair. This was a thing we were supposed to do together and then it felt like you had to do a lot by yourself." (becomes emotional) (P3)

Multiparous women expressed relief over experiences from previous pregnancies and therefore had the opportunity to share the journey with their partner at least one time before. In addition, they expressed compassion with nulliparous women who had to go through their first pregnancy without the possibility to include their partner.

"But I am still grateful that it is the second child and that it is not the first child, because it would have been even tougher to both become a parent for the first time but also to do it all by yourself." (P5)

One nulliparous woman, who might just wish for one child expressed sadness and grief. This was probably her only time doing this journey.

6.3.3 Fear of loneliness

Pregnant women described fear of giving birth alone or with a back-up person, which might not give the same comfort and safety as their partner. It becomes second best option. They describe how they only can bring one healthy partner or other support person to the maternity ward, depending on the partner or support person's eventual COVID-19 symptoms.

"I think my biggest fear has been that, I am very afraid that I will have to give birth and spend a lot of time in the postnatal ward without my partner." (P15)

The partner is not always allowed to stay at the postnatal ward after the birth due to COVID-19 restrictions, which sometimes leaves women alone and vulnerable in a new situation. Some women described an uncertainty in how they will feel both physically and mentally after birth and simultaneously, becoming a parent and caring for a new family member alone in a postnatal ward. This contributed to feelings of fear and loneliness. One woman described the fear for loneliness to be a factor of wanting to leave the hospital earlier, even though it may be recommended for the mother and her newborn to stay.

Some women participating in the study described fear of being alone even after arriving home with their newborn due to the COVID-19 pandemic. Activities for new parents might be cancelled and the social contact with relatives' and friends might be restricted. This can leave the woman alone in a vulnerable position when becoming a parent and simultaneously changes in identity appear.

> *"/.../I don't believe that you as a woman are made to give birth to a child and then sit with the child yourself, I don't believe our biology is made like that/.../ we should be surrounded by our family who supports the woman/.../." (P17)*

6.4 Partner impact

Pregnant women in the study described the partner's presence and support as essential, both for themselves and the attachment to the expectant child. The presence itself can be seen as an important support for pregnant women.

6.4.1 Seeing the baby together

Pregnant women described the ultrasound in Sweden to be of great importance as it is both fetal diagnostics and the first time you get a visual picture of your fetus. Women participating in the study stated the support from a partner or support person during the ultrasound to be invaluable. It is described to be meaningful, as seeing the fetus can be of importance when it comes to the attachment between the child and parents. Attending the ultrasound alone contributed to emotions of loneliness, worry and a desire for support.

> *"/.../I would have liked to have someone with me on the ultrasound, I had an early ultrasound as I did the insemination and then I have been forced to be by myself and it has actually been a bit... It has increased the feeling of loneliness/.../." (P8)*

A few participants expressed their gratitude for the normal growth and evolving of their fetus. They expressed that it would be difficult to deal with complications and bad news on their own. Both dealing with the news themselves and then further on having to deliver the bad news to their partner.

6.4.2 Partner's health and its outcomes

The pregnant women described worry about their partner or support person becoming sick prior to giving birth, some carried out self-quarantine as precaution. Fear of having to give birth alone affected the pregnant woman's mental health for the worse, as they described being stressed and worried about the partners physical health. Pregnant women described being worried for their partner missing out on the experience of a new family member being born. Having a healthy partner was therefore described to be major to their own health.

> *"The only thing that worries me is if my partner gets sick when it's time to give birth and that he will not be allowed to accompany me, because then… I feel that he should be my safety and my support there and I want him to be there when our common child is born/.../." (P16)*

6.4.3 Partners perception

Women describe their partners to be valuable for them during pregnancy and parenthood. Including partners in the pregnancy gives the pregnant woman valuable support, safety and someone to share the experience with.

> *"It is of course… Sad. It's as big for him as it is for me, of course." (P11)*

When excluding the partners due to the COVID-19 pandemic, the pregnant women stated it to be more difficult for their partners to realize that they are expecting a child. The possible consequences may be that their partner is less prepared for the impact a newborn will have on their family constellation. Women spoke about early attachment during pregnancy between partner and child and the importance of it, they felt that the current situation did not enable the bonding between partner and child.

> *"All books you read say it's very important that the support person is involved and that the partner tries to connect, is involved in everything and tries to create attachment." (P3)*

6.5 Powerlessness in perinatal care

The pandemics effect on perinatal care evokes feelings of powerlessness in pregnant women. They described feeling powerless as the decisions affecting their pregnancy and perinatal care is out of

their control and leave them without support. The powerlessness affects their mental health for the worse.

6.5.1 Injustice

Some of the pregnant women in the study described feelings of injustice linked to the COVID-19 pandemic. These feelings were based on the lack of logic and double standards in the restrictions in society compared to the restrictions within perinatal care. Pregnant women stated all the things they can do in society. Nevertheless, they are most commonly were not allowed to have their partner attend check-ups in prenatal care. In some regions, the partner is not allowed to stay at the postnatal ward either, together with their newborn.

> *"/.../You can go to IKEA, you are allowed to go and work and I work with a group where there are 30 people/.../ You can do such things, you can travel on a plane as a pregnant woman, but you can't bring a healthy partner to an appointment with the midwife." (P17)*

The injustice in the restrictions contributes with feelings of frustration, irritation and powerlessness within the pregnant women. Pregnant women describe this to be amplified by the regional differences in restriction between hospitals maternity and postnatal wards and in the prenatal care.

6.5.2 Cancelled perinatal care

A small amount of the pregnant women described not being cared for accurately when the pandemic entered Sweden. One woman described her ultrasound checks being completely cancelled due to her physician closing the practice. One woman in need of a care from a gynecologist described the difficulty to find someone who could provide care.

> *"So I was supposed to go on several check-ups to check with the ultrasound, every two to three weeks in the beginning, but he shut down completely." (short laughter) (P3)*

All courses and education in person have been cancelled due to the pandemic. Some of the pregnant women, especially the nulliparous, experienced insufficient support from the perinatal care. This when left without courses including preparation for birth and parenthood as these are in ordinary arranged by prenatal care. Information about the online material that actually has been produced as a

complement had not reached these women. They felt a heavy burden in finding and learning themselves about the preparations for giving birth and parenthood.

> *"I understand that the health care has been pressured and so on, but it doesn't feel like they have tried to make the most of the situation, to offer online courses or whatever, it might be… It doesn't feel like they have done everything in their power, they have just cancelled everything and hoped that it all will all go back to normal again." (P2)*

Many of the pregnant women used digital communications as a compliment to the partners absence with a satisfying outcome. In contrast, some women have felt let down when the prenatal care has neglected women to use digital ways to include their partners in their visits to the midwife. They described being disappointed in health care not enabling an alternative for partners participation in the pregnancy.

A few pregnant women described themselves as the link between the prenatal care and the partner. They expressed that it became their responsibility to inform the partner about everything he missed during the visits in the prenatal care. The pregnant women also had to take responsibility for thoughts or questions their partner had and present them to the midwife. This added yet another responsibility to the pregnant woman.

6.5.3 The need for an alternative

The COVID-19 pandemic has stated the need for alternatives to giving birth in a hospital. A few pregnant women in the study expressed a strong desire to give birth at home. They wanted to give birth where they felt safe, in presence of midwives, their partner and support persons they wished for. This with a fair distance to the corona virus.

> *"I think if it hadn't been for Corona, then I would probably just have liked the situation, though it was annoying. But now that I'm also facing the threat that I'll have to give birth by myself, then it will be like this: No, I just won't do it." (P14)*

Women were affected by feeling powerlessness and sadness for not being able to give birth as they wished for. Homebirth has not been an option in Sweden during the COVID-19 pandemic. Women

who wish to give birth at home had to pay for it themselves. The lack of alternatives together with a wish for homebirth might increase the risk of women giving birth at home unassisted, which were expressed by one woman in the study.

> *"But partly due to the pandemic, because I felt that I'll feel safest giving birth at home, I don't have to go out, I don't have to go to a hospital in the middle of everything. So, I was totally into it and we checked everything, and it looked good, but then it would just cost too much money…" (P17)*

6.5.4 The midwife's information

Even though there is an ongoing pandemic, a majority of the pregnant women described adequate support in one-on-one meetings with their midwives. One woman met four different midwives in prenatal care during her pregnancy which was a contributing factor to insufficient care with limited support and confounding and conflicting information.

> *"Also, it's so unclear what will apply when it's time to give birth, I have met so many different midwives who say different… The one who I have meet most frequently, said that "if any of you have symptoms of COVID-19 then it will be space suits so you can still be together", the second one said that "no, you should probably prepare to give birth alone", the third one said "no, but you should not have to give birth alone, you will get support from someone else in such case" and it's so… ah, it feels insecure. Feels really bad actually." (P14)*

Many women claimed, they obtained answers to their questions by their midwife. However, they perceived it as their responsibility to ask questions, to receive the desired information. In contrast to this, some women described receiving information without requesting it. The information the pregnant women received has been mainly practical, about the restrictions at the maternity care and postnatal care. However, this information has in some cases been described as insufficient as well. The pregnant women described that the insufficient information might be due to the midwives not knowing what the future holds when it comes to restrictions in perinatal care, everything is constantly changing. This created an uncertainty in how their care in the maternity and postnatal ward might be affected by current restrictions. Furthermore, it was described that it seemed like the insufficient information depended on lack of cooperation between maternity care and prenatal care.

The lack of knowledge and research in the area could be a factor to limited information from the midwife. However, some pregnant women expressed the importance of acknowledging the lack of knowledge. This to reassure women that the midwives are keeping up with research and current restrictions and will provide information when possible. This is described to create safety and trust within women.

6.6 Media and COVID-19

The media's reporting of the COVID-19 pandemic has been, and still is, extensive which has sometimes been described as overwhelming by pregnant women. The ability to absorb all the information is described as limited, which has led to pregnant women sometimes consciously avoiding exposing themselves to the news. Social media has been described to be an important source of information among some pregnant women.

6.6.1 Media's impact on pregnant women

The pandemics' existence has affected the pregnant women and contributed to concern. Initially, the majority of women in the study were highly engaged in media's reporting of the COVID-19 pandemic. To various degrees they were affected by the news, some pregnant women described having a harder time keeping distance to the reported events than others. This led to different severity in effect of mental health. Feelings of worry were described in different degrees.

> *"In the beginning it felt like they were ruining one's life. Because I had the notice function on my phone, from SVT and Aftonbladet, and every time they announced, now this many people have died, now this has happened, now there is one more pregnant woman in the ICU and that newborn died in England, it tore me apart. It has only made things worse for me, so I had to turn off the notification function." (P12)*

The initial engagement in the media's reporting especially about pregnancy, fetus and newborns unanimously decreased among the pregnant women. They described not being able to handle the high flow of information and shut off in order to protect themselves from loss of energy. Today, six months after the pandemic reached Sweden, they read less or have stopped reading the media's reporting on the COVID-19 pandemic.

"Yes, so in the beginning I read everything. I read everything, and especially all… About pregnant women, children and fetuses and so on, there was an article about it quite early. I read it all. But then I just… Stopped reading. There was too much information." (P5)

6.6.2 Social media and stories from others

Media's reporting contributed to the information reaching pregnant women. Nevertheless, in today's modern society, social media contributed to the information flow with various qualities. Some women in the study declared taking part of information from groups with other pregnant women on social media. In addition, pregnant women described receiving more information from social media groups than in prenatal care. The information flow influenced pregnant women because the content in the information have affected them in several ways. They may be negatively affected by stories of others and by receiving incorrect information.

"An acquaintance went through an emergency caesarean, /.../, the father was not allowed to see the child or his partner for several days before she was discharged. And that's very… very traumatic, I can imagine. You get anxious when you hear other people's stories." (P2)

Stories and experiences were shared and may have contributed with both positive and negative aspects. Social media with groups of like-minded people is described to give pregnant women a context, communion and support.

7 Discussion

7.1 Method discussion

7.1.1 Study design

To answer the research question, a qualitative method was considered appropriate. By applying a qualitative method, our belief is having reached individuals' experiences that can contribute with a wide and deep understanding of how pregnant women's mental health has been experienced during the pandemic. With an inductive design, we aimed for a description including a broad understanding of the women's experiences during the pandemic and not being limited to a theory being the basis of a deductive design (Henricson & Billhult, 2017). Lack of research is one of the motivations, to why a literature review would not be a preferable method.

Conducting qualitative research, inevitably involves the researchers, who impact the data. Prior to conducting the interviews, we discussed and reflected on our earlier knowledge and professional experiences (e.g. in prenatal care) as our approach and understanding is involved in the process (Henricson & Billhult, 2017).

7.1.2 Sample

Using a convenience sample can be considered a limitation because the people selected from the specific context at a specific time may have affected the variety wished for in qualitative research. A variety in experience is more important than the quantity of participants (Henricson & Billhult, 2017). The convenience sample might be affected by the time ads were published and in which groups the ads were published in. The limited time for recruitment of participants and interviews made this a reasonable method to use. The variety of chosen Facebook groups may have contributed to heterogeneity of the sample, which is preferable in qualitative research where a variety of the phenomenon will be described (Henricson & Billhult, 2017). Due to rules in some Facebook groups, we were not given permission to publish our ad in all of the asked groups. This made recruitment more difficult. Furthermore, there was an unintended snowball sampling. The ad was shared, and acquaintances shared it to their friends, which was not actively planned. The snowball sampling had a positive contribution to the sample of 16 pregnant women.

We both noticed a beginning to data saturation after 12 interviews as the variety of the phenomenon decreased. The reached data saturation strengthens the number of participants in the present study (Moser & Korstjens, 2018). Out of the pregnant women participating in the present study, a majority were university or college graduates and all except one had Swedish nationality. This homogenous

group might be a limitation in the present study. A more socio-economic heterogenous group may have contributed to a more nuanced result.

7.1.3 Data collection

Semi-structured interviews were conducted, using an interview guide (Appendix 3). A pilot interview was then conducted to confirm coverage and relevance (Moser & Korstjens, 2018). The pilot interview is included in the results as there were only small changes to the interview guide, which indicates the quality of the interview guide. Applying a semi-structured interview increased flexibility because the questions did not have to be asked in a specific order and could be followed up with suitable follow-up questions (Kristensson, 2014). By asking open-ended questions, the pregnant women were given the opportunity to speak freely about the questions and thus provide meaningful, nuanced answers. We acknowledge having limited experience in doing interviews. However, both of us have several years of experience of working as registered nurses and meeting people in distress, which can be valuable knowledge during the interviews.

According to Moser and Korstjens (2018) it is important to establish a relationship in the beginning of the interview, this to make it easier for the participants to share their experiences. A reflection is that conducting the interviews online might have made it more difficult to establish a relationship and gain their trust. However, our experience is that the women have shared their experiences to a surprisingly large extent. The interview may have been appreciated by some women because they had time to talk about their feelings and been listened to. The closeness that occurs in an interview can create methodological risks that the interviewer influences the outcome (Kjellström, 2017). The risk includes participants adapting their answers to what they believe the interviewer wants to hear (social desirability) together with the position of power the interviewer has (Kjellström, 2017). During the interviews, we were aware of this and tried to make the participants feel comfortable. We both fulfilled eight interviews each, two persons with different interview techniques and ways to meet people might have affected the data collection and might be interpreted as a limitation.

7.1.4 Data analysis

We found thematic analysis to be an appropriate method for analyzing data answering the research question. It is theoretical freedom and flexibility made it possible to identify and show women's experience of being pregnant during the pandemic in a broad, including and descriptive way. According to Braun and Clarke (2006), it is of importance that the researchers familiarize themselves with the data. This has been accomplished by doing the interviews, transcribing and analyzing all

collected data by ourselves, which can be considered a strength in the present study. We have moved back and forth between the data and the analysis procedure, which Braun and Clarke clarifies is important not to miss any data. Doing the analysis on the computer using tables for coding might have strengthened the analysis as it seems the risk of losing data might be smaller. The collected data was considered enough to do the thematic analysis as we could identify patterns to create themes and sub-themes. Our supervisor i.e. another profession has been auditing the data analysis in different phases of the analysis which is contributing to credibility and dependability (Henricson, 2017). Two persons doing the analysis together decreases the risk of one person's pre-understanding affecting the result (Henricsson, 2012). Quotes from several participants representative for the content within themes or sub-themes were included in the result as a way to increase the credibility and strengthen the result (Kristensson, 2014). However, quotes in the report had to be translated from Swedish into English which might have affected the quotes. To prevent changes of meaning in the quotes we have supported each other with the translations when it has been difficult. We believe the process of the analysis to be clearly described and motivated. We have strived to be neutral to collected data as this strengthens the confirmability. The result can be transferable to other contexts to some extent (Mårtensson & Fridlund, 2017). However, it might be limited to the Swedish way of approaching the COVID-19 pandemic as it has been seen to be unique from a global perspective.

7.1.5 Ethical discussion

Beauchamp and Childress four central, ethical principles of research have been applied in the present study (Kristensson, 2014). The principle of respect for the participants' autonomy has been followed by us emphasizing participation in the present study as voluntary and that they have been able to leave the study at any time without any further explanation or consequences. The consent has been given after the participant has received information. The beneficence principle means that the benefit of the research must always outweigh the risk and that a careful consideration must have been made in advance (Kristensson, 2014). We reflected on the fact that the interviews might raise feelings and emotions and had a plan to refer women to prenatal care or psychiatric emergency if needed. However, we never had to apply it. We, like many of the women, believe that this is an important topic that can give healthcare professionals an increased understanding and knowledge of how to deal with women during the current COVID-19 pandemic and in what they need in general. The risk of harm (the non-maleficence principle) is minimal as we have complied with current legislation regarding confidentiality and data management (Kristensson, 2014). The information has been stored without access to unauthorized persons, on our mobile phones and computers with passwords.

Participation in the present study has taken place on equal terms and we have strived to treat all participants fairly, which is covered by the principle of justice (Kristensson, 2014).

7.2 Result discussion

The main findings describe pregnant women's lack of support both from health care and their partner. Partly, due to restrictions in the perinatal care and in society. Their mental health is described to be affected mainly in a negative way as they express emotion of loneliness, worry and powerlessness. Existing research shows that pregnant women are mentally affected by the COVID-19 pandemic with higher levels of depression and anxiety (Berthelot et al., 2020; Thapa et al., 2020; Durankuş & Aksu, 2020). There is limited research on in-depth descriptions of which factors affect their mental health and how they experience their mental health during the COVID-19 pandemic. We therefore aimed to describe how pregnant women experienced their mental and support in order to provide a greater understand for their need of support and care.

Important findings of the present study are that the COVID-19 pandemic had an impact on a majority of pregnant women's feelings and emotions. The results in the present study strengthen that pregnant women experienced their mental health to be primarily negatively affected by the pandemic. One of the main findings was lack of partner support mainly because of the restrictions preventing the partner from being included. Feelings of loneliness in the pregnancy together with fear of loneliness through childbirth and the first postnatal period was described by pregnant women in the present study. Pregnant women described worries about the current situation and how it would affect them. Feelings with a negative effect on their mental health were expressed related to the restrictions in the perinatal care due to the COVID-19 pandemic. Examples of such feelings were fear, frustration, powerlessness, injustice, unexpected sadness and loneliness. However, there have been some positive aspects to the pandemic as well such as spending more time at home and with their partner.

7.2.1 Exclusion of the partner

One main finding is the women's perception of lack of partner support as the partner is involuntarily excluded from perinatal care and therefore is not given the opportunity to support the pregnant woman. Doing check-ups during pregnancy on their own creates feelings of loneliness and worries. The partner's health is an important topic as it affects the partners participation when giving birth, if the partner were to have symptoms of COVID-19. The women do not want to do things alone, they want the support from their partner.

WHO (2018) recommends a companion of choice for all women throughout labour and childbirth. Bohren et al. (2017) showed that women who had continuous support during labour were more likely to have a spontaneous vaginal birth, shorter delivery, less likely to have adverse obstetric outcomes and shorter time from birth to initiation of breastfeeding. In the long term, there were decreased risks for low postpartum self-esteem and postpartum depression (Bohren et al., 2017). Karavadra et al. (2020) confirms the importance of partners' presences in maternity care and pregnant women described worries for their partners not being allowed to be present during the delivery and a fear of giving birth alone due to the COVID-19 pandemic. Stapelton et al. (2012) states that a good support from the partner during pregnancy can affect the mothers' well-being and mental health postpartum in a positive way. Furthermore, a good partner support and a good relationship between the becoming parents during pregnancy may contribute with benefits to the newborn (Stapelton et al., 2012).

Pregnant women describe a strong desire to be accompanied by their partner, it can therefore be important to describe the partners perspective. Wells and Sarkadi (2012) state that fathers felt that the hospital staff did not appreciate and recognize their roles fully, despite their feelings that they are necessary for their infants' life. Fathers also added that they did not feel as though the hospital staff worked closely with them (Wells & Sarkadi, 2012). A Swedish review article by Wells (2016) note that fathers felt excluded even prior to the COVID-19 pandemic, as midwives and nurses sometimes do not acknowledge or focus on father's needs. Lack of support can leave fathers feeling helpless, anxious and lead to them being less involved in their child's care. This might pressure mothers to take on more child-rearing responsibilities (Wells, 2016). This strengthens the importance of including the partner, not only to fulfill the women's need of support, but also for the partners sake.

We have reflected on the fact that it is a norm in Sweden that the partner (or other support person) should be present during the birth as a support person. We therefore believe the fact that we conducted the present study in Sweden is influenced by this social and cultural norm, which emphasizes that the partner is very important in the context of childbirth and in perinatal and postnatal care. This strengthens the importance of a debate regarding the partners presence throughout perinatal care, the importance of support for the woman and being present at your own child's birth.

7.2.2 Feelings of loneliness

The result described the pregnant women in the present study feeling loneliness in several areas. The feeling that no one except other pregnant women could truly understand their situation strengthened the feeling of loneliness. There was an extensive fear of having to undergo a birth and staying at the

postnatal ward alone. Women described it as a vulnerable event and the exposure made them feel lonely. Women stated feeling lonely on their journey to becoming a parent and were not able to share the experience with their partner as they wished, and they felt like their experience of being pregnant was lost.

When Goark et al. (2020) explored loneliness in the United Kingdom during the COVID-19 pandemic, prevalence of overall loneliness in life was 27 % and prevalence for being lonely the last week was 49 %. Loneliness was more common in the group of young people. Living with a partner decreased the odds of being lonely. Anamneses of mental illness increased the risk of feeling lonely (Groark et al., 2020). This confirms the result of loneliness, the pandemic creates more loneliness. Beutel et al. (2017) explored loneliness and its effect on the general population, resulting in a rate of 10,5 % reporting some degree of loneliness. Depression and anxiety were more common in the group of people feeling the loneliest (Beutel et al., 2017). Although Beutels et al. study is conducted on the general population it might be possible to assume loneliness, depression and anxiety being associated even in a group of pregnant women. As stated in the result, pregnant women are in a vulnerable position in this pandemic with loneliness being a main contributing factor. Therefore, it is important to identify the elevated risk of depression for pregnant women during this time. Social isolation together with loneliness has been seen to correlate with depression among young people and when analyzing the factors separate loneliness had the strongest correlation to depression (Matthews et al., 2016). The COVID-19 pandemic exposes pregnant women, many experienced some degree of social isolation and simultaneously described feelings of loneliness, which in addition contributes to an elevated risk of depression. This motivates the need for support from partner, health care, friends and family in feelings of loneliness and therefore depression and anxiety.

7.2.3 Powerlessness in the perinatal care

Pregnancies are rare events in life, pregnant women most often experience it together with their partner. However, this has not been the case during the COVID-19 pandemic. The pregnant women have been completely powerless for the structure and the decision makers whose decisions affect their life events. Linden and Maimburg (2020) stated the importance of including the women in the formation of the perinatal care to actually fulfill their needs, even in uncertain situations as a contagious outbreak. The midwife has provided the women with good support due to the circumstances, although the women in general asked for more information. The entry of the COVID-19 pandemic has made perinatal care to rearrange and alternatives have been produced, although it

has not reached all women. The illogical differences in restrictions between perinatal care and the society led to extensive feelings of injustice. This contributed to women feeling forgotten in society, left out. Pregnant women's perception of the perinatal care has affected their mental health in a negative way, feeling worried, less supported and scared.

The COVID-19 pandemics entry and the rapid evolvement put the health care to test. To ensure a functional perinatal care and prevent from transmission of COVID-19, several changes such as partners not being allowed to accompany the women to prenatal visits and being sent home after the birth were applied. How these changes affected the health of the women was not understood (Linden & Maimburg, 2020). The rapid changes in perinatal care might have been reasonable in the beginning of the pandemic due to the uncertainty in how it was to affect society, to provide for safe and adequate care were the primary purpose in the beginning. Six months in the pandemic, restrictions should be adjusted to satisfy the needs of pregnant women (Linden & Maimburg, 2020). We argue that partners should be allowed to be involved and be welcome in perinatal care as it can be considered a right for the women to bring support and include the other parent. It is clearly stated that pregnant women's mental health is affected for multiple reasons, which can have effect both in short and long term with severe mental illness as a consequence. With accurate safety measures the partner should be welcome to accompany the woman in the prenatal care. There are existing examples of clinics in Sweden who have successfully allowed partners in the perinatal care. Pregnant women's autonomy should be cherished, even in situations like this, in fact it is of uttermost importance that it is cherished in situations like this (Linde & Maimburg, 2020).

Some women wished for alternative care; being able to give birth at home and not be forced to go to the hospital risking transmission of COVID-19. Although giving birth at home has to be paid for on your own compared to the maternity care in the hospital which is free of charge. Karavadra et al. (2020) confirms the finding of wishes to give birth at home to avoid exposure to the virus. Pregnant women in Karavadra et al. study show a stronger fear of transmission in the hospital compared to findings in the present study as women were scared of going to the hospital. The trust for the Swedish healthcare may be stronger in Sweden compared to the United Kingdom. In addition, the difference can depend on the differences in approaches towards COVID-19.

With increased knowledge of the pandemic and COVID-19 it is important to acknowledge the women's need of support and power to affect the perinatal care. Current restrictions cannot be the

new normal in perinatal care as it can give psychological effects on the pregnant women in a short and long perspective.

8 Clinical applications

The present study's findings may be applied by clinicians in perinatal care, as a guidance in how to satisfy pregnant women's need during the COVID-19 pandemic. In addition, it can make clinicians aware of the problem and make them be attentive to signs of worry, anxiety, and depression. The findings can be valuable for decision makers within the perinatal care, as it clearly states needs for improvement. It is of great importance to act now, as pregnant women may be suffering during the pandemic and there is an urgent need of changes. The pregnant women's mental health in correlation with the pandemic is a subject where more research is needed. Quantitative research could be carried out to get an idea of the extent of described problems. Research on various interventions that could conceivably help women and evaluate them should be carried out.

9 Conclusion

The study's result conclude that pregnant women's description of their perceived mental health is mostly negatively affected by the COVID-19 pandemic and following restrictions in society and in perinatal care. Described feelings of loneliness, worries and uncertainties may be signs of mental ill-health, which can affect the pregnant women, their child and family constellation in both short and long perspective. The findings show an urgent need for evident guidelines and information for pregnant women. In addition, the pregnant women must be allowed to have adequate support and care throughout the perinatal care to secure beneficial outcomes.

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Appendix

Appendix 1

Du som är gravid, 18 år eller äldre och bor i Sverige inbjuds till att delta i en studie. Studien syftar till att undersöka gravida kvinnors psykiska hälsa under coronapandemin Covid -19. Vi är två barnmorskestuderande vid Karolinska Institutet som genomför studien som vårt examensarbete. Deltagandet omfattar ca 45 minuters intervju och kan ske via ett fysiskt möte eller på distans via Zoom, Skype etc. Data kommer att lagras och analyseras och dina uppgifter är sekretesskyddade och ingen obehörig har tillgång till dem. I bifogat informationsbrev finns mer information.

Om du har frågor om studien eller önskar delta är du välkommen att kontakta oss via messenger alt. e-post:

Matilda Andersson, leg. sjuksköterska, matilda.andersson.2@stud.ki.se

Sheima Becirevic, leg. sjuksköterska, sheima.becirevic@stud.ki.se

Tusen tack för er tid!

p.s. Vår studie är en del i en större internationell studie som syftar till att undersöka och förbättra gravida kvinnors psykiska hälsa under Covid -19 (Coronapandemin). Om du har tid över får du gärna fylla i den här enkäten som riktar sig till dig som varit eller är gravid under pandemin. Länk: https://hku.au.qualtrics.com/jfe/form/SV_3C71qhBAy4Sjwrj d.s.

Appendix 2

Information om studien Covid -19 och gravida

Brevet innehåller information om en forskningsstudie om Covid -19 och gravidas psykiska hälsa. Denna studie är del av ett internationellt forskningsprojekt.

Inbjudan

Du som är gravid, över 18 år och bor i Sverige inbjuds till att delta i denna intervjustudie som syftar till att undersöka den psykiska hälsan relaterat till Coronapandemin, Covid-19.
Vi som kommer genomföra intervjuerna heter Sheima och Matilda och läser sista terminen på Barnmorskeprogrammet vid Karolinska Institutet.

Bakgrund

En av fem kvinnor utvecklar psykiska hälsoproblem relaterade till graviditet och förlossning. Bristen på erkännande av problemet kan ha allvarliga konsekvenser för både mor och spädbarn. Det övergripande syftet med denna studie är att utforska gravida kvinnors psykiska hälsa under coronapandemin.

Deltagande

Denna del av projektet består av en intervju (fysiskt möte alternativt online) och riktar sig till gravida kvinnor i Sverige. Vår önskan är att genomföra intervjuerna under september månad. Deltagandet omfattar ca 45 min intervju relaterad till gravidas psykiska hälsa och den eventuella inverkan av coronaviruset Covid -19.

Frivilligt

Det är frivilligt att delta i studien och du kan när som helst avbryta ditt deltagande utan närmare förklaring. Du bestämmer själv i vilken usträckning du vill delta genom att endast svara på vissa frågor. Ditt val att delta och dina svar i studien påverkar inte din vård eller framtida behandling.

Konfidentiellt

Svaren kommer att behandlas konfidentiellt så att inte obehöriga kan ta del av dem. Dina svar kommer spelas in och sedan skrivas ut. Allt material som samlas in behandlas konfidentiellt, vilket innebär att endast forskarteamet kommer att ha tillgång till de uppgifter som samlas in. Data kommer att kodas

innan den lagras och analyseras. Dina uppgifter är sekretesskyddade och ingen obehörig har tillgång till dem. Karolinska Institutet ansvarar för hanteringen av all data och skyddas av personuppgiftslagen (PuL). Resultaten sammanställs och redovisas på gruppnivå och kan inte spåras tillbaka till dig i slutgiltlig text. All personlig information som samlats in genom studien (personlig, kön, fullständigt namn) hanteras av den allmänna dataskyddsförordningen GDPR 2016/679. Detta är en förordning i europeisk lag om dataskydd och integritet i Europeiska unionen och inom Europeiska ekonomiska samarbetsområdet.

Etiskt godkännande

Projektet har etiskt godkännande via Regionala Etikprövningsnämnden i Stockholm (Dnr: 2019-01170).

Betydelse

Studien kommer att ge värdefull kunskap om Coronapandemins inverkan på gravida kvinnors psykiska hälsa. Denna kunskap kan ligga till grund för planering av vårdens innehåll framöver. Resultatet av studien kommer att presenteras i form av en magisteruppsats och vetenskaplig rapport. Ersättning utgår inte i samband med deltagande, men du bidrar till värdefull forskning och vår utbildning.

Samtycke

Jag har tagit del av ovanstående text. Genom att underteckna följande formulär godkänner jag mitt deltagande i studien om gravidas psykiska hälsa och coronapandemin Covid -19.

Datum:_____

Namn/Underskrift:_____

E-mail adress:_____

Ni är välkomna att kontakta oss vid eventuella frågor:

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Appendix 3

COVID-19 pandemins och gravida kvinnors upplevda hälsa

Kort presentation om en själv.

Syftet med studien är att beskriva hur gravida kvinnor i Sverige upplever sin psykiska hälsa under coronapandemin. Det kan vara så att jag bekräftar dina svar väldigt kort, är det något du vill prata om efteråt kan vi absolut göra det.

Muntligt gå igenom skriftligt samtycke med deltagare:

"Intervjun väntas ta 20-40 min. All information hanteras konfidentiellt och forskningsresultatet presenteras anonymt på gruppnivå. Du deltar frivilligt och får närhelst du vill, under intervjuns gång, avbryta din medverkan utan vidare förklaring."

Har du uppfattat informationen?

Innan vi börjar med intervjun, önskar vi att du svarar på några översiktsfrågor om din nuvarande levnadssituation.

<u>Bakgrundsvariabler:</u>

Ålder?

Civilstatus? Gift/sambo/i ett förhållande/singel?

Har du barn?

Vilken graviditetsvecka är du i?

Nationalitet, län:

Yrke:

Arbetstimmar på jobbet: mindre än 40 tim/v – 40 tim – mer än 40 tim (fråga om arbsituation?)

Utbildningsnivå: universitet/högskola – gymnasium – grundskola

Var fann du info om vår studie?

1. Hur har graviditeten varit hittills?
2. Hur skulle du beskriva din generella psykiska hälsa under de senaste 12 månaderna?
3. Kan du beskriva hur du mår när du inte mår psykiskt bra (generellt)

4. Har du någon tidigare psykisk ohälsa? Ev. följdfråga: var det längesen? Har du någon behandling för detta i dag?
5. Vilka faktorer eller händelser under de senaste 12 månaderna har påverkat din psykiska hälsostatus eller emotionella status mest? (Om det hänt något särskilt i ditt liv, dåliga som bra)
6. Kan du beskriva vad COVID-19 pandemin väcker för känslor hos dig?
7. Är du orolig för din hälsa pga. COVID-19?
8. Hur påverkas ditt psykiska mående av att vara gravid just denna period, under COVID-19 pandemin?
9. Vad har du för känslor och tankar gällande ditt barn i magen i relation till coronaviruset COVID-19?
10. Hur har restriktionerna inom mödrahälsovården påverkat din psykiska hälsa så här långt?
11. Vad har du för känslor inför förlossningen och eftervården/BB kopplat till coronapandemin?
12. Följdfrågor: vad för restriktioner känner du till om din valda förlossningsklinik? Hur tänker du att det kan påverka dig?
13. Har du fått det stöd du önskat under graviditeten från hälso- och sjukvården trots den pågående coronapandemin?
14. Har du fått den information om COVID-19 och graviditet från hälso- och sjukvården som du önskat?
15. Hur har Folkhälsomyndighetens restriktioner påverkat din psykiska hälsa? (Vilka känslor väcker det hos dig?)
16. Vad har dina närstående för tankar om att du är gravid under denna pågående pandemi?
17. Har coronapandemin påverkat ditt sociala liv och hur har det påverkat din psykiska hälsa? (Arbetsliv, resa/transport, socialt umgänge med vänner, fritid, familjeliv)
18. Hur påverkar medias information din psykiska hälsa i relation till coronaviruset COVID-19
19. Önskar du lägga till något till intervjun?

Tack så mycket för din medverkan!