



Fear of giving birth alone: Experiences of psychological distress, symptoms of anxiety and depression, and coping- strategies of childbearing women during COVID-19

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ABSTRACT

Background: Psychological distress during pregnancy is a well-documented risk factor for adverse maternal outcomes. Distress related to the COVID-19 pandemic may further increase the vulnerability of pregnant women to negative mental health outcomes.

Aim: To explore the mental health experiences of pregnant women, focusing on mental health outcomes, challenges related to the pandemic, coping strategies, and factors buffering mental health factors during the restricted COVID-19 lockdown period.

Methods: A mixed-methods survey study was conducted, examining symptoms of anxiety, depression, and burnout among 21 pregnant women. Qualitative data were gathered through open-ended questions about participants' experiences of challenges, coping strategies and buffering factors amid the pandemic. Symptoms of anxiety, depression and burnout were calculated, and qualitative data was thematically analyzed.

Results: Approximately one-third (24 %) of the respondents reported clinically significant levels of depression, 19 % reported clinically significant levels of anxiety, and 43 % reported experiencing burnout. All participants reported distress and emotional burden, including fear, worry, stress and anxiety related to the pandemic. Specific concerns such as fear of giving birth alone, fear of the consequences due to lockdown restrictions, insufficient information, disruption of prenatal healthcare services, and fear of miscarriage were prevalent among the participants. Social support, financial stability, stable relationships, adherence to daily routines, reduced stress and social demands, a calmer daily life, physical activity, and less work-related stress including working from home, emerges as buffering factors that aided women in coping with pandemic-related distress. **Conclusion:** Healthcare providers should prioritize stability, predictability, and minimizing disruptions to prenatal care. Broad-based screening is crucial to identify women at risk of depression, anxiety, and burnout. Recommendations for clinical pathways aimed at pregnant women are discussed.

Statement of significance

Problem	Psychological distress encountered during pregnancy is widely acknowledged as risk factor contributing to adverse maternal outcomes. Pandemic-related distress may exacerbate vulnerability to negative mental health outcomes for pregnant women.
What is Already Known	Numerous studies have documented adverse mental health outcomes, such as heightened emotional distress, increased

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What this Paper Adds	anxiety, and elevated levels of depression among pregnant women in comparison to pre-pandemic levels. Utilizing a mixed method approach to explore pregnant women's encounters with psychological distress, coping strategies and buffering factors amid challenges arising from the COVID-19 lockdown.
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Introduction

As the COVID-19 crisis unfolded in 2020, expectant mothers navigated the profound experiences of childbirth and maternity amidst stringent lockdown measures implemented to curb the virus' global spread. In the initial stage of the pandemic, pregnant women were identified as a cohort at elevated risk for severe complications stemming from COVID-19 infection when compared with nonpregnant counterparts (Smith et al., 2023a, 2023b; Qiao, 2020). Subsequent reports have underscored the association between COVID-19 infection and an increased susceptibility to maternal, fetal, and neonatal outcomes, encompassing low birthweight, preeclampsia, stillbirth, and preterm birth (Allotey et al., 2020; Ciaponni et al., 2021; Mullins et al., 2021; Smith et al., 2023a, 2023b; Villar et al., 2021; Vouga et al., 2021; Wei et al., 2021). Furthermore, the presence of underlying chronic conditions and specific comorbidities has been identified as an additional factor contributing to heightened vulnerability to the severe COVID-19 disease (Liu et al., 2020; Mirbeyk et al., 2021; Ryan et al., 2020). The susceptibility extends to higher incidence of hospitalization and the necessity for mechanical ventilation (Martine-Portiall et al., 2021; Sattari et al., 2020).

In addition to the somatic health repercussions, the adverse effects of pandemic-related psychological distress among pregnant women have emerged as a significant concern. Pregnant women, already considered a high-risk group for psychological distress during ordinary times (Faramarzi et al., 2015; Skouteris et al., 2009; Van den Bergh et al., 2020), face potential ramifications of both short- and long-term health outcomes (Molgora et al., 2018; Robertson et al., 2004). Notably, the prevalence of birth-related fear, a common experience among pregnant women in pre-pandemic periods, is closely associated with heightened maternal psychological distress (Dencker et al., 2019; Molgora et al., 2018; Nilsson et al., 2018; Robertson et al., 2004). Moreover, insufficient social support during pregnancy has been consistently linked to compromised mental health and an elevated likelihood of postnatal depression (Li et al., 2017; Tani and Castanga, 2017; Zamani et al., 2019; Zhou et al., 2021; Webster et al., 2011). This underscores the intricate interplay between psychosocial factors and the mental well-being of pregnant women, particularly during times of heightened stress such as the COVID-19 pandemic.

The substantial shifts in daily life routines following the COVID-19 outbreak, such as loss of social support, restricted access to maternity care services, and the necessity of self-isolation, have heightened vulnerability among pregnant women (Tania et al., 2023). A growing body of literature has focused on investigating the impact of pandemic-related factors on maternal psychological distress, revealing a widespread increase in emotional distress, anxiety symptoms, and depression among pregnant women compared to pre-pandemic levels (Corbett et al., 2020; Khoury et al., 2021; Lebel et al., 2020; López-Morales et al., 2021). Loneliness and insomnia, and an increased prevalence of postnatal depression have also been reported (Barbosa-Leiker et al., 2021; Corbett et al., 2020; Giesbrecht et al., 2022; Ostacoli et al., 2020; Mortazavi et al., 2021).

Fear of COVID-19 infection and stress associated with feeling unprepared for childbirth due to pandemic restrictions have been identified as pandemic-related pregnancy stressors (Preis et al., 2020; Sahin & Kabakci, 2021). Family separation, self-isolation, reduced social support, limited physical contact with the newborn, and the absence of a birth partner present at birth were among the primary concerns reported by pregnant women during the strict lockdown period (Fumagalli et al., 2022; McKinlay et al., 2022; Sahin & Kabakci, 2021). In addition, emotional difficulties associated with expectations of childbirth and concerns related to giving birth during the pandemic, such as fear, sadness, and uncertainty have also been reported (Ravaldi et al., 2021). Expectant mothers in their second or third trimesters, first pregnancies, and those with pre-existing chronic health conditions have shown elevated levels of fear related to COVID-19 infection (Giesbrecht et al.,

2022). Pregnant women who expressed heightened concerns regarding childbirth were particularly susceptible to depression and anxiety during the pandemic, especially if they had pre-existing mental health problems or a history of psychological disorders (Ravaldi et al., 2021).

During lockdown periods, the role of protective factors and coping strategies becomes crucial in influencing how pregnant women navigate pandemic-related challenges. A study reported that 34 % of women found solace in the lockdown and isolation, considering it a welcome respite from the fast-paced demands of everyday life (Milne et al., 2020). Furthermore, the significance of social support and nurturing relationships has been underscored as a crucial buffer in addressing the unique challenges posed by pregnancy and the changes brought about by the pandemic (Khoury et al., 2021; McKinlay et al., 2022). In summary, while lockdown periods have contributed to negative psychological distress for many expectant mothers, some women have discovered positive experiences associated with a more relaxed and unhurried pace of life.

The present mixed-methods study aimed to explore pregnant women's subjective experiences of mental health outcomes, pandemic-related challenges, coping strategies, and positive mental health outcomes during the COVID-19 lockdown. Twenty-one pregnant women participated by completing a semi-structured online questionnaire. The questionnaire encompassed an assessment of mental health outcomes, alongside open questions designed to elicit detailed accounts of their experiences. Participants were encouraged to share insight into the reasons and factors associated with mental health challenges, as well as to provide helpful coping strategies and positive mental health outcomes.

Methods

Sample characteristics

This study drew upon self-report data from 21 pregnant women who completed a semi-structured questionnaire during a stringent distancing phase, encompassing lockdown and social distancing measures. All participants provided informed consent to participate in the study. Data collection occurred approximately one year after the onset of the pandemic (January-February 2021). These participants constituted a subset of the larger COVID-19, Mental Health, and Adherence Project (MAP-19), an ongoing longitudinal investigation into psychiatric symptomatology in the general population and vulnerable subgroups during the pandemic period (Ebrahimi et al., 2021). The study adhered to approved research protocols, as granted by the Norwegian Regional Committee for Medical and Health Research Ethics (Reference: 125510) and was conducted in accordance with the Declaration of Helsinki.

Measures

Demographic data encompassed participant's age, gender, ethnicity, education, marital status, and the number of children. Participant's adherence to distancing measures was assessed by querying the number of weeks they had followed these measures since the initial implementation in March 2020. This included voluntarily stay-at-home practices, quarantine, or isolation due to confirmed infection, contact with infected individuals, suspicion of infection, or returning from travel.

Depression was assessed using items from the Patient Health Questionnaire (PHQ-9) (Kroenke et al., 2001). Participants rated items on a 4-point Likert scale, ranging from 0 (*not at all*) to 4 (*almost every day*). A score of 10 or higher serves as the cut-off score indicative of probable depression with moderate severity (Kroenke et al., 2001).

Anxiety was assessed using items from the Generalized Anxiety Disorder scale (GAD-7) (Spitzer et al., 2006). The GAD-7 has demonstrated reliable internal consistency and validity for assessing anxiety across various samples and settings (e.g., Johnson et al., 2019). A score of 8 or

higher is considered the cut-off indicative of an anxiety disorder (Johnson et al., 2019). Burnout was measured by asking participants about the frequency with which they “felt burned out more than half of days or almost every day”. Responses were rated on a 4-point Likert scale, ranging from 0 (*rarely or none of the time*) to 4 (*most or all of the time*).

As part of the questionnaire, participants responded to a series of open-ended questions presented in free text format. These open-ended questions, widely utilized in large-scale surveys across various disciplines (Fielding et al., 2012; Singer and Couper, 2017) and proven to be an effective format for collecting thick, rich, descriptive information from respondents (Smyth et al., 2009), allowed participants to articulate their subjective perspectives and experiences concerning various health-related aspects during the pandemic. The questions were focused to:

- 1) experiences of challenges related to their mental health and well-being (i. e., “describe the factors that has contributed to any challenges you may have experienced in terms of your mental health and well-being during the ongoing pandemic”)
- 2) experiences of helpful coping strategies (i.e., “describe what have been most helpful in coping with any challenges you may have experienced during the ongoing pandemic”) and “give examples of coping strategies that have been helpful for coping with any pandemic-related stress and challenges you may have experienced during the ongoing pandemic.
- 3) experiences of any positive mental health outcomes of the pandemic (i.e., “describe any factors that have positively affected your mental health during the ongoing pandemic”).

The average number of words in the participants responses to these three main items in the questionnaire was 50,2 words, with a range from a minimum of 9 word to a maximum of 188 words. The qualitative data encompassed rich descriptions of respondents’ subjective experiences, perspectives, cognitions, and behaviors which makes the data suitable for thematic analysis (e.g., Braun and Clarke, 2006; Castleberry and Nolen, 2018).

Data analysis

Quantitative data analyses were conducted using R (Version 4.1.2). Descriptive statistics and prevalence rates for depression, anxiety and burnout were computed for each of the participants. Qualitative data analysis was performed utilizing the Nvivo 12 software.

Thematic analysis was carried out following the principles of interpretative phenomenological analysis (IPA; Smith et al., 2009). This method, chosen for its alignment with the study’s aim to describe the participants’ subjective experience and explore underlying emotions and cognitions (e.g., Bradley et al., 2007; Vaismoradi et al., 2016), followed a four-stage process of qualitative thematic analysis (e.g., Vaismoradi et al., 2016).

The three main themes derived from the questions’ content served as the overarching framework for the analysis, guiding the identification of subthemes within each of the main categories. The identification of emerging subthemes (i.e., attributes, descriptors, elements, or concepts) in the participants’ subjective experiences of challenges, helpful coping strategies, and positive mental health outcomes began by identifying meaning units in the data material. A deductively generated coding list was used to classify and organizing emerging sub-themes, followed by a comparison of codes to identify commonalities and patterns in the dataset. The identified subcategories underwent further refinement through repeated examination of patterns of similarity in the data (Vaismoradi et al., 2016). For transparency and consistency, two researchers (first and last author) coded the qualitative data for content and themes. Any discrepancies were resolved through discussion. Quotes from the data were categorized under thematic headings, providing an

overview of the extent to which specific experiences were shared across respondents’ responses. The quotes translated into English, were used to illustrate the data analysis process.

Results

A sample of 21 women aged 23–52 years ($M = 34.3$ years, $SD = 7.87$) participated in the study. All participants were self-identified as Caucasians. Among the participants, eleven of the women (52.4 %) were primiparous, while the remaining ten respondents (47.6 %) reported having at least one previous child. Two-thirds of the women in the sample ($n = 14$, 66.7 %) reported being married, cohabitating with a partner, or in a relationship, while one-third (33.3 %) reported being single. The majority of the participants ($n = 17$, 80.1 %) had completed a university degree and over half of the women ($n = 13$, 52.4 %) were currently employed in a full-time position.

Adherence to distancing measures

On average, the women reported socially and physically distancing themselves for 24.95 weeks ($SD = 11.93$, range = 0–42 weeks) since the initiation of COVID-19 measures in March 2020.

Symptoms of anxiety, depression and burnout

One-fourth of the women (23.8 %, $n = 5$) reported clinically significant levels of depression, scoring 10 or above during the assessment period. A slightly smaller proportion of the women (19.1 %, $n = 4$) showed clinically significant levels of anxiety, with scores 8 or above on the GAD-7.

In terms of burnout, 19.1 % ($n = 4$) of the women reported experiencing burnout on certain days, while additional 23.8 % ($n = 5$) reported feeling burned out almost every day or more than half of the recent days. The remaining 57.2 % ($n = 12$) of the women reported no burnout during the assessment period.

Qualitative analysis: experiences of challenges, coping strategies and benefits

The findings were categorized into three main themes, labeled as main theme 1–3, derived from the questions’ content. Subsequently, subthemes emerged from the analytic process, as summarized in Fig 1.

Main theme 1: Experiences of pandemic-related factors contributing to mental health challenges during the pandemic

The majority of women reported detrimental impact of various pandemic-related factors on their mental health and well-being. The commonly shared experiences characterized by distress, emotional burden and adverse psychological outcomes. Terms such as fear, worry, stress, and anxiety were frequently employed to articulate the multifaceted challenges to their mental-health struggles during the pandemic.

Fear, the most frequently mentioned term in the narratives, was associated with diverse aspects of their experiences that were closely related to potential outcomes of restrictions and distancing measures. This included fear of giving birth alone without the presence of partner or other social support, and fear of miscarriage. Additionally, fear, worry and stress were also expressed in relation to the risk of contracting the coronavirus while pregnant, along with potential consequences of such infection. Other factors such as limited access to healthcare, inadequate information from healthcare services, disruption of prenatal care routines, and a lack of follow-up from healthcare services contributed to heightened fear and worry among the women.

One participant described being pregnant during the pandemic as a “life changing and dramatic event”. Another expressed concerns about the repercussions of COVID-19 restrictions, not only for herself but also for her child, pregnancy, and the postpartum period, stating “I am

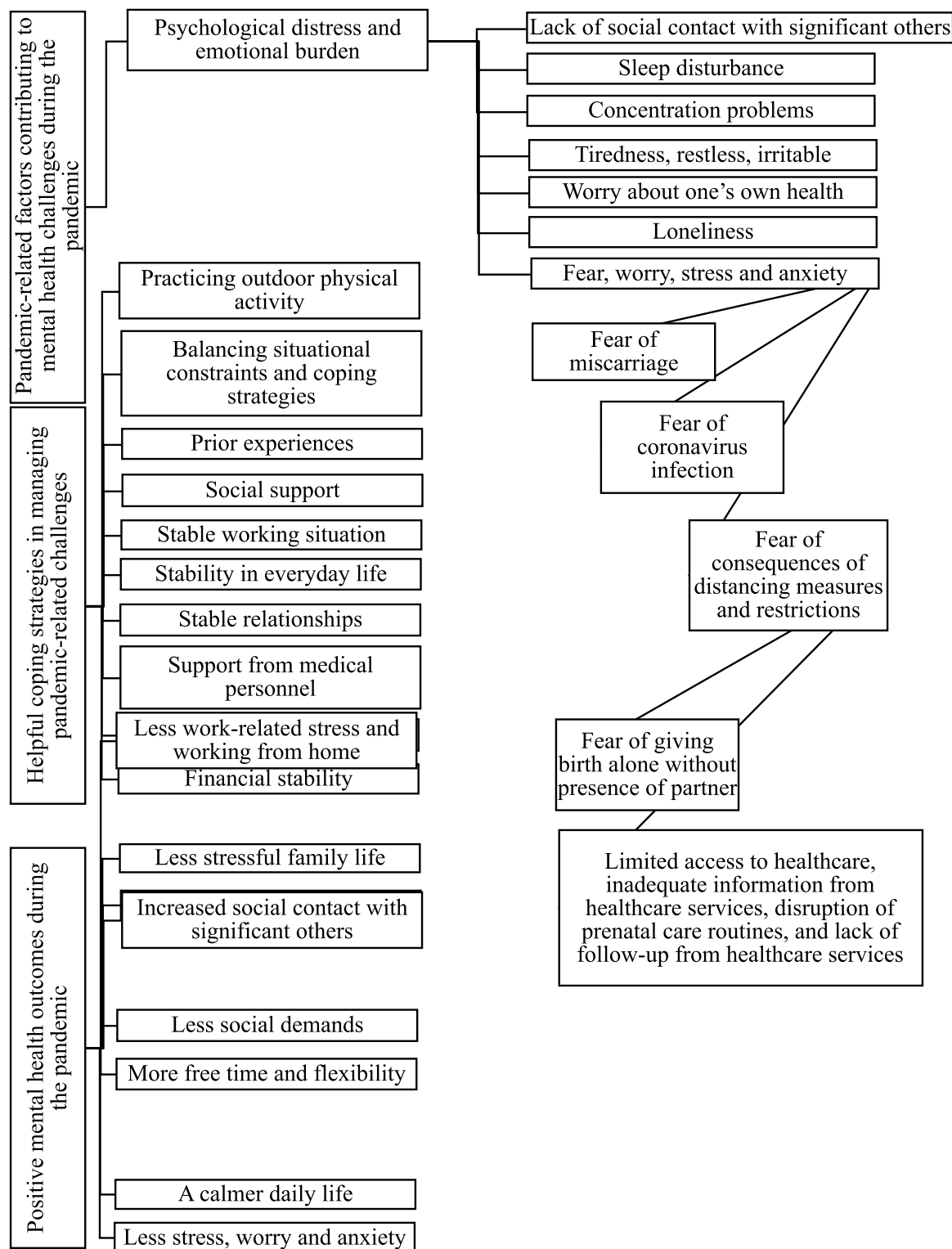


Fig. 1. Coding tree for thematic analysis; main themes and subthemes.

worried about the consequences of the corona restrictions for me and my child, my pregnancy as well as birth and the maternity period". Additionally, another woman shared fears related to the impacts of distancing measures, including insufficient information and unsatisfactory experiences with pregnancy care, stating, "There is little information for pregnant women and poor pregnancy care".

Notably, concerns regarding the consequences of restrictions materialized in the fear of undergoing childbirth without the presence of a

spouse or other forms of social support. This emerged as the most frequently mentioned worry among the women. One participant shared concerns related to the newly implemented restrictions, stating, "I have been a bit stressed about how the birthing situation will turn out - especially now with new restrictions". Another woman worried about the loss of social support from her partner during and after the birth, emphasizing, "I fear the risk that my partner cannot participate or be a support during and after the birth. I'm very worried about this in

particular". A third woman detailed how the uncertainty surrounding distancing measures was closely related to fear experiences and practical considerations such as mobility to the hospital, as well as uncertainties about the partner's presence during childbirth: "There is a lot of uncertainty about getting to the hospital and whether or not the partner can be present at the birth".

Many women expressed concerns about being infected by the coronavirus before giving birth. One woman reported a heightened concern about infection post-pregnancy, primarily due to the apprehension of delivering without any social support. Furthermore, for some women, the fear of being infected was closely connected to the potential consequences of giving birth alone. One woman expressed, "I am afraid of being infected by the virus or that my husband will be infected, forcing me to give birth alone". Another woman described similar concerns: "The problems I've had have mainly been related to concerns about the birth. In particular, it has been burdensome that there have been restrictions on whether the partner can be present (...). Constantly changing rules and the infection situation have worried me the most. It has felt very painful and lonely".

In addition to fears and worries, lack of social contact with significant others, loneliness, sleep disturbance, and concentration problems due to social distancing were mentioned as specific pandemic-related factors affecting the women's mental health and well-being. Many women described the burden related to the lack of social contact with significant others. For example, one woman highlighted the close connection between lack of social contact and well-being: "I am so tired. I need social contact to feel good". Another woman described the lack of social contact with other people as "the heaviest burden" during the lockdown phase. In addition, a third woman also described how the lack of social contact negatively affected her mood and affective state: "Lack of social contact makes me more restless, irritable, more worried about my own health. I spend more time checking my body for possible symptoms that mean I should stay at home".

Main theme 2: Experiences of helpful coping strategies in managing pandemic-related challenges

The participants shared various strategies they employed to navigate the unexpected challenges and additional stressors that emerged due to the pandemic lockdown. Many women highlighted the importance of finding a balance between situational constraints such as fears, stress, and worry and factors, and identifying factors that could help them cope with these strains. Stability in everyday life, encompassing stable relationships, a stable working situation, and financial stability, emerged as crucial elements aiding the women in coping with the stress and fear associated with the pandemic lockdown.

Digital platforms played a significant role in providing social support others and close family, which was consistently mentioned as a major factor that contributing to coping with stress and fear. Some women also emphasized the value of support and follow-up from medical personnel, citing examples such as, "Honest conversations with the midwife at the health center made me cope better with the pandemic restriction".

Furthermore, prior experiences and resilience were noted by some women as contributing factors that helped them cope with being pregnant during lockdown. One participant shared; "I've been alone a lot before and faced a lot of hardship in life already. So, I probably cope better with this situation than many others".

Main theme 3: Experiences of positive mental health outcomes

Among the positive mental health outcomes of being pregnant during a pandemic, the women mentioned some distinct buffering factors. Changes in daily routines appeared to contribute to less stress and a calmer daily life. Several women reported having more free time and flexibility due to changes in their daily lives. One participant described how a slower pace had positively impacted her well-being during the pandemic: "I've probably realized that I feel better at a slightly slower pace than going out three times a week. I think a slower pace has done

me good".

Experiences of reduced work-related stress and the ability to work from home were highlighted as significant benefits of the lockdown by almost all the women in the sample. For instance, one participant stated: "Home office or downsizing at work make my everyday life easier, calmer, less stressful, and less anxiety for my baby".

Another participant shared similar experiences of a calmer and less stressful family life because of working from home: "I work at home, so the family life is calmer, with less stress and good mornings". Less stress and anxiety due to working from home were also mentioned by another woman: "For me, the fact that it has been calmer around work has contributed to less stress and anxiety". Certain benefits related to working from home during the lockdown were also described by a third woman: "Working from home has generally been much more comfortable; I have been more efficient and concentrated better". A fourth woman reported that: "Working from home has helped my physical and mental health".

One participant compared the distress levels she experienced prior to the pandemic outbreak, noting that the current situation contributes to less stress and anxiety: "There is more calmness when it comes to work, which has contributed to less stress and worry, which I was very troubled with prior to the pandemic".

Physical activity and spending time outdoors was also mentioned as buffering factors contributing to well-being during the lockdown phases. For example, one woman responded: "Going for walks in nature and exercising have probably helped me the most".

Less social demands due to social isolation, increased social contact with significant others, and more time spent with partners were reported as factors contributing to the benefits of being pregnant during the pandemic. One participant mentioned prioritizing social contact with significant others: "Due to the restrictions, I have also had less contact with others than those to whom I feel strongly connected, and I feel that I have more energy for the people who are really close to me in life than what I have had before". Spending more time with their partners was mentioned by some women as a positive factor, as expressed by one participant: "More time alone with my partner has helped me a lot".

Discussion

This study provides insights into to experiences of childbearing women during the lockdown phase of the novel COVID-19 outbreak. At that time, uncertainties regarding the virus's transmission, mortality rate, and the duration of the lockdown measures prevailed, resulting in unique challenges for pregnant women globally. Similar to the general population, none of the participants had prior experience with a global health crisis, involving widespread physical distancing measures, limited access to healthcare services, prolonged social isolation, and loss of social support, all of which can adversely impact vulnerable individuals.

Approximately one-third (23.8 %) of the women in the sample reported clinically significant levels of depression, with a slightly lower percentage (19.1 %) reporting clinically significant levels of anxiety. Both rates were lower than those reported in the general population (Ebrahimi et al., 2021). Moreover, 42.8 % of participants reported being burned out almost every day, more than half the time, or on some of the recent days in the previous period.

While small study samples like ours limit direct comparisons with larger-scales cross-sectional studies, larger studies, such as Basu et al. (2021) reported even higher proportion of pregnant women with elevated anxiety and depression (31 %) and posttraumatic stress (43 %). Additionally, a high prevalence of depression among pregnant women has been reported in various studies worldwide including studies conducted in Argentina (32%) (López-Morales et al., 2021), Canada (37 %) (Lebel et al., 2020), China (33 %) (Sun et al., 2020) and Turkey (35 %) (Durankus et al., 2020). Comparable findings from studies conducted in various countries indicate that expectant mothers have experienced a high level of symptom burden and distress during the pandemic. The

emotional distress experiences by women, as reflected in their affective states of fear and worry, was a prominent theme during the lockdown phase. Fear, explicitly representing an intensely negative internal state, emerged as the most frequently used term by the women when describing the reasons for current mental health challenges experienced during the pandemic.

Additionally, the fear experiences were intricately linked to pandemic-related factors, such as concerns about healthcare service ability, insufficient information, disruption in prenatal care routines, follow-up from healthcare services, and apprehensions about partner's during pregnancy care follow-up. Notably, the fear of miscarriage was exacerbated when access to health care services was limited.

The most prevalent concern among the participants were the innate fear of giving birth alone without the presence of their partner due to pandemic restrictions. Preparing for labor and childbirth alone without the physical and emotional support of a birth companion can significantly heighten the levels of woman's stress, fear, and anxiety. These findings align with the broader trend of increased pandemic-related fear and distress caused by the COVID-19 crisis (Fitzpatrick et al., 2020; Kinser et al., 2021; Ornell et al., 2020; Patelarou et al., 2022).

Fear and fear-related behaviors have become common responses to the pandemic consistent with studies on global reactions to COVID-19 (Porcelli et al., 2020). The specific results in the current study correspond to the findings from similar qualitative studies of pregnant women. In a recent qualitative study with a comparable sample size ($N = 22$), researchers investigated the childbearing experiences of COVID-19 positive mothers who gave birth during Italy's initial lockdown period (March – April 2020) (Nespoli et al., 2022). The most traumatic aspects of women's experiences included sudden family separation, self-isolation, transfer to a referral center, their partner being denied the right to be present at the birth and limited physical contact with the newborn. Furthermore, according to the findings of a large-scale study involving childbearing women from 64 countries, the majority of women (86 %) reported being somewhat or very concerned about COVID-19 (Basu et al., 2021). The most frequently expressed concern was, similarly to the current study, about pregnancy and birth, such as family being unable to visit after birth, an absence of a support person during birth, and COVID-19 causing changes to the birth plan (Basu et al., 2021). Concerns about missing medical appointments, which were also mentioned by women in the current study, were linked to significantly higher odds of posttraumatic stress disorder, anxiety, depression, and loneliness (Basu et al., 2021). Some women described their labor and birth as unsatisfactory and reported feelings of bitterness and melancholy due to not being able to share this experience with anyone. In another study, fear and uncertainty reported by pregnant women during the pandemic were often accompanied by symptoms of anxiety and depression either in themselves or in their family members and children (Kinser et al., 2021).

The collective fundings from the rapidly growing body of recent studies on childbearing women's experiences during the COVID-19 pandemic in different countries align with the results in the current study. Similar to the insight gained from experiences of pandemic-related stressors, recent studies have also delved into resilience and psychosocial factors that can contribute to coping with stress. Pre-pandemic research on resilience suggests that, in general, most people exhibit resilience to stress (Southwick et al., 2005). However, little is known about the factors that are most crucial in the developing pandemic-related resilience among specific subgroups, including pregnant women. Despite many women in our sample reporting that lockdown restrictions had a negative impact on them, a portion of the women did not report high levels of distress nor described experiences of pandemic-related stress. The majority of women reported no significant symptoms of depression or anxiety. Moreover, more than half of women did not report feeling burned out. In terms of coping strategies, the women detailed various ways in which they successfully navigated unmet expectations and uncertainties associated with pandemic

lockdowns.

Stability in everyday life, including stable close relationships, employment, and economic stability emerged as critical factors aiding individuals in coping with pandemic-induced stress and fear. Social support from significant others, including family and friends, played a significant role in coping. Support of medical personnel also emerged as a buffering factor. Physical activities were identified as a buffering factor by some of the participants, aligning with recent studies demonstrating the positive impact of physical activity on resilience among pregnant women during the COVID-19 pandemic (Davenport et al., 2020; Lebel et al., 2020). Among the advantages of being pregnant during a pandemic, the women mentioned some distinct buffering factors. More free time and flexibility, less stressful family life and work-related stress, working from home, less social demands and increased time spent with partners and significant others were reported as buffering factors contributing to well-being.

The findings regarding coping strategies and positive mental health outcomes resonate with similar qualitative studies, where pregnant women expressed gratitude for the shift in perspective and priorities brought about by the pandemic. In one study, pregnant women expressed newfound appreciation for the tranquility of quiet moments, the quality of family time, and the benefits of embracing a slower pace (Kinser et al., 2021). Some expressed appreciation for stay-at-home requirements that allowed for more time together with their partner and more sharing of parenting responsibilities. Taken together, this study contributes valuable insights into the nuanced experiences of pregnant women during the COVID-19 pandemic. While psychological distress is a key aspect, buffering factors such as social support, a slower pace of life, and gratitude for shifting priorities contribute to a comprehensive understanding of these lived experiences. By exploring both challenges and coping mechanisms, the findings offer a foundation for further research and the development of targeted interventions to support the mental health and well-being of pregnant women facing unprecedented global crises.

Conclusions and implications for maternity care guidelines

The consistent findings across a growing body of literature on experiences and adverse mental health outcomes in pregnant women during the COVID-19 pandemic carry significant implications for the maternity care pathway designed for pregnant women.

Healthcare providers play a crucial role in prioritizing stability, predictability, and minimizing disruptions to prenatal care while offering interventions to reduce stressors for this specific group. Numerous studies have demonstrated that sufficient social support generally promotes mental health during labor (e.g., Alonso et al., 2023; Tani and Castanga, 2017; Zamani et al., 2019), in the postpartum period (Vaezi et al., 2019), and contributes to a reduced risk of postnatal depression (Li et al., 2017). Thus, it becomes particularly crucial to assess the level of a woman's social support in the early phase of prenatal care as a buffering factor, especially for individuals vulnerable due to developing or existing mental-health problems. Furthermore, the substantial amount of research findings indicating pandemic-related stress among pregnant women supports the implementations of screening to identify women at risk of depression and anxiety, ensuring they receive appropriate clinical follow-up. Future research in this domain should focus exploring the long-term psychosocial effects of pregnancy, childbirth, and parenthood during infectious disease outbreaks, with a specific emphasis on vulnerable individuals who are at risk of developing or already have mental-health problems or disorders. Moreover, it would also be beneficial to explore possible differences in coping and buffering mechanisms between pregnant women in non-symptomatic and symptom-level groups. Interventions targeting these aspects are critical to mitigate the potentially adverse risk of short- and long-term mental health outcomes, benefiting not only the mother's well-being but also that of their developing fetus and upcoming infant. As such, the

inclusion of pregnant women in clinical trials and epidemiological studies is vital for comprehensive and meaningful insight in future research.

Limitations

This study employs a combination of quantitative and qualitative data, encompassing both objective measures of depression and anxiety as well as self-reported experiences of childbearing women during strict social distancing measures. The sample represent a diverse range of expectant mothers in terms of age, marital status and prior parenthood experiences. However, several limitations should be acknowledged. The recruitment method for the study, reliant on internet access, may introduce sampling bias excluded women without access to internet. All the participants in the study self-identified as Caucasian with a higher education background. The homogeneity limits the diversity of the sample and hinders its representativeness for cross-cultural comparisons. The findings may not be generalized to more diverse populations. Although the use of open-ended questions within a questionnaire format has proven to be an effective format for collecting thick, rich, descriptive information from respondents and allows for qualitative insights (Smyth et al., 2009), the depth of data obtained may not match the richness achieved through qualitative interviews (Bengtsson, 2016). The study could benefit from more in-depth qualitative exploration. Due to the limited and homogenous sample, caution is warranted when generalizing the findings. The unique characteristics of the participants may not be reflective of the broader population of expectant mothers, limiting external validity of the study. Acknowledging these limitations is crucial for interpreting and applying the study's findings, and future research should aim to address these constraints for a more comprehensive understanding of the experiences of pregnant women during periods of social distancing.

CRediT authorship contribution statement

Miriam S. Johnson: Conceptualization, Formal analysis, Investigation, Methodology, Software, Writing – review & editing. **Nora Skjerdingstad:** Conceptualization, Formal analysis, Investigation, Methodology, Software, Writing – review & editing. **Omid V. Ebrahimi:** Conceptualization, Investigation, Methodology, Project administration, Writing – review & editing. **Asle Hoffart:** Conceptualization, Investigation, Methodology, Writing – review & editing. **Sverre Urnes Johnson:** Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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