The pregnant women’s experiences during the COVID-19 pandemic: a scoping review

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1. Introduction

Pregnancy is a normal physiological process experienced by women. During this COVID-19 pandemic, pregnant women have different experiences. It is necessary to have an understanding of the pregnant women’s experiences and perspectives in undergoing their pregnancy during the COVID-19 pandemic to find out their needs and expectations (Masjoudi et al., 2020). The COVID-19 pandemic has profoundly affected the pregnant women’s mental health, driving changes in anxiety during their pregnancy.
pregnancy (Moyer et al., 2020). Has stated that 53% of respondents have high anxiety about vertical transmission of COVID-19 to their fetuses (Saccone, 2020). The psychological impacts and anxiety caused by COVID-19 are experienced more severely in pregnant women during their first trimester. Supports are needed by pregnant women, especially during pandemic. For pregnant women, social and emotional supports are vital. Pregnant women naturally want to talk about problems bothering them, as well as to choose the right person to share the said problems (Mlotshwa et al., 2017). The developments of support and intervention strategies for pregnant women during pandemic need to focus more on stress reduction and social support promotion (Olander & Meaney, 2020). Pregnant women can take several measures during their pregnancy to reduce their level of anxiety. Strategies to overcome this problem are important to prevent the experiences that may cause stress-related mental disorders (N Kar et al., 2020). The purpose of this Scoping Review is to review evidence related to pregnant women's experiences during the COVID-19 pandemic.

2. Methods
The method used in this research is scoping review. According to (Arksey & O’Malley, 2019), there are four objectives in conducting scoping review which include (1) examining the extent and nature of research activities, (2) determining the value of conducting a full systematic review, (3) summarizing and disseminating the findings, and (4) identifying research gaps in the existing literature (Levac et al., 2017).

2.1 Research question
The problems in this study are examined through the previous research journal articles’ results about pregnant women's experiences during the COVID-19 pandemic. Based on the phenomenon, the PEO framework is used to construct scoping review questions presented in table 1.

<table>
<thead>
<tr>
<th>(P) Population</th>
<th>(E) Exposure</th>
<th>(O) Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant women</td>
<td>COVID-19 pandemic</td>
<td>Anxiety symptoms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coping strategy</td>
</tr>
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<td></td>
<td></td>
<td>Support</td>
</tr>
</tbody>
</table>

2.2 Search strategy design
The databases used in the source searching process are EBSCO, PubMed, ScienceDirect, and Wiley Online Library. Source searching using EBSCO database and Wiley Online Library are accessed through Unisa Library, PubMed is accessed via Google, and Science Direct is accessed from PNRI. The article searching strategy is carried out by entering keywords in the searching process using Medical Subject Headings (MeSH) and truncation / wildcard symbols and boolean operators strategy including “Pregnant* OR Prenatal OR Antenatal AND COVID-19 OR Coronavirus OR Pandemic OR Covid19 OR SARS-CoV-2 AND Experience* OR View* OR Perspective* AND Anxi* OR Stress* OR Depression* OR Fear* AND Coping strategy* OR Coping Mechanism* AND Support”. The inclusion criteria in this study are articles published from 2019 to 2020, in English or Indonesian, discussing the experiences of pregnant women during the COVID-19 pandemic. Exclusion criteria in this study are opinion articles, review articles, commentaries and book reviews. Screening is conducted to select articles that fall into the inclusion criteria by reading articles based on title, abstract, and full-text.
3. Results

There are 53 articles obtained from searches in the database. 10 duplicate articles are then removed, leaving 43 articles. Subsequently, articles are eliminated based on the title and abstract resulting in the exclusion of 34 articles because they are not relevant, leaving 9 relevant articles. Then, full text-reading on the articles are conducted, resulting in the exclusion of 1 article due to errors in the population. So there are 8 articles chosen for scoping review. The selection article is presented in a flow diagram in Fig. 1.

Fig. 1. PRISMA Flowchart

After finding 8 relevant articles, the author synthesizes the findings into data extraction table. Data extraction is made in the form of table containing author's name, year, title, grade, country, aim, type of research, data collection, participants/sample size and result. The synthesis of findings is presented in table 2.
Table 2. Data Extraction

<table>
<thead>
<tr>
<th>No.</th>
<th>Author/ Year/Title/ Grade</th>
<th>Country</th>
<th>Aim</th>
<th>Type of Research</th>
<th>Data Collection</th>
<th>Participants/ Sample Size</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>(Salehi et al., 2020) / The relationship of fear and anxiety of COVID-19, pregnancy experience, and mental health disorder in pregnant women: A structural equation model/ A</td>
<td>Iran</td>
<td>To assess pregnant women's fear and anxiety against COVID-19, and their pregnancy experiences and mental health.</td>
<td>Quantitative non-randomized study</td>
<td>Data collection is conducted using questionnaires.</td>
<td>Sample size: 222 pregnant women who are referred to Kamali Hospitalian in Alborz province.</td>
<td>Obtained themes: Psychological state: there is anxiety directly related to COVID-19 and fear indirectly caused by COVID-19 which may affect pregnant women’s mental health.</td>
</tr>
<tr>
<td>A2</td>
<td>(Lebel et al., 2020b) / Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic/ B</td>
<td>Canada</td>
<td>To determine the prevalence of pregnant women’s anxiety and depression symptoms during the COVID-19 pandemic and identify resilience factors associated with psychological distress</td>
<td>Quantitative descriptive study</td>
<td>Data collection is conducted using questionnaires.</td>
<td>Participants: 1987 pregnant women in Canada</td>
<td>Obtained themes: Psychological state: depression, generalized anxiety and pregnancy anxiety symptoms are higher among pregnant women with similar demographic profiles and there are concerns that the virus will adversely affect the fetus. Pregnant women’s needs: Anxiety and depression symptoms are lower if participants get social supports from their partners or from general social supports. Resilience factors: Doing exercises and physical activities.</td>
</tr>
<tr>
<td>A3</td>
<td>(Mappa et al., 2020a)/ Effects of coronavirus 19 pandemic on maternal anxiety during pregnancy: a prospective observational study/ A</td>
<td>Italy</td>
<td>To evaluate the psychological impact of the COVID-19 pandemic on pregnant women in Italy</td>
<td>Quantitative descriptive study</td>
<td>Data collection is carried out using a semi-structured online questionnaire sent via email</td>
<td>Participants: 200 pregnant women</td>
<td>Obtained themes: Psychological conditions: Pregnant women are worried that COVID-19 can induce fetal structural anomalies, impair fetal growth, and cause premature labors. The pregnant women’s anxiety is at abnormal level. Pregnant women’s needs: information regarding the effect of COVID-19 on pregnancy.</td>
</tr>
<tr>
<td>Reference</td>
<td>Country</td>
<td>Research Question</td>
<td>Study Design</td>
<td>Data Collection Method</td>
<td>Participants</td>
<td>Themes</td>
<td></td>
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<tr>
<td>A4 (Ayaz et al., 2020a)</td>
<td>Turkey</td>
<td>To compare the levels of anxiety and depression in the same pregnant women before and during the COVID-19 pandemic</td>
<td>Quantitative non-randomized study</td>
<td>Data collection is conducted using questionnaires.</td>
<td>Participants: 200 pregnant women</td>
<td>Obtained themes: Psychological conditions: Compared to before the pandemic, depression and anxiety symptoms significantly increase during the SARS-CoV-2 pandemic.</td>
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<tr>
<td>A5 (Kahyaoglu &amp; Kucukkaya, 2020)</td>
<td>Turkey</td>
<td>To examine the prevalence of anxiety and depression levels and factors associated with pregnant women during the COVID-19 pandemic in Turkey: A web-based cross-sectional study</td>
<td>Quantitative non-randomized study</td>
<td>Data collection is carried out using an online web-based survey.</td>
<td>Participants: 403 pregnant women over 18 years old</td>
<td>Obtained themes: Psychological conditions: The prevalence of anxiety and depression in pregnant women during the COVID-19 pandemic are 64.5% and 56.3%, respectively. Pregnant women's needs: information on the effects of COVID-19 on pregnancy.</td>
<td></td>
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<tr>
<td>A6 (Sahin &amp; Kabakci, 2020)</td>
<td>Turkey</td>
<td>To find out pregnant women's experiences during the COVID-19 pandemic</td>
<td>Qualitative study</td>
<td>Data is collected using semi-structured questionnaire questions.</td>
<td>Participants: 15 pregnant women</td>
<td>Obtained themes: Psychological conditions: Pregnant women are worried and anxious because they are pregnant during pandemic. Coping strategies: doing different hobbies at home, focusing on the silver lining, not watching the latest news related to COVID-19. Pregnant women's needs: Getting information about COVID-19 and supports from health workers make pregnant women feel more comfortable.</td>
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Shelly Rodliah Rosyad et al. (The pregnant women’s experiences during the...
<table>
<thead>
<tr>
<th></th>
<th>Study Title</th>
<th>Country</th>
<th>Study Objective</th>
<th>Methodology</th>
<th>Sample Size</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7</td>
<td>(Farrel, Reagu, Mohan, Elmidany, Qaddoura, &amp; Ahmed, 2020) / The impact of the COVID-19 pandemic on the perinatal mental health of women</td>
<td>Qatar</td>
<td>To study the impact of the COVID-19 pandemic and restrictions on women's perinatal mental health in Qatar</td>
<td>Quantitative non-randomized study</td>
<td>288 pregnant women</td>
<td>Psychological conditions: Pregnant women experience anxiety and depression during the COVID-19 pandemic. Coping strategies: seeking information related to the pandemic and taking preventive measures during pregnancy through medical workers and public health information broadcasts on television, as well as doing physical activities such as exercising as a coping mechanism.</td>
</tr>
<tr>
<td>A8</td>
<td>(Berthelot et al., 2020a) / Uptrend in distress and psychiatric symptomatology in pregnant women during the coronavirus disease 2019 pandemic</td>
<td>Canada</td>
<td>To determine the breadth of the COVID-19 pandemic influence on the increase of prenatal psychological stress in pregnant women</td>
<td>Quantitative non-randomized study</td>
<td>1,754 pregnant women</td>
<td>Psychological conditions: Pregnant women in particular may experience symptoms of anxiety and depression during the COVID-19 pandemic.</td>
</tr>
</tbody>
</table>
4. Findings
4.1 Article Characteristics

Based on the study design of the 8 articles selected, 5 articles use non-randomized quantitative studies, 2 articles use quantitative descriptive studies and 1 article use qualitative studies.

![Article based on study design](image)

Fig. 2. Article based on study design

Based on the quality used Mixed Method Appraisal Tool (MMAT) as a tool to determine the quality of the selected articles, there are 7 articles marked grade A, 1 article marked grade B and there is no article marked grade C.

![Articles based on quality](image)

Fig. 3. Articles based on quality

Based on the countries, there are studies conducted in developing countries such as Iran, Turkey and Qatar. There are also researches conducted in developed countries such as Canada and Italy.
4.2 Theme Mapping

The next stage is to map the themes based on the selected articles. There are 3 obtained themes which include the pregnant women's psychological conditions, coping strategies, and the pregnant women's needs during the COVID-19 pandemic.

5. Discussion

5.1 Pregnant Women’s Psychological Condition during the COVID-19 Pandemic

a) Anxiety

Anxiety affects pregnant women during pandemic. Anxiety experienced during pregnancy is about the health of the fetus (Peã’Acoba-Puente et al., 2011). During the COVID-19 pandemic, pregnant women show increased anxiety (Ayaz et al., 2020b; Berthelot et al., 2020b; Farrel, Reagu, Mohan, Elmidany, Qaddoura, Ahmed, et al., 2020; Mappa et al., 2020b). Anxiety experienced here is related to their, their babies’, and their family’s health (Mizrak Sahin & Kabakci, 2020). The greatest effect of these anxiety symptoms is caused by social isolation (Lebel et al., 2020a). Social isolation can be in the form of contact reduction with other people, interaction frequency reduction with others, inability to depend on family, friends or partners, isolated and excluded feelings (Coplan & Bowker, 2015). Anxiety experienced by pregnant women is significantly higher in those who have low education level, do not have a job, do not do any physical activities and do not receive any information from doctors/nurses/midwives about the effects of COVID-19 on pregnancy (Kahyaoglu & Kucukkaya, 2020).

b) Depression

The pressure felt by pregnant women during the COVID-19 pandemic can trigger depression symptoms on them. Pregnant women show aggravated symptoms of depression during the COVID-19 pandemic (Berthelot et al., 2020b; Farrel, Reagu, Mohan, Elmidany, Qaddoura, & Ahmed, 2020). Depression is harmful. Depression during pregnancy is associated with adverse pregnancy outcomes for both mother and baby (Mesches et al., 2015). The clinically intensified depression symptoms are caused by pregnant women's anxiety regarding COVID-19 which later can threaten their lives, endanger their babies, render them unable to get the necessary care, feel isolated, and strain their relationships with their partners (Lebel et al., 2020b). Depression is significantly higher in pregnant women of which education level is below junior high school level, do not do any physical activities, is reluctant to visit hospital or doctor for pregnancy visits and have no knowledge on the effects of COVID-19 on pregnancy (Kahyaoglu & Kucukkaya, 2020).

c) Fear

Fear is an aspect of life and is often explored as a temporary emotional state that is based on different elements for each person (Hatemi et al., 2018). The COVID-19 pandemic has created

![Fig. 4. Articles based on countries](image)
fear and anxiety around the world (Singh et al., 2020). Fear of the corona virus during pregnancy indirectly affects pregnant women’s mental health during their pregnancy (Salehi et al., 2020). The fear experienced by pregnant women during the COVID-19 pandemic is in the form of fear of abnormal perinatal outcomes that can induce fetal structural anomalies, fetal growth restriction and preterm labor (Mappa et al., 2020b). However, the main reason for the abovementioned fear is due to their pregnancy during the COVID-19 pandemic (Mizrak Sahin & Kabakci, 2020).

5.2 Pregnant Women’s Coping Strategies during the COVID-19 Pandemic

a) Physical activities

Physical activities are an effective strategy to overcome negative psychological effects of the COVID-19 pandemic (Violant-Holz et al., 2020). One of physical activities that can be done is exercising. Exercising as a coping mechanism in times of stress is beneficial (Garber, 2017). Exercise is a form of physical activity that can be used as a coping mechanism carried out by pregnant women to relieve stress during the COVID-19 pandemic (Farrel, Reagu, Mohan, Elmidany, Qaddoura, & Ahmed, 2020).

b) Hobbies and positive thinking

One of the coping mechanisms carried out by pregnant women during the COVID-19 pandemic is by doing activities or hobbies such as reading books, focusing on the silver lining by praying to overcome anxiety and worries during the pandemic and not watching the latest news to avoid anxiety due to the pandemic (Sahin & Kabakci, 2020). These activities are proven useful. Coping mechanisms that can be done is by sharing emotions, doing activities, not overthinking (Nilamadhab Kar et al., 2020).

c) Information searching

The information obtained will be useful to reduce anxiety and fear. Using the available information on how to solve a problem and an effective problem solving strategy will be very useful (Vaira et al., 2020). Coping mechanisms that can be done by pregnant women are by seeking information through maternity staffs and health information on television related to the pandemic. There are preventive measures that need to be taken by pregnant women during the pandemic.

5.3 Pregnant Women’s Needs During the COVID-19 Pandemic

a) Information

During the pandemic, pregnant women get the information related to COVID-19 through journals, television, and websites. Pregnant women can always communicate with their midwives online without having to come to the service center. For pregnant women who are unable to do prenatal check-ups to get information from a doctor, midwife or nurse regarding COVID-19, information sources from the internet and television are indispensable. During this COVID-19 pandemic, sufficient information is necessary in dealing with the current situation. Pregnant women who do not have sufficient information about the effects of COVID-19 on pregnancy may suffer from increased risk of anxiety and depression.

b) Supports

Support is needed to overcome the psychological problems experienced by pregnant women during the COVID-19 pandemic. The social support that pregnant women get during the COVID-19 pandemic is a way to overcome depression and anxiety, especially because they have new responsibilities and roles. Due to the large number of people who have anxiety, depression, and stress symptoms related to COVID-19, a mental health support system is needed to be able to overcome these problems. Social supports as an emotional coping mechanism have the potential to affect someone's life quality (Shishehgar et al., 2013). Social supports can take the form of practical assistance in terms of routine activities, providing information or advice, emotional supports obtained from mothers, mother-in-laws, brothers and sister-in-laws, and husbands (Edmonds et al., 2014). Support can be obtained from family, friends, and social networks. Midwives as medical workers play an important role in providing support to pregnant women. Midwives are an important source of information for pregnant women (Grimes et al., 2014).
During the COVID-19 pandemic, pregnant women, who can be easily contacted, receive support from doctors, midwives or nurses by telephone or online, thus making them feel more comfortable.

6. Conclusion

The COVID-19 pandemic affects the experiences undergone by pregnant women during their pregnancy with the emergence of psychological responses in the form of anxiety, depression and fear. One of coping strategies carried out by pregnant women during the COVID-19 pandemic is by doing physical activities such as exercising, doing their hobbies, thinking positively and finding out information. The social supports and accurate information obtained help pregnant women to overcome their anxiety. There is a gap found among the review results stating that the research results from developed countries tend to examine the pregnant women's psychological conditions and needs during the COVID-19 pandemic. Meanwhile, the research results in developing countries focus not only on examining the pregnant women's psychological conditions and needs during the COVID-19 pandemic but also on examining their coping strategies. This research then focuses on 5 articles researching developing countries and 3 articles researching developed countries. Further researches are later needed to examine the pregnant women's experiences during the COVID-19 pandemic in developed countries.

Acknowledgment

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References


Olander, & Meaney. (2020). Differences in levels of stress, social support, health behaviours, and stress-reduction strategies for women pregnant before and during the COVID-19 pandemic, and based on phases of pandemic restrictions, in Ireland.


