**ORIGINAL ARTICLE**

Relationship of pregnant mother’s anxiety level with preparation for childbirth during Covid-19 pandemic in Surabaya, Indonesia

Irma Maya Puspita*, Nova Elok Mardliyana
Faculty of Health Sciences, Universitas Muhammadiyah Surabaya, Indonesia.

---

**ABSTRACT**

**Objective:** Corona Virus (Covid-19) currently occurring in Indonesia greatly affects the health of the entire community, both physically and psychologically. During the pandemic period, social restrictions are required in an effort to reduce the spread of the virus, especially for pregnant women who are vulnerable to infection because of their weak immune system. This causes increased maternal anxiety during pregnancy. Therefore, good preparation for childbirth is needed so that mothers receive sufficient information and receive safe services from exposure to viruses.

**Materials and Methods:** This research used an analytic survey method with a cross sectional approach. Done by distributing closed questions on online questionnaires to pregnant women in Surabaya through social media networks. The sampling technique used simple random sampling and managed to collect a sample of 90 people.

**Results:** This research showed that pregnant women during the Covid-19 pandemic in Surabaya experienced 13% mild anxiety, 24% moderate anxiety, 63% severe anxiety. Preparation for childbirth during the Covid-19 pandemic in Surabaya was 20% unprepared and 80% ready.

**Conclusion:** There is no relationship between the anxiety experienced by pregnant women during the Covid-19 pandemic and their preparation for delivery. Pregnant women were worried that they can be exposed to the virus. Therefore, they can prepare for childbirth properly so that they can go through delivery safely and comfortably.

**Keywords:** Pregnancy; anxiety, preparation for childbirth; Covid-19

---

**ABSTRAK**

**Tujuan:** Corona Virus (Covid-19) yang terjadi di Indonesia saat ini sangat berpengaruh pada kesehatan seluruh masyarakat baik secara fisik maupun psikis. Selama masa pandemi diharuskan melakukan pembatasan sosial sebagai upaya mengurangi penyebaran virus, terutama pada ibu hamil yang termasuk kelompok rentan terinfeksi karena daya tahan tubuh yang lemah. Hal tersebut menyebabkan meningkatnya rasa cemas ibu selama menjalani kehamilan. Oleh karena itu, diperlukan persiapan persalinan yang baik agar ibu mendapat informasi yang cukup dan mendapat pelayanan yang aman dari paparan virus.

**Bahan dan Metode:** Metode pada penelitian ini adalah survey analitik dengan pendekatan cross sectional. Pengambilan sampel dilakukan dengan menyebarkan pertanyaan tertutup pada kuisiner online kepada ibu hamil di Surabaya melalui jejaring media sosial dan berhasil mengumpulkan sampel sebanyak 90 orang.

**Hasil:** Penelitian ini menunjukkan bahwa pandemi Covid-19 menyebabkan ibu hamil di Surabaya mengalami kecemasan ringan 13%, kecemasan sedang 24%, kecemasan berat 63% dengan persiapan persalinan tidak siap sebanyak 20% dan siap 80%.

**Simpulan:** Tidak ada hubungan antara kecemasan yang dialami ibu hamil saat pandemi Covid-19 dengan persiapan persalinannya. Ibu hamil merasa khawatir akan terpapar virus sehingga mereka melakukan persiapan persalinan dengan baik supaya dapat menjalani persalinan dengan aman dan nyaman.

**Kata kunci:** Kehamilan, Kecemasan, Persiapan Persalinan, Covid-19

---

*Correspondence:* Irma Maya Puspita, Faculty of Health Sciences Universitas Muhammadiyah Surabaya, Indonesia. E-mail: irmamayapuspita@gmail.com

---

• pISSN:0854-0381 • eISSN: 2598-1013 • doi: http://dx.doi.org/10.20473/mog.V29I32021.102-107
• Maj Obs Gin. 2021;29:102-107 • Received 10 Mar 2020 • Revised 25 Jun 2021 • Accepted 9 Jul 2021
• Open access under CC-BY-NC-SA license • Available at https://e-journal.unair.ac.id/MOG/
Childbirth is something that can make a woman happy, because the mother has been waiting for the birth of the baby for almost 9 months that she has conceived, but some mothers feel afraid and anxious about the delivery process. In preparing for childbirth, mothers must obtain sufficient information about the delivery process so as not to feel excessive fear and worry, especially during the Covid-19 pandemic. This epidemic is not only disturbing the physical health but also the psychological community, including pregnant women. The psychological impact that appears is not the same for each individual, some are mild to severe. Pregnant women can feel more anxious because they are worried about contracting the virus and can interfere with the health of themselves and their fetuses.

Cases of coronavirus diseases were found in Indonesia in March 2020 and so far the cases are increasing. East Java is one of the provinces with the highest cumulative Covid-19 cases in Indonesia. The pandemic Covid-19 period requires that the public can participate in breaking the transmission by implementing stringent health protocols, especially on vulnerable populations, and one of them is pregnant. Vulnerable groups are groups of people who have low health conditions and have low immunity. Therefore, they are vulnerable to being exposed to Covid-19.

National and international research showed the number of pregnant women that experienced anxiety as much as 23% in Albert Canada, 15% in Germany and 49% in Pakistan. The results of Hernani’s research showed that 53.3% experienced anxiety in the face of childbirth. According to the METER Survey data during the pandemic, the Indonesian population experienced anxiety by 55% of the 3533 respondents and 58% experienced depression. This can lead to tension in marriage and affect greatly the health of pregnant women.

Activity restrictions for the entire community, especially pregnant women are needed to reduce virus exposure. However, there are some things that cannot be postponed by pregnant women to continue doing activities outside the home such as continuing to do pregnancy checks in the hospital. Pregnancy check-ups must continue to be carried out to ensure a healthy pregnancy condition and avoid complications by adhering to strict health protocols. When coming to the hospital, the mother must ensure that she always maintains cleanliness and avoids contact with new people. People always wear a mask, wash your hands regularly or carry hand sanitizer and wear closed clothes. The frequency of visits by pregnant women to the hospital has also been reduced and more online or virtual consultations with midwives or obstetricians have been conducted. This method can be used by pregnant women and their families to be more comfortable and receive psychological support during pregnancy, especially for pregnant women who are approaching delivery.

Giving a birth is a physiological thing and experienced by all women that can make that process a good experience and sometimes bad. Unpleasant experiences are usually caused by physical and psychological problems that can make the mother feel guilty, anxious, panic, lose the ability to control emotions so that sexual desire decreases for fear of getting pregnant again.

Preparation of giving a birth is one of the measures that can reduce maternal anxiety. Anxiety often appears at the time of delivery because the mother is afraid and worried about childbirth. During the Covid-19 pandemic, the anxiety can increase that can be apart from facing the delivery process, mothers are more worried about being infected with the Covid-19 virus. Therefore, it is necessary to prepare for childbirth to reduce anxiety so that the delivery process becomes safe and comfortable. This research aimed to determine the relationship between anxiety levels in pregnant women and preparation for childbirth during the Covid-19 pandemic in Surabaya.

MATERIALS AND METHODS

The method in this research was an analytical survey with a cross-sectional approach. This was done by distributing closed-ended questions in an online questionnaire to pregnant women in Surabaya through social media networks. This research was carried out in April – May 2020. The sampling technique used was simple random sampling and obtained a sample of 90 people.

The instruments used the HARS (Hamilton Anxiety Rating Scale) questionnaire to determine the level of anxiety of pregnant women and a questionnaire about the Childbirth Preparation and Complications Prevention Program (P4K) to determine the mother’s preparation for delivery.

RESULTS AND DISCUSSION

Characteristics of research respondents included age, education, occupation, parity, gestational age can be seen in table 1, the data of respondents of young reproductive age was 13% (12 people), healthy reproductive age was 82% (73 people), old reproductive age was 5% (5 person). The education of pregnant
women in the basic category was 7% (6 people), intermediate 54% (49 people) and higher education 39% (35 people). Respondents' occupation with the criteria of working was 47% (43 people) and 43% (47 people) were not working. The parity of multigravida respondents was 58% (52 people) and primigravida 42% (38 people). In terms of gestational age, respondents in the first trimester were 22% (20 people), in the second trimester 37% (33%), in the third trimester 41% (37 people).

Table 1. Characteristics of the respondents

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young reproduction</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Healthy reproduction</td>
<td>73</td>
<td>82</td>
</tr>
<tr>
<td>Old reproduction</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Intermediate</td>
<td>49</td>
<td>54</td>
</tr>
<tr>
<td>High</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>43</td>
<td>47</td>
</tr>
<tr>
<td>Jobless</td>
<td>47</td>
<td>43</td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multigravida</td>
<td>52</td>
<td>58</td>
</tr>
<tr>
<td>Primigravida</td>
<td>38</td>
<td>42</td>
</tr>
<tr>
<td>Gestational age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trimester I</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Trimester II</td>
<td>33</td>
<td>37</td>
</tr>
<tr>
<td>Trimester III</td>
<td>37</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2. Frequency distribution of pregnant women anxiety levels

<table>
<thead>
<tr>
<th>Anxiety</th>
<th>Frequency</th>
<th>Presentation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Anxiety</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Moderate Anxiety</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>Severe Anxiety</td>
<td>56</td>
<td>63</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 2 of 90 respondents, it showed that during the pandemic the anxiety level of pregnant women was mild anxiety 13% (12 people), moderate anxiety 24% (22 people), severe anxiety 63% (56 people).

Table 3. Frequency distribution of childbirth

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Frequency</th>
<th>Presentation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Ready</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Ready</td>
<td>72</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on table 3 of 90 respondents, it showed that preparation for delivery of pregnant women during the Covid-19 pandemic in Surabaya was classified as not ready as much as 20% (18 people), 80% ready (72 people).

Table 4. Data tabulation and analysis of the relationship between anxiety levels and preparation for giving a birth

<table>
<thead>
<tr>
<th>Preparation of giving a birth</th>
<th>Anxiety levels</th>
<th>$p$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild</td>
<td>Moderate</td>
</tr>
<tr>
<td>Not Ready</td>
<td>8</td>
<td>8.6</td>
</tr>
<tr>
<td>Ready</td>
<td>4</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Based on table 4, the fisher exact statistical analysis test results can be seen that the $p$ value was 0.49 > 0.05, then H0 is accepted.

**DISCUSSION**

**Anxiety level in pregnant women**

Almost of the pregnant women experienced moderate and severe levels of anxiety. According to Angesti, the diseases caused by the SARS-CoV-2 virus caused the pregnant women to experience more anxiety because there was no cure or vaccine for this virus (until this research was conducted). Therefore, they can be worried about contracting this disease and endanger their health and their future baby. The anxiety of pregnant women, especially during the third trimester affected greatly the preparation for childbirth.

The Covid-19 pandemic had resulted in restrictions on health services, including a reduction in prenatal care and classes for pregnant women. The condition also can trigger anxiety in pregnant women. Anxiety is a normal response to a threat or danger from the human experience, but it can interfere with mental health in everyday life if the response is excessive. During pregnancy, the level of anxiety will increase and if it is not handled properly, there is a risk of complications such as excessive nausea and vomiting, premature birth, low birth weight and impaired foetal growth.

Mothers who are pregnant for the first time have higher levels of anxiety than mothers who have had previous childbirth experiences. In the first pregnancy, most mothers do not have much knowledge and information about pregnancy, thus affecting anxiety in primigravida, especially before delivery. Anxiety can arise because of the perception that childbirth is something scary. Many stories or experiences of other people that describe childbirth is something scary, especially when feeling pains in giving a birth. Therefore, it can increase the mother's anxiety.
Based on the research of Sahin and Kabakci\textsuperscript{17} the Covid-19 pandemic has the potential to significantly cause anxiety and fear that can cause negative emotional conditions in pregnant women. This happens because pregnant women are too worried about their own health and that of their fetus, the reduced schedule for antenatal care to health care providers, lack of access to information about health and lack of social interaction because they have to stay at home more.\textsuperscript{17}

**Preparation for giving a birth in pregnant women**

This research stated that 80\% of pregnant women were ready to give birth during the Covid-19 pandemic. Based on the data on the characteristics of the respondents (parity) that showed most respondents of 58\% are multigravida, meaning that they have had previous experience of giving birth. In addition, currently there are many CIE (Communication, Information, and Education) that can be provided online, do not require face-to-face contact, pregnant women can still consult with health workers or share childbirth experiences with others through electronic media. Therefore, they can help mothers in preparing for childbirth properly. This is in accordance with Aggraini's research\textsuperscript{18} that there is an increase in knowledge and good behavior in pregnant women after receiving electronic CIE.

Recommendations from the Ministry of Health of the Republic of Indonesia\textsuperscript{19} during the Covid-19 pandemic, pregnancy checks at health service facilities are also limited by continuing to carry out health protocols, namely wearing masks, washing hands, maintaining distance and making prior agreements with the health workers concerned. Pregnant women are advised to study the book on Maternal and Child Health (KIA). Filling out P4K stickers is also guided by health workers through communication tools. At the end of pregnancy, the mother should check her pregnancy to prepare for delivery. Pregnant women must also continue to apply a clean and healthy lifestyle.

Preparation for childbirth can be done from the beginning of pregnancy which includes mother’s knowledge about the estimated date of delivery, mother’s physical condition, maternal risk factors, signs of giving a birth and completeness of delivery needs for mothers and prospective babies. One of the government's efforts in realizing safe delivery is the Delivery Planning and Complication Prevention Program or commonly known as P4K. This activity is carried out by midwives or health workers by involving the role of husbands, families and the community with P4K stickers which are affixed in front of pregnant women's homes.\textsuperscript{20} Mothers were declared ready to face childbirth after filling out the P4K sticker because they automatically knew the estimated time of delivery, and determined birth attendants, birth attendants, delivery places, transportation used when going to health care facilities, preparation for maternity savings and blood donations. Good preparation in giving a birth is expected to reduce the occurrence of complications during delivery.\textsuperscript{21,22}

Preparation for childbirth can be done from the beginning of pregnancy which includes mother’s knowledge about the estimated date of delivery, mother’s physical condition, maternal risk factors, signs of giving a birth and completeness of delivery needs for mothers and prospective babies. One of the government's efforts in realizing safe delivery is the Delivery Planning and Complication Prevention Program or commonly known as P4K. This activity is carried out by midwives or health workers by involving the role of husbands, families and the community with P4K stickers which are affixed in front of pregnant women's homes.\textsuperscript{20} Mothers were declared ready to face childbirth after filling out the P4K sticker because they automatically knew the estimated time of delivery, and determined birth attendants, birth attendants, delivery places, transportation used when going to health care facilities, preparation for maternity savings and blood donations. Good preparation in giving a birth is expected to reduce the occurrence of complications during delivery.\textsuperscript{21,22}

**The relationship between anxiety levels and childbirth preparation**

Analysis of research data showed that the p value was 0.49 > 0.05. Therefore, \( H_0 \) was accepted. The significance value of \( p \geq 0.05 \) was not significant. This research showed that there was no relationship between the level of anxiety of pregnant women and preparation for childbirth during the Covid-19 pandemic in Surabaya. This research showed that most pregnant women experienced severe anxiety levels (63\%) and are ready to give birth 80\%. The absence of a relationship may be caused by other variables not examined in this research, such as support from husbands, family and health workers in the form of emotional support, appreciation and information. The role of the family, especially the husband, is very important, which helped to reduce maternal anxiety in preparing for childbirth. The higher the husband’s support given to pregnant women, the better preparation for childbirth.\textsuperscript{25,26}

According Nurdianti\textsuperscript{27} there is a relationship between age, knowledge and income by preparation in the face of giving a birth in the third trimester pregnant women.
The data on the characteristics of the respondents in this research stated that most of the mothers were of young and healthy reproductive age, secondary and higher education levels, and more working mothers. Therefore, it was possible that these factors influenced the mother’s readiness to face childbirth.

Preparations for maternity mothers to face childbirth must have started since pregnancy, especially during the Covid-19 pandemic. There were many ways to prepare mothers for childbirth to be ready for childbirth, including by providing information about pregnancy, preparation for delivery, and social support.

CONCLUSION

The conclusion of this research that there was no relationship between the level of anxiety of pregnant women and preparation for childbirth during the Covid-19 pandemic in Surabaya. Pregnant women in Surabaya mostly experienced moderate and severe anxiety during the Covid-19 pandemic but stated that they were ready to prepare for childbirth. Good and planned delivery preparation was expected to help mothers in getting safe and comfortable services during the Covid-19 pandemic.

REFERENCES

18. Anggraini, D.I., Karyus, A., Kania, S., Sari, M.I., Imantika, E. Penerapan eKIE (komunikasi,
informasi, dan edukasi elektronik) dalam upaya meningkatkan kesehatan ibu hamil di era new normal. Jurnal Pengabdian Masyarakat Rawa Jurai. 2020
19. Kemkes RI. Pedoman bagi ibu hamil, bersalin, nifas, dan bayo baru lahir. 2020