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DIFFERENCES IN THE LEVEL OF ANXIETY OF PREGNANT WOMEN IN THE I, II, AND III TRIMESTER

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Abstract

Background*: Pregnancy is a physiological period that requires various adjustments to the changes that occur and can induce anxiety. Anxiety during pregnancy can be experienced from the first trimester to the third trimester. This anxiety can have negative impacts on both the mother and the fetus. This research aimed to determine the differences in the anxiety levels of pregnant women in the first, second, and third trimesters in the working area of the Gading Surabaya Health Center.* ***Method****: This was a quantitative research with an observational analytic method and a cross-sectional design. The study population consists of pregnant women in the first, second, and third trimesters in the working area of Gading Surabaya Health Center. The study involved 100 samples of pregnant women in the first, second, and third trimesters selected using the simple random sampling method. The instrument used is a questionnaire, namely the Perinatal Anxiety Screening Scale (PASS). The analysis method used is the Kruskal-Wallis test.* ***Results****: The statistical test results showed a p-value (0.023) < α (0.05), indicating a significant difference in anxiety levels among pregnant women in the first, second, and third trimesters. Most pregnant women in the first trimester (56.7%) and second trimester (70.7%) did not experience anxiety symptoms, while pregnant women in the third trimester (51.7%) experienced mild to moderate anxiety.* ***Conclusion****: There is a significant difference in anxiety levels among pregnant women in the first, second, and third trimesters.*
Keywords*: Anxiety level, gestational age, pregnant women*

INTRODUCTION

Pregnancy is a physiological period that requires various adjustments for women experiencing it. During pregnancy, women are not only faced with new situations but also enter a crucial period in their development as mothers, where somatic changes occur alongside psychological character changes, as well as changes in interaction with the social environment (Asmariyah et al., 2021). Pregnant women are a vulnerable group to psychological disorders, including anxiety disorders (Ainun et al., 2022). Pregnancy-related anxiety is defined as a type of contextual anxiety that includes maternal fears and specific concerns about pregnancy, childbirth, maternal and infant well-being, changes in maternal appearance, and future life and roles as a mother (Ziyadatul et al., 2023).

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Psychological reactions to pregnancy constitute a maturity crisis that can lead to and trigger anxiety to depression. Generally, anxiety that occurs during pregnancy will not have adverse effects if promptly addressed. However, it can have fatal consequences if appropriate interventions are not provided promptly (Alves et al., 2021). Pregnancy anxiety is often associated with incidents of prolonged labor (9%), low birth weight (15.5%), and premature birth (7-14%) (Ministry of Health, 2022).

The World Health Organization (WHO) indicates an increased risk of depression in pregnant women experiencing anxiety. The prevalence of anxiety and depression in pregnant women in developed countries reaches 7-20%, while developing countries have a higher prevalence, exceeding 20%. In Indonesia, there are 373,000,000 pregnant women, and 107,000,000 (28.7%) of them experience anxiety before childbirth (Ayu, 2021). Surabaya, as one of the cities with the densest population in Indonesia, faces similar issues. Research conducted by Nova (2022) on the description of anxiety in pregnant women in Surabaya City stated that 25% of pregnant women experience mild anxiety, 44% experience moderate anxiety, and 31% experience severe anxiety.

Public Health Sevices Gading is one of the Community Health Centers located in Surabaya. This health center ranked first with the highest incidence of neonatal complications, totaling 203 cases, and the highest incidence of pregnancy complications, totaling 298 cases in 2020. Alves (2021) states that anxiety during pregnancy is significantly associated with severe occurrences of low birth weight babies, premature births, prolonged labor, and other complications.

Based on the various descriptions above, there is a need to identify the level of anxiety in each trimester of pregnancy, especially among pregnant women in the Work Area of Public Health Sevices Gading, Surabaya City. Through this process, holistic and targeted care can be provided according to the needs and conditions of pregnant women, thereby avoiding various adverse effects of anxiety during pregnancy.

METHOD

This study was an analytical observational type with a cross-sectional design. The population in this study consisted of pregnant women in trimesters I, II, and III in the Work Area of Public Health Sevices Gading, Surabaya. The sample size was determined

using the Lemeshow formula with an unknown population size, resulting in a total of 100 samples . The inclusion criteria in this study were pregnant women at the first, second, and third trimesters in the work area of Public Health Sevices Gading , Surabaya City, who were willing to participate as respondents.The sampling technique used was simple random sampling, where each member of the population had an equal chance of being included in the study. The research was conducted in the Work Area of Public Health Sevices Gading, Surabaya City. Data collection was carried out from August to October 2023 using a questionnaire, namely the Perinatal Anxiety Screening Scale (PASS). This questionnaire has been translated into Indonesian and has undergone validity and reliability testing. Data processing techniques included editing, scoring, coding, tabulating, entry, and cleaning. Data were analyzed using univariate and bivariate methods, with the Kruskal-Wallis test using the SPSS program. In this study, an ethical review has been conducted at the Faculty of Medicine, Airlangga University.

RESULT AND DISCUSSION

The research results are presented in the form of a frequency distribution table of respondent characteristics in Table 1, as well as bivariate analysis tables using the Kruskal-Wallis test in Tables 2, 3, 4, and 5.

Table 1. Frequency Distribution of Respondent Characteristics

Respondent characteristics	Frequency	Percentage (%)
Age		
<20 year	2	2,0
20 - 35 year	93	93,0
>35 year	5	5,0
Education level		
Not attending school	0	0,0
Elementary school	16	16,0
Junior high school	2	2,0
Senior high school	65	65,0
D3/S1/more	17	17,0
Pregnancy age		
Trimester I	30	30,0
Trimester II	41	41,0
Trimester III	29	29,0
Gravid Status		
Primigravida	37	37,0
Multigravida	61	61,0

Grandemultigravida	2	2,0
Comorbidity		
Yes	29	29,0
No	71	71,0
Family opposition to pregnancy		
Yes	0	0,0
No	100	100,0
Economic status		
<Rp1.500.000	0	0,0
Rp1.500.000-Rp2.500.000	17	17,0
>Rp2.500.000	83	83,0
Total	100	100,0

In terms of age characteristics, it was found that the majority of pregnant women are within the safe age range for pregnancy, which is 20 - 35 years old. Age influences a person's personality maturity. Someone is considered to have personality maturity if they can cope with stress disturbances better. Individuals who are mature in age tend to have high adaptation abilities to various stress triggers (Dewi, et al., 2022).

Regarding the last educational level characteristic, most respondents have a high school education level. The level of education can enhance an individual's understanding of their health. Therefore, the higher the level of education a person has, the wider their knowledge and their ability to utilize available health services (Muzayyana & Saleh, 2021). Pregnant women with higher education levels tend to have a deeper understanding of pregnancy and are better able to manage stress during pregnancy.

Based on the pregnancy age characteristic, the majority of respondents are in the second trimester of pregnancy (13 - 27 weeks). Anxiety in pregnant women intensifies during the third trimester. In the third trimester, if the anxiety and fears of pregnant women are not addressed, stress hormones, such as catecholamines, can be released in high amounts. This can result in increased pain during childbirth, prolongation of labor duration, and tension during the childbirth process (Setiawati et al., 2022).

Regarding the gravid status characteristic, most respondents are multigravida pregnant women. Every woman experiences different experiences during pregnancy. There are differences in emotional atmosphere, physical condition, and psychosocial aspects between women experiencing their first pregnancy (primigravida) and those who have experienced pregnancy before (multigravida and grandemultigravida). Generally, psychological and emotional reactions in primigravida women are characterized by

anxiety, worry, fear, and panic related to pregnancy (Wulandari & Perwitasari, 2021). Factors such as support from family, physical condition, and readiness to face pregnancy also affect their psychological condition. Almost all pregnant women experience anxiety, especially those experiencing their first pregnancy, which differs from women who have experienced pregnancy before (Wulandari & Perwitasari, 2021).

In terms of comorbidity characteristics, 29% of pregnant women have comorbidities during pregnancy, including anemia, hypertension, asthma, lung disease, and hepatitis B. The connection between pregnancy and health status is one of the factors that can trigger feelings of anxiety (Dewi et al., 2022). Pregnant women who are experiencing health problems tend to be more vulnerable to anxiety than healthy pregnant women.

Regarding social support characteristics, the study examines whether there is family opposition to pregnancy. In this case, it was found that all pregnant women received full support from their families. Social support plays an important role in the emergence of anxiety, referring to both material and emotional assistance provided by individuals to each other.

Based on economic status characteristics, an assessment was made of the family's monthly income level. In this case, the majority of respondents have a monthly income of >Rp2,500,000 in their families. The level of worry felt by pregnant women is often influenced by the family's economic conditions (Setiawati et al., 2022). If the family's economy is inadequate, this can negatively impact the nutritional intake received by pregnant women and the growth of the fetus they are carrying.

Table 2. Anxiety Levels of First-Trimester Pregnant Women

Anxiety Level	Frequency	Percentage (%)
ıptomatic	17	56,7
·moderate symptoms	10	33,3
·e symptoms	3	10,0
	30	100,0

Severe anxiety experienced by pregnant women in the first trimester is related to factors such as age below 20 years old, primigravida status, and low income. Gravid status can impact the level of anxiety during pregnancy, with primigravida pregnant women generally experiencing higher anxiety levels compared to multigravida women (Setiawati

et al., 2022). This is due to the lack of experience in pregnancy. During the first pregnancy, most pregnant women are not familiar with coping with various changes in their bodies, which subsequently affects the level of anxiety in primigravida pregnant women (Dewi et al., 2022).

Additionally, age also influences the occurrence of anxiety. Kaplan and Sondakh (1997) in Situmorang et al. (2020) revealed that anxiety disorders can occur across various age ranges but tend to be more common in adults and are more often experienced by women aged 21 - 45 years old. Conversely, based on this research, women under the age of 20 have a higher likelihood of experiencing severe anxiety during pregnancy. Psychologically, pregnant women under the age of 20 have limited mental readiness.

In addition to age and gravid status, economic level also contributes to the occurrence of anxiety during pregnancy. A pregnant woman requires adequate economic support because pregnancy involves additional expenses such as antenatal care (ANC) costs, meeting nutritional needs for the mother and fetus, maternity clothes, childbirth expenses, and the needs of the baby after birth. According to Niven (2002) in Elsera et al. (2022), individuals with low economic status tend to experience higher levels of stress, while those with high economic status tend to be more relaxed.

Mild to moderate anxiety in this study is related to gravid status, occupation, comorbidities, optimal family support, and high economic status. In this study, the ratio of pregnant women who work and those who do not work is balanced. Working pregnant women may feel anxious about the risk of losing their jobs if their work is difficult to perform due to their pregnancy (Isnaini et al., 2020). Conversely, if a mother's job is not too strenuous and does not require much physical effort, she can continue working during pregnancy and the job may even have a positive impact (Isnaini et al., 2020).

On the other hand, pregnant women who do not experience anxiety symptoms are influenced by several factors, including being mostly multigravida mothers, having a high economic status, receiving optimal family support, and not having comorbidities. However, in this study, it was also found that 29% of pregnant women have low educational status. Based on previous research, low education is often associated with an increased risk of anxiety during pregnancy. If someone has a higher level of education, it will improve the quality of their knowledge and develop intellectual maturity (Situmorang et al., 2020).

A person's education level can affect their thinking process and cognitive abilities, allowing them to absorb and understand new information more quickly. However, in this study, anxiety during pregnancy can be avoided with other supportive factors that help mothers have a comfortable and happy pregnancy.

Table 3. Anxiety Levels of Second-Trimester Pregnant Women

Anxiety level	Frequency	Percentage (%)
Asymptomatic	29	70,7
Mild-moderate symptoms	12	29,3
Severe symptoms	0	0,0
Total	41	100,0

In this study, no pregnant women were experiencing severe anxiety in the second trimester. During the second trimester of pregnancy, the anxiety felt by mothers tends to decrease. This is related to the theory that during this period, mothers begin to be able to care for and meet the needs of the fetus in their womb (Sari et al., 2023). At this time, most women report an increase in energy and enthusiasm, along with the disappearance of nausea symptoms that may have been bothersome in early pregnancy. Many also feel that their abdomen begins to visibly show signs of pregnancy, often bringing feelings of joy and anticipation for the arrival of the baby (Dewi et al., 2022). However, it is important to continue monitoring the progress of pregnancy carefully, as well as paying attention to health and nutrition to ensure optimal well-being for both the mother and the developing fetus.

In pregnant women who do not experience anxiety symptoms, the majority have high economic status and are multigravida mothers, are within the safe age range for pregnancy, have a history of secondary to higher education, all pregnant women receive optimal support from their families, and 31% have comorbidities. Pregnant women with illnesses tend to double their risk (Dewi et al., 2022). Although this factor can trigger anxiety, other factors such as mature age, high income and educational status, optimal family support, and experience in previous pregnancies are factors that can reduce the risk of anxiety during pregnancy.

Several studies related to the relationship between social support and anxiety in pregnant women have shown that various forms of social support received by pregnant women have a significant impact on the level of anxiety they experience. Social support received by someone can result in feelings of calmness, confidence, and competence

(Kartika & Claudia, 2021). Research conducted by Kartika and Claudia (2021) shows that the higher the level of social support provided, the lower the level of anxiety experienced by pregnant women.

Tabel 4. Characteristics of Second-Trimester Pregnant Women with Mild to Moderate Anxiety

Respondent characteristics	Frequency	Total number of pregnant mothers at 2nd trimesters	Precentage (%)
Aged 20 - 25 year	38	41	92
Having comorbidities	17	41	41
Primigravida	21	41	51
Unemployed	30	41	73
Income > Rp2,500,000.00/month	27	41	65

In Table 4, it can be seen that pregnant women with mild to moderate anxiety levels, 41% have comorbidities, 50% are primigravida mothers, 83% are unemployed, 66% are in the high economic level, and 91% are in the safe reproductive age. Comorbidities are one of the risk factors for higher anxiety levels in pregnant women. Additionally, primigravida status makes pregnant women more anxious about their pregnancy due to their lack of knowledge and experience in pregnancy. However, this can be balanced by the mother's high educational status, adequate economy, and optimal reproductive age, so that anxiety levels experienced during the second trimester of pregnancy are limited to mild to moderate levels.

In cases of severe anxiety, all pregnant women are primigravida and unemployed, with high economic status and optimal family support. The third trimester of pregnancy is often referred to as a waiting period with alertness. Many concerns arise during this final trimester (Angesti, 2020). Prospective mothers may feel anxious about the health of the baby and themselves, such as concerns about the possibility of the baby being born with abnormalities, the labor process involving pain, and questions about whether they will be aware of when labor begins, or the risk of the baby not being able to come out smoothly, or the potential for injury to vital organs (Angesti, 2020). This can be exacerbated if the pregnant woman is a primigravida.

Table 5. Anxiety Levels of Third-Trimester Pregnant Women

Anxiety level	Frequency	Percentage (%)
Asymptomatic	12	41,4
Mild-moderate symptoms	15	51,7
Severe symptoms	2	6,9
Total	29	100,0

In cases of severe anxiety, all pregnant women are primigravida and unemployed, with high economic status and optimal family support. The third trimester of pregnancy is often referred to as a waiting period with alertness. Many concerns arise during this final trimester (Angesti, 2020). Prospective mothers may feel anxious about the health of the baby and themselves, such as concerns about the possibility of the baby being born with abnormalities, the labor process involving pain, and questions about whether they will be aware of when labor begins, or the risk of the baby not being able to come out smoothly, or the potential for injury to vital organs (Angesti, 2020). This can be exacerbated if the pregnant woman is a primigravida.

Tabel 6. Characteristics of Third-Trimester Pregnant Women with Mild to Moderate Anxiety

Respondent characteristics	Frequency	Total number of pregnant mothers at 2nd trimesters	Precentage (%)
Aged 20 - 25 year	15	15	92
Having comorbidities	6	15	41
Primigravida	12	15	51
Unemployed	11	15	73
Income > Rp2,500,000.00/month	13	15	65

In Table 5, it can be observed that in cases of mild to moderate anxiety, the majority of mothers are not working, 80% are multigravida mothers, 40% have comorbidities, 86% have a high economic status, and all pregnant women are within the safe reproductive age range. The presence of comorbidities during pregnancy is one of the factors contributing to increased anxiety during pregnancy. This is related to the psychological factor of the mother, where the presence of comorbidities makes the mother more worried about her pregnancy (Dewi et al., 2022).

The comorbidities suffered include hypertension, anemia, and asthma. Additionally, the mother's unemployed status is another factor causing anxiety.

Unemployed mothers tend to be unable to distract themselves from discomfort and anxiety during pregnancy, which can cause more significant disturbances compared to employed mothers (Setiawati et al., 2022). However, on the other hand, the anxiety experienced by mothers is still in the category of mild to moderate anxiety. This is related to high economic factors, multigravida mothers, and age characteristics that fall within the safe category for pregnancy.

Table 7. Differences in Anxiety Levels of Pregnant Women in Trimesters I, II, and III

	Trimester	N	Mean Rank
Tingkat Kecemasan	Trimester I	30	56,42
	Trimester II	41	40,95
	Trimester III	29	57,88

	Anxiety level
Kruskal-Wallis-H	7,576
df	2
Asymp. Sig.	,023

Based on the data analysis of the study, it is known that there is a significant difference in the level of anxiety among pregnant women in trimesters I, II, and III with a significance value of 0.023. Psychological reactions to pregnancy can become emotional crises leading to anxiety and depression. Anxiety during pregnancy generally begins in the first trimester and continues through the third trimester, with the final trimester often associated with anxiety related to the birthing process (Dominguez, et al., 2021). This anxiety is often caused by physical changes in the body during pregnancy and the discomfort that arises from these changes (Siregar et al., 2021). The psychological changes experienced during pregnancy are often a complex emotional journey for a woman. From early pregnancy, hormonal fluctuations can trigger sudden mood changes, which may occur with varying intensities for each individual. The psychological burden of rapid physical changes can also trigger feelings of anxiety, anxiety about fetal health, or even uncertainty about the new role as a mother (Siregar et al., 2021).

In this study, the difference in the level of anxiety in each trimester of pregnancy is influenced by various aspects, including different physiological changes, age, level of education, occupation, family support, economic status, gravida status, and the presence

of comorbidities. This is in line with Setiawati's study (2022), which shows a significant difference in anxiety levels in each trimester, caused by differences in education level, age, and family support (Setiawati, 2022).

In the first trimester of pregnancy, there is often a mix of feelings of happiness, sadness, and disappointment. In addition, attitudes of rejection, uncertainty, and lack of self-confidence are also often felt (Pulungan, 2022). Sometimes, there are conflicting ambivalent feelings, as well as changes in sexual life. The factors of being a primigravida and being unemployed are the main factors in the occurrence of anxiety in this trimester. Gravida status can affect the level of anxiety during pregnancy, where pregnant women are generally more prone to higher levels of anxiety if they are primigravida compared to multigravida pregnant women (Setiawati et al., 2022). Increased anxiety in primigravida can be caused by a lack of experience in dealing with pregnancy. In the first pregnancy, most pregnant women do not have enough experience in dealing with the changes that occur in their bodies, which in turn affects the level of anxiety (Dewi, et al., 2022).

In the second trimester of pregnancy, there are changes in the regulation of anxiety, strong emotional changes, and an increase in sexual drive. The second trimester of pregnancy can be divided into two phases, namely the pre-quickening phase and the post-quickening phase (Siregar et al., 2021). The pre-quickening phase is an important time for mothers to build emotional bonds with the fetus, where feelings of rejection can be seen in negative attitudes such as a lack of attention to the fetus (Veftisia, 2021). On the other hand, mothers are also developing their maternal identity. Meanwhile, in the post-quickening phase, maternal identity becomes clearer, and mothers will be more focused on pregnancy and preparing for their role as mothers (Veftisia, 2021). During this phase, pregnant women tend to be calmer and rely more on their partners as the fetus grows, resulting in a decrease in anxiety (Veftisia, 2021).

In the third trimester of pregnancy, pregnant women experience increasingly complex psychological changes compared to previous periods due to increasingly significant physical changes (Siregar et al., 2022). Various psychological conditions arise, including emotional changes and discomfort, so pregnant women need support from their husbands, families, and healthcare providers (Veftisia, 2021). These emotional changes are caused by feelings of anxiety, fear, doubt, and worry about the pregnancy condition to the birthing process (Yasin, et al., 2021).

High levels of anxiety in the third trimester are related to physiological and hormonal factors, unemployed mothers, the presence of comorbidities, and age over 35 years. During pregnancy, women experience various changes involving physiological and psychological aspects. Most of these changes are triggered by increases in estrogen and progesterone hormones, which are produced by the corpus luteum, which then develops into the corpus graviditatis and then continuously secreted by the placenta after it is fully formed (Ayu et al., 2021). The effects of hormonal changes cause discomfort for mothers during pregnancy, often triggering stress marked by anxiety (Ayu et al., 2021). This will increase during the third trimester of pregnancy, which is related to the upcoming birthing process (Ayu et al., 2021).

CONCLUSION AND SUGGESTION

Based on the results of this study, it can be concluded that there is a significant difference in anxiety levels among pregnant women in trimesters I, II, and III. To minimize pregnancy anxiety, midwives as healthcare providers need to provide holistic and continuous care.

DECLARATION

Conflict of Interest

Author declare there is no conflict of interest in this research

Authors' Contribution

All author contribute from concept in writing draff article.

Ethical Approval

Research Ethics Committee of Faculty of Medicine, Universitas Airlangga.

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Data Availability

The data supporting this research are available from the authors on reasonable request.

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REFERENCE

Adwas, A. A., Jbireal, J. M., & Azab, A. E. (2019). Anxiety: Insights into signs, symptoms, etiology, pathophysiology, and treatment. East African Scholars Journal of Medical Sciences, [onlin] 2(10), 580-591. Diperoleh dari : https://avys.omu.edu.tr/storage/app/public/haticek/139566/Anxiety.pdf.

Alves AC, Cecatti JG, Souza RT. (2021). Resilience and Stress during Pregnancy: A Comprehensive Multidimensional Approach in Maternal and Perinatal Health. ScientificWorldJournal. [online]. Diperoleh dari : https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8382548/.

Asmariyah, A., Novianti, N., & Suriyati, S. (2021). Tingkat kecemasan ibu hamil pada masa pandemi COVID-19 di Kota Bengkulu. *Journal Of Midwifery*, [onlin] *9*(1), diperoleh dari : 1-8. https://jurnal.unived.ac.id/index.php/JM/article/view/1341/1079.

Angesti, E. P. W. (2020). Hubungan Tingkat Kecemasan Dan Pengetahuan Ibu Hamil Trimester III Dengan Kesiapan Menghadapi Persalinan Di Masa Pandemi COVID-19 Di Public Health Sevices Benowo Dan Tenggilis (Doctoral dissertation, Universitas Airlangga).

Ayu, C. D., Devita, N., Meta, S., & Raden, P. (2021). Kecemasan pada ibu hamil di masa pandemi COVID-19 di RSUD Ibnu Sutowo Baturaja. Jurnal Smart Keperawatan, 64-69.

Dinas Kesehatan Kota Surabaya. (2020). *Profil Kesehatan Kota Surabaya 2019*. (Kepala : Febria Rachmanita). Dinas Kesehatan Kota Surabaya : Surabaya.

Dewi, R., Noviyanti, N., & Idiana, A. (2022). Kecemasan ibu hamil trimester III menghadapi proses persalinan dan melahirkan. Holistik Jurnal Kesehatan, 16(2), 157-163.

Domínguez-Solís, E., Lima-Serrano, M., & Lima-Rodríguez, J. S. (2021). Non-pharmacological interventions to reduce anxiety in pregnancy, labour and postpartum: A systematic review. Midwifery. [online] 102, 103126. Diperoleh dari : https://doi.org/10.1016/j.midw.2021.103126.

Elsera, C., Risti, P., Ramadhani, T. P., Rusminingsih, E., & Rochana, A. (2022). Kecemasan Berat Masa Kehamilan. In *Prosiding Seminar Nasional Unimus* (Vol. 5).

Kartika, I., & Claudya, T. P. (2021). Hubungan dukungan keluarga dengan tingkat kecemasan ibu hamil menghadapi proses persalinan. *Journal of Midwifery and Public Health*, [online] *3*(2), 47-52. Diperoleh dari : https://jurnal.unigal.ac.id/index.php/mj/article/view/6821/4415

Kementerian Kesehatan Republik Indonesia. (2022). *Profil Kesehatan Indonesia 2021*. (Sekjend : Kunta Wibawa Dasa Nugraha). Jakarta : Kementerian Kesehatan Republik Indonesia.

Muzayyana, M., & Saleh, S. N. H. (2021). Analisis Faktor Tingkat Kecemasan Ibu Hamil Trimester III Dalam Menghadapi Proses Persalinan Di Masa Pandemi Covid-19 Di Kota Kotamobagu. Jurnal Keperawatan Muhammadiyah, 6(3). Diperoleh dari : https://journal.um-surabaya.ac.id/index.php/JKM/article/view/9013.

Ningsih, S. (2023). HUBUNGAN ANTARA STATUS KEHAMILAN DENGAN KENYAMANAN PERAN PADA IBU PRIMIGRAVIDA DI PUSKESMAS BANGETAYU SEMARANG (Doctoral dissertation, Universitas Islam Sultan Agung Semarang). Diperoleh dari : http://repository.unissula.ac.id/id/eprint/30128.

Nova, E. M. (2022). An Overview of Anxiety Levels in Pregnant Women During The Covid-19 Pandemic.

Nasution, L. F., & Zebua, I. L. (2021). Hubungan Pengetahuan Ibu Hamil Trimester I Dan Dukungan Suami Dengan Kejadian Hiperemesis Gravidarum Di Puskesmas Stabat Kabupaten Langkat. *Journal Health Of Education*, [online] *2*(2), 10-17. Diperoleh dari : https://journal.universitasaudi.ac.id/index.php/JHE/article/view/42. [diakses pada 14 Februari 2023].

Pulungan, F. (2022). Tingkat Kecemasan Ibu Hamil Trimester I dan Munculnya Mual dan Muntah Kehamilan. Jurnal Penelitian Kesehatan" SUARA FORIKES"(Journal of Health Research" Forikes Voice"), 13(1), 147-152.

Puspitasari, I., & Wahyuntari, E. (2020, May). Gambaran Kecemasan Ibu Hamil Trimester III. In *Prosiding University Research Colloquium* [online] (pp. 116-120). Diperoleh dari : http://repository.urecol.org/index.php/proceeding/article/view/1034/1003. [diakses pada 17 Desember 2023]

Sari, S. N., Wahyuni, S., & Distinarisa, H. (2023). HUBUNGAN ANTARA STATUS KEHAMILAN DENGAN TINGKAT KECEMASAN PADA PRIMIGRAVIDA DI WILAYAH KERJA PUSKESMAS BANGETAYU SEMARANG. Jurnal Ilmiah Sultan Agung, 2(1), 1103-1112. Diperoleh dari : https://jurnal.unissula.ac.id/index.php/JIMU/article/view/31450,

Setiawati, I., Qomari, S. N., & Daniati, D. (2022). Hubungan Paritas, usia kehamilan dan pekerjaan ibu hamil dengan tingkat kecemasan ibu hamil di Puskesmas Trageh. JURNAL ILMIAH OBSGIN: Jurnal Ilmiah Ilmu Kebidanan & Kandungan P-ISSN: 1979-3340 e-ISSN: 2685-7987, 14(3), 154-160. https://stikes-nhm.e-journal.id/JOB/article/view/792

Siregar, N. Y., Kias, C. F., Nurfatimah, N., Noya, F., Longgupa, L. W., Entoh, C., & Ramadhan, K. (2021). Tingkat Kecemasan Ibu Hamil Trimester III dalam Menghadapi Persalinan: Anxiety Levels of Third Trimester of Pregnant in Facing Childbirth. Jurnal Bidan Cerdas, 3(1), 18-24.

Situmorang, R. B., Rossita, T., & Rahmawati, D. T. (2020, October). Hubungan Umur Dan Pendidikan Terhadap Tingkat Kecemasan Pada Ibu Hamil Trimester Iii Dalam Menghadapi Persalinan Di Kabupaten Mukomuko Provinsi Bengkulu. In Seminar

Nasional Multi Disiplin Ilmu Universitas Asahan. Diperoleh dari : https://www.academia.edu/download/92475338/353892312.pdf.

Veftisia, V., & LD, A. (2021). Tingkat Kecemasan, Stress Dan Depresi Pada Ibu Hamil Trimester II Dan III di PMB Ibu Alam Kota Salatiga. Indonesian Journal of Midwifery (IJM), 4(1), 62-67. https://scholar.archive.org/work/coklgqumpfcntmuqfrx55swhey/access/wayback/http://jurnal.unw.ac.id:1254/index.php/ijm/article/download/893/pdf.

World Health Organization (2022) Guide for Integration of Perinatal Mental Health in Maternal and Child Health Services [online] Geneva: World Health Organization. diperoleh dari: https://apps.who.int/iris/handle/10665/362880 [diakses pada 26 Januari 2023].

Wulandari, R. P., & Perwitasari, P. (2021). Hubungan Usia Ibu Dan Paritas Dengan Gejala Depresi Pada Kehamilan. Journal of Midwifery and Reproduction, 4(2), 81-85. https://journal.umbjm.ac.id/index.php/midwiferyandreproduction/article/view/675

Yasin, Z., Sumarni, S., & Mardiana, N. D. (2019, December). Hubungan Usia Ibu Dan Usia Kehamilan Dengan Kecemasan Ibu Hamil Dalam Menghadapi Persalinan Di Polindes Masaran Kecamatan Bluto. In 1st Prosiding Seminar Nasional Fakultas Ilmu Kesehatan (pp. 55-61). Diperoleh dari : http://seminar.umpo.ac.id/index.php/SNFIK2019/article/view/375.\

Ainun, S. Z., Sari, G. M., & Frety, E. E. (2022). Anxiety and it's relationship with adherence to visit antenatal care in pregnant women. Journal of Maternal and Child Health, 7(1), 90-99.

Ziyadatul'Iffa, A., Romdhoni, A. C., Fernandus, E. D., & Purwanto, B. (2023). The relationship between anxiety levels in facing childbirth and sleep quality among pregnant women in third trimester (Field study at Lulu's Independent Midwifery Practice Surabaya in 2023). World Journal of Advanced Research and Reviews, 20(3), 1480-1488.