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Original Research

The Influence of Parity and Knowledge on Anxiety Levels Among Pregnant Women at Sahu Health Center

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Abstract
Pregnancy is often accompanied by psychological challenges, particularly anxiety related to childbirth. In Indonesia, the prevalence of anxiety among pregnant women reaches 28.7%. A preliminary study conducted at Sahu Health Center in October 2025 found that among 10 third-trimester pregnant women, 40% were experiencing their first pregnancy, 40% lacked knowledge regarding childbirth preparation and labor processes, and 20% reported anxiety due to limited family support because their husbands worked outside the area. This study aimed to analyze the influence of parity and knowledge on anxiety levels among pregnant women at Sahu Health Center. A quantitative cross-sectional design was employed involving 40 third-trimester pregnant women selected through purposive sampling. Data were collected using questionnaires assessing parity, knowledge of childbirth, and anxiety levels. Data were analyzed using cross-tabulation and ordinal regression. The results demonstrated a significant association between parity and anxiety levels (p=0.000), whereas knowledge level was not significantly associated with anxiety (p=0.064). These findings indicate that parity is an important factor influencing maternal anxiety, while knowledge alone may not be sufficient to reduce anxiety. Emotional readiness and social support should therefore be strengthened, particularly among first-time mothers, to improve maternal well-being during pregnancy and childbirth.

1. Introduction

Pregnancy is a life stage filled with hope, but also with numerous challenges, both physical and emotional. One of the main psychological challenges faced by pregnant women is anxiety related to childbirth (Dwinanda *et al*., 2023).

The prevalence data of anxiety in pregnant women in Indonesia is 28.7%, with 373 million pregnant women experiencing anxiety in facing childbirth (Heryanti et al., 2024). The preliminary study on October 2025 in Sahu Health Center to 10 pregnant woment at the 3rd trimester shows that 4 mothers (40%) said this was their first pregnancy, 4 mothers (40%) said they did not know what needed to be prepared for childbirth and how the delivery process would go, and 2 mothers (20%) said they were anxious because they were far from family and their husbands were working out of town.

This anxiety may arise from uncertainty about how the labor process will unfold, fear for the health of the mother and baby, and lack of knowledge regarding what needs to be prepared. Excessive anxiety can affect the physical and psychological well-being of the mother, which in turn can influence the course of labor itself. Therefore, understanding the factors that contribute to pregnancy-related anxiety is crucial in providing appropriate support to help reduce this anxiety (Dwinanda *et al*., 2023).

One of the key factors that influence maternal anxiety is parity, which refers to the number of

previous births a woman has had. First-time pregnant women (nulliparous women) often experience higher levels of anxiety because they have no prior experience with childbirth (Deflorian et al., 2024). First pregnancies often bring about uncertainty about what will happen during labor, what needs to be prepared, and how to manage pain and discomfort. In contrast, women who have previously given birth (multiparous women) are generally better prepared mentally and emotionally, as they already have knowledge about what to expect during the process of labor (Putri et al., 2023). Nevertheless, even experienced mothers may still experience anxiety, but typically to a lesser extent than first-time mothers (Budiarti et al., 2025).

In addition to parity, knowledge of the childbirth process plays a significant role in shaping maternal anxiety. Pregnant women who are well-informed about the stages of labor, the signs of childbirth, pain management techniques, and the preparations necessary for delivery typically experience lower levels of anxiety. Knowledge provides a sense of control over the situation, which makes the mother feel more confident and prepared. On the other hand, women who lack information about labor or feel unprepared are generally more anxious. Adequate knowledge not only helps to reduce anxiety but also provides a sense of security and readiness to face whatever may come during labor. Thus, it is important for healthcare providers to offer sufficient education on childbirth, so that pregnant women are better equipped to manage their anxiety (Angesti & Febriyana, 2021).

Furthermore, psychosocial factors also play a role in maternal anxiety. Many pregnant women feel more anxious when they are isolated from family or lack direct support from their partners. For example, women whose husbands work in other cities or who live far from their families often feel more anxious due to the lack of the emotional support they need. Emotional support from partners and family members is crucial in helping mothers feel calmer and more ready to face labor (Heryanti et al., 2024). Additionally, uncertainty about what to expect and how to prepare for labor is often a source of anxiety for pregnant women. Therefore, providing adequate support from all parties involved in the labor process is essential for reducing anxiety. Excessive anxiety during pregnancy can affect many aspects of the mother's health, including increased blood pressure, heightened pain, and prolonged labor duration. In more extreme cases, unmanaged anxiety can lead to medical complications. Therefore, it is important to understand the factors that contribute to maternal anxiety so that appropriate interventions can be implemented to reduce this anxiety and support both maternal and neonatal health (Helmiwati *et al*., 2026).

Previous studies have shown a significant relationship between knowledge and parity with maternal anxiety. For instance, research by (Dewi et al., 2025) revealed that first-time pregnant women (nulliparous) tend to experience higher levels of anxiety compared to those who have previously given birth (multiparous). This is due to the uncertainty and lack of knowledge about what to expect. Additionally, research by (Fauzia et al., 2022) found that pregnant women with better knowledge of the childbirth process had lower anxiety levels. Women who understand the stages of labor and what to expect feel more prepared and calm. According to (Sariowan et al., 2023) also emphasized the importance of support from healthcare providers and family members in reducing maternal anxiety. With adequate support, pregnant women are better prepared both mentally and emotionally for childbirth.

Based on the background above, this study aims to identify the relationship between parity and knowledge level with maternal anxiety in third-trimester pregnant women at the Sahu Health Center. This study is expected to provide a deeper understanding of the factors influencing maternal anxiety and offer a solid foundation for healthcare providers to design interventions that can reduce maternal anxiety. By improving knowledge and providing appropriate support, it is hoped that pregnant women will face childbirth with greater calm and readiness, which will ultimately reduce the risk of physical and psychological complications during and after labor. This research also aims to provide a stronger basis for the development of educational programs and psychological support that can help pregnant women better prepare for childbirth.

2. Research Method

This study methods was used quantitative descriptive design using ordinal regression to analyze the relationship between parity and knowledge level with anxiety levels experienced by third-trimester pregnant women at the Sahu Health Center. The research is conducted using a cross-sectional approach, where data is collected at a single point in time, specifically in October 2025. The study population consists of third-trimester pregnant women who attended prenatal

check-ups at the Sahu Health Center with 44 pregnant woment. The sampel of 40 pregnant women in the third trimester who experienced anxiety in preparation for labor were selected through purposive sampling by Slovin Formula's. The inclusion criteria for the study were pregnant women aged 20-40 years, who could communicate effectively, and who were willing to participate in the study. Exclution criteria were respondent who were absent during the study and have poor health conditions. Informed consent is obtained before the research is conducted and after providing an explanation about the research procedures to the respondents

Data were collected using a structured questionnaire, which consisted of three sections: first, questions regarding parity (number of previous births), second, questions to assess the knowledge level of the women regarding childbirth, and third, questions to assess the anxiety level towards childbirth using a validated and reliable anxiety scale by Hamilton anxiety rating scale with criteria Score < 14: No anxiety, Score 14–20: Mild anxiety, Score 21–27: Moderate anxiety, Score 28–41: Severe anxiety, Score 42–56: Panic. The collected data were then analyzed using cross tabulation and ordinal regression to examine the influence between the independent variables (parity and knowledge level) and the dependent variable (anxiety level). The scale and significance values from the regression analysis were carefully reviewed to determine the relationships between the variables.

3. Results and Discussion

3.1 Univariat Analyze

Table 1. Distribution of Age among Pregnant Women

Category	Frequency	Percentage (%)
<20 years	8	20.0
20-35 years	28	70.0
>35 years	4	10.0
Total	40	100.0

Base on table 1 that the majority of the pregnant women in this study are in the 20-35 years age range, making up 70% of the sample. Women aged under 20 years constitute 20% of the sample, while 10% of women are older than 35 years. This indicates that most of the pregnant women at the Sahu Health Center fall into the more reproductive age group of 20 to 35 years. Age can influence maternal anxiety, as younger mothers may experience more anxiety due to lack of experience and knowledge compared to older mothers.

Table 2. Distribution of Parity among Pregnant Women

Category	Frequency	Percentage (%)
Primigravida	22	55.0
Multigravida	16	40.0
Grandemulti	2	5.0
Total	40	100.0

Base on table 2 that most of the pregnant women in this study are primigravida (55%), meaning they are experiencing their first pregnancy. Multigravida women, who have experienced previous births, make up 40%, and grandemulti women (those with more than two previous pregnancies) account for 5%. This distribution indicates that the majority of pregnant women in this study are first-time mothers, who are typically more anxious compared to those with prior birth experience.

Table 3. Distribution of Knowledge Level among Pregnant Women

Category	Frequency	Percentage (%)
Poor	10	25.0
Sufficient	8	20.0
Good	22	55.0
Total	40	100.0

Base on table 3 that the majority of pregnant women (55%) have good knowledge about childbirth, while 25% have poor knowledge and 20% have sufficient knowledge. Good knowledge about the childbirth process is expected to reduce maternal anxiety, but based on the ordinal regression analysis, knowledge level did not show a significant impact on maternal anxiety. This suggests that while better-informed mothers tend to be more prepared mentally, knowledge alone is not sufficient to significantly reduce anxiety.

Table 4. Distribution of Anxiety Levels among Pregnant Women

Category	Frequency	Percentage (%)
Mild	16	40.0
Moderate	20	50.0
Severe	4	10.0
Total	40	100.0

Base on table 4 that the majority of pregnant women (50%) reported experiencing moderate anxiety, 40% experienced mild anxiety, and 10% experienced severe anxiety. This indicates that most of the pregnant women in this study experienced moderate anxiety. The chi-square analysis shows that parity has a significant relationship with anxiety, with primigravida women being more anxious than multigravida women.

3.2 Bivariat Analyze

Table 5. Crosstab of Parity and Anxiety Levels among Pregnant Women

Anxiety Category	Primigravida (N=22)	Multigravida (N=16)	Grandemulti (N=2)	Total (N=40)
Mild	16 (72.7%)	0 (0.0%)	0 (0.0%)	16 (40.0%)
Moderate	2 (9.1%)	16 (100%)	2 (100%)	20 (50.0%)
Severe	4 (18.2%)	0 (0.0%)	0 (0.0%)	4 (10.0%)
Total	22 (55.0%)	16 (40.0%)	2 (5.0%)	40 (100%)
P= 0.000; α 0,05, CI = 4.804-8.919				

Base on table 5 that the crosstab analysis between parity and anxiety levels shows that primigravida (first-time pregnant women) tend to experience higher levels of anxiety, with 72.7% experiencing mild anxiety and 18.2% experiencing severe anxiety. In contrast, multigravida (women with previous pregnancies) predominantly experience moderate anxiety, with 100% of multigravida women experiencing moderate anxiety. This suggests that parity significantly affects anxiety levels. First-time mothers, who lack previous experience, tend to be more anxious compared to women who are familiar with the labor process. This finding is further supported by the chi-square value of 0.000, indicating a significant relationship between parity and anxiety levels.

Table 6. Crosstab of Knowledge Level and Anxiety Levels among Pregnant Women

Anxiety Category	Poor Knowledge (N=10)	Sufficient Knowledge (N=8)	Good Knowledge (N=22)	Total (N=40)
Mild	2 (20.0%)	6 (75.0%)	8 (36.4%)	16 (40.0%)
Moderate	4 (40.0%)	2 (25.0%)	14 (63.6%)	20 (50.0%)
Severe	4 (40.0%)	0 (0.0%)	0 (0.0%)	4 (10.0%)
Total	10 (25.0%)	8 (20.0%)	22 (55.0%)	40 (100%)
P= 0.064; α 0,05, CI = 5.708-5.708				

Base on table 6 that between knowledge level and anxiety levels, it is observed that although women with good knowledge tend to have lower anxiety levels, knowledge level did not significantly influence the anxiety levels. Among women with poor knowledge, a large portion (40%) experienced severe anxiety, and only 20% had mild anxiety. Among those with sufficient knowledge, most experienced mild anxiety (75%), with no one reporting severe anxiety. Women with good knowledge experienced more mild anxiety (36.4%) and moderate anxiety (63.6%). However, the chi-squareanalysis showed a p-value of 0.064, indicating that knowledge did not have a significant relationship with anxiety levels.

3.3 Relationship Between Parity and Anxiety Levels

Based on the bivariate analysis, it was found that parity has a significant relationship with the anxiety levels experienced by pregnant women. First-time mothers (primigravida) tend to experience higher levels of anxiety compared to women who have previously given birth (multigravida). The crosstab analysis showed that 72.7% of primigravida experienced mild anxiety, and 18.2% experienced severe anxiety. In contrast, 100% of multigravida women experienced moderate anxiety, with none reporting severe anxiety. This indicates that parity plays a significant

role in influencing the anxiety levels of pregnant women. First-time mothers, who lack previous experience with childbirth, tend to be more anxious than those who are already familiar with the process. Previous studies have also supported these findings. (Amalia *et al*., 2025) found that first-time pregnant women (nulliparous) tend to experience higher levels of anxiety compared to those who have given birth before. Similarly by (Noviani & Widiani, 2021) highlighted that first-time mothers experience higher anxiety levels due to the uncertainty and lack of firsthand experience with childbirth. Furthermore, (Sari & Puspitari, 2025) stated that women with previous birth experiences are better prepared mentally, as they are more accustomed to the labor process, leading to lower anxiety levels.

This reduction in anxiety among multigravida women can be explained through Kolb's (1984) experiential learning theory, which suggests that past experiences (such as previous childbirth) help individuals reduce uncertainty and anxiety when facing similar situations in the future. Therefore, women who have had more childbirth experiences are better able to manage their anxiety compared to first-time mothers who lack this experience.

3.4 Relationship Between Knowledge Level and Anxiety Levels

In this study, knowledge about the childbirth process did not show a significant relationship with maternal anxiety. The crosstab analysis revealed that while women with good knowledge tended to experience lighter anxiety, the relationship was not statistically significant. The chi-square value for the relationship between knowledge level and anxiety was 0.064, indicating that knowledge level did not significantly affect the anxiety levels of pregnant women.

Previous research by (Yanti & Hasrida, 2024) also found that although knowledge about childbirth can help reduce anxiety, other factors such as social support and previous experience play a larger role in influencing anxiety levels. This aligns with the findings of Tanjung et al. (2018), who suggested that while education about childbirth can improve maternal readiness, maternal anxiety is often more strongly influenced by emotional and social factors, such as support from partners, family, and healthcare providers.

According to (Jannati et al., 2025) self-efficacy theory can help explain why knowledge alone does not significantly reduce anxiety. According to Bandura, a person's belief in their ability to handle a situation, such as childbirth, is more influential in reducing anxiety than knowledge alone. Even if a pregnant woman has sufficient knowledge about the childbirth process, without confidence in her ability to cope with it, anxiety may still persist. Therefore, it is important for healthcare providers not only to offer information but also to provide emotional support that boosts self-efficacy and reduces anxiety.

This indicates that providing emotional support and strengthening self-efficacy may be more crucial in reducing maternal anxiety than simply increasing knowledge. The confidence in handling childbirth, which comes from experience and emotional support, appears to play a more significant role in reducing anxiety than simply understanding the steps involved in the process.

4. Conclusion

This study highlights the significant relationship between parity and anxiety levels among pregnant women. First-time mothers (primigravida) experience higher levels of anxiety compared to women with prior childbirth experience (multigravida). This is consistent with previous research that emphasizes the influence of past experiences on anxiety levels, where those with previous childbirth experiences tend to have lower anxiety due to familiarity with the process. The findings suggest that parity plays a crucial role in shaping maternal anxiety, with first-time mothers being particularly vulnerable to higher anxiety levels.

On the other hand, knowledge about childbirth, while important, did not show a significant impact on reducing anxiety levels in this study. Although women with higher knowledge levels tended to experience milder anxiety, the relationship was not statistically significant. This supports the idea that knowledge alone is not sufficient to reduce anxiety, and other factors, such as emotional support and self-efficacy, are crucial in managing maternal anxiety. Therefore, healthcare providers should focus not only on providing information about childbirth but also on offering emotional support and strengthening women's confidence in their ability to manage the experience. Emotional readiness and self-efficacy appear to be more influential in reducing anxiety than just informational preparedness. Healthcare providers should focus on enhancing emotional support, especially for first-time mothers, to help alleviate anxiety and improve maternal *w*ell-being

during the childbirth process. Study limitation were a relatively small sample size. A limited sample size can reduce the ability of the research to represent the characteristics of the overall population, resulting in research findings with a lower level of generalization.

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References

Amalia, S., Astuti, H. P., & Wijayanti. (2025). Faktor-faktor yang Mempengaruhi Kecemasan pada Ibu Hamil. *Jurnal Kebidanan Khatulistiwa*, *11*(2), 79–87. https://ejournal.poltekkes-pontianak.ac.id/index.php/JVK/article/view/1191/pdf

Angesti, E. P. W., & Febriyana, N. (2021). Hubungan Kecemasan dan Pengetahuan Dengan Kesiapan Persalinan di Masa Pandemi Covid-19. *Indonesia Midwifery and Health Sciences Journal*, *5*(4), 350–359. https://doi.org/10.20473/imhsj.v5i4.2021.349-358

Budiarti, A., Hastuti, P., Fatimawati, I., & Sulistyawati, R. (2025). Original Article Determinants of Psychological Disorders Among Pregnant Women in Indonesia : A Cross-sectional Study on The Roles of Social Support , Parity , and Anxiety Implications for Practice : Implications for Practice : Pregnancy is a natural proce. *Journal of Applied Nursing and Health*, *7*(3), 595–603. https://janh.candle.or.id/index.php/janh/article/view/388/482

Deflorian, A. L., Birman, Y., & Rinaldy, A. (2024). Gambaran Tingkat kecemasan Ibu Hamil Trimester III dalam Menghadapi Persalinan pada Masa Pandemi Covid-19 di Puskesmas Air Dingin Kota Padang. *Nusantara Hasana Journal*, *4*(1), 33–43. https://nusantarahasanajournal.com/index.php/nhj/article/view/1142/951

Dewi, A. R., Ulfiana, E., & Anggraini, D. D. (2025). Faktor-Faktor yang Mempengaruhi Kecemasan pada Ibu Hamil Trimester III di UPTD Puskesmas Sambong Kabupaten Blora. *Jusindo*, *7*(2), 612–628. https://jusindo.publikasiindonesia.id/index.php/jsi/article/download/300/542

Dwinanda, L., P Retna, T., & Wahyurianto, Y. (2023). Description of Family Support and Anxiety Levels of Third Trimester Pregnant Women during the Covid-19 Pandemic in Tuban Regency. *Josar*, *8*(2), 241–249. https://ejournal.unisbablitar.ac.id/index.php/josar/article/view/2680/1645

Fauzia, E., Fitriyah, N., & Wahyuningsih, A. S. (2022). Hubungan Tingkat Pengetahuan Ibu Hamil Trimester III Dengan Tingkat Kecemasan Dalam Menghadapi Persalinan Di Masa Pandemi. *JUKEJ: Jurnal Kesehatan Jompa*, *1*(1), 1–6. https://jurnal.jomparnd.com/index.php/jkj/article/view/218/269

Helmiwati, Lestari, M. A., & Sutiyani, E. (2026). Description of Anxiety Levels among Third-Trimester Pregnant Women Facing Childbirth at Ubung Health Center. *Midwifero: Journal of Midwifery Practice and Science*, *1*(1), 1–3. https://journal.uniqhba.ac.id/index.php/midwifero/article/view/939/431

Heryanti, J., Pujiati, W., & Wati, L. (2024). Kelas Ibu Hamil Terhadap Tingkat Kecemasan Dalam Menghadapi Persalinan. *Jurnal Vokasi Kesehatan*, *10*(1–7). https://ejournal.poltekkes-pontianak.ac.id/index.php/JVK/article/view/1191/pdf

Jannati, S. H., Afrida, B. R., Idyawati, S., & Aryani, N. P. (2025). Karakteristik Ibu (Usia, Paritas, Pendidikan) dan Dukungan Suami dengan Kecemasan Ibu Hamil Trimester III. *Jurnal Kesehatan Qamarul Huda*, *13*(2), 81–95. https://doi.org/10.37824/jkqh.v13i1.2025

Noviani, N. W., & Widiani, N. N. A. (2021). Pengaruh Senam Hamil terhadap Tingkat Depresi Ibu hamil Trimester III di Kecamatan Sukawati. *Jurnal Genta Kebidanan*, *11*(2), 54–58. https://ejournal.pkkb.ac.id/index.php/JGK/article/view/33/17

Putri, A. E. S., Rukiah, N., & Shifa, N. A. (2023). Hubungan Pengetahuan dengan Tingkat Kecemasan Ibu Hamil Trimester III di Puskesmas Ciawi Kabupaten Bogor Tahun 2021. *Indonesia Journal of Midwifery Sciences*, *2*(2), 223–230. https://oaj.scipro-foundation.co.id/index.php/IJMS/article/download/62/61/817

Sari, indah P., & Puspitari, A. I. (2025). The Influence of Anxiety Levels in Third Trimester Pregnant Women Through Health Education on Childbirth Preparation at the Marlina Clinic, Ciputat District, Tangerang Selatan City. *Mahesa: Malahayati Health Student Journal*, *5*(3), 1009–1017. https://ejurnalmalahayati.ac.id/index.php/MAHESA/article/view/16791/Download Artikel

Sariowan, G. C., Tandipajung, T., & Timmerman, E. (2023). Analisis Faktor yang Mempengaruhi Tingkat Kecemasan pada Ibu Hamil Trimester III dalam Menghadapi Persalinan di Masa Pandemi Covid-19. *Dharma Medika*, *3*(1), 1–7. https://ejournal.unsrittomohon.ac.id/index.php/dharmamedika/article/view/26/26

Yanti, F. F., & Hasrida. (2024). Hubungan Paritas, Usia dan Pendidikan Ibu Hamil Trimester III dengan Tingkat Kecemasan Dalam Menghadapi Masa Mnejelang Persalinan di Puskesmas Petir. *Jurnal Keperawatan Muhammadiyah*, *9*(1), 7–14. https://journal.um-surabaya.ac.id/JKM/article/view/21787/7459.