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Original Research

Connection Parity With Anxiety Levels of Pregnant Women in the Third Trimester Facing Childbirth

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Abstract
Anxiety during pregnancy and childbirth can lead to birth complications such as uterine inertia, prolonged labor, and postpartum hemorrhage. Factors that can influence anxiety in pregnant women include age, education level, and parity. This study aims to determine the relationship between parity and maternal anxiety levels in dealing with childbirth in pregnant women in the third trimester at the Community Health Center. This study used observational analytical research with a cross-sectional approach . The independent variable namely parity and the dependent variable is anxiety. The population was 344 pregnant women in their third trimester who underwent antenatal care (ANC) at the Community Health Center in 2025, with a sample size of 77 respondents. The sampling technique used was The method used in this study was purposive sampling. Data analysis used Chi-Square . The results of this study prove the results of the analysis using the Chi-Square test. a significant value of 0.00 3 was obtained , because the significant value (p-value) obtained was 0.00 3 which is smaller than a = 0.05 (p < 0.05), the statistical results show that there is a relationship between parity with the level of maternal anxiety in facing childbirth in third trimester pregnant women at the Community Health Center. The conclusion that can be drawn from this study is that there is a relationship between parity and the level of maternal anxiety in facing childbirth in third trimester pregnant women at the East Amurang Community Health Center.

1. Introduction

Pregnancy and childbirth are processes involving both physiological and psychological changes in a woman's body, requiring adaptation (Stuart, 2015). In addition, pregnant women experience various discomforts such as fatigue, vaginal discharge, food cravings, frequent urination, and emesis gravidarum (Natsir, 2016). Feelings of anxiety and worry tend to increase during the third trimester, as mothers begin to imagine the stressful process of childbirth, the pain involved, the possibility of death during labor, and fears that the baby may be born with a disability (Uripni & Lia, 2016).

Anxiety is a diffuse feeling of worry often accompanied by autonomic symptoms and motor tension (Sadock et al., 2015). The World Health Organization (WHO) reports that women are more likely to experience anxiety disorders than men. Women are particularly vulnerable to anxiety disorders during various stages of their reproductive life, including pregnancy (Madhavanprabhakaran et al., 2015). The WHO compared anxiety levels between pregnant and non-pregnant women and found that only 5% of non-pregnant women experienced anxiety, while 8–10% of pregnant women experienced anxiety. This proportion increased to 13% as childbirth approached (Silva et al., 2017).

In 2019, the World Health Organization (WHO) reported that approximately 12,230,142 pregnant women worldwide experienced problems during the third trimester, with 30% experiencing anxiety

related to childbirth. In the United Kingdom, 81% of women experienced mental health problems during pregnancy. In France, 7.9% of primiparous mothers experienced anxiety during pregnancy, 11.8% experienced depression, and 13.2% experienced both anxiety and depression (Halil & Puspitasari, 2023).

According to the World Health Organization (WHO), 20% of pregnant women approaching childbirth experience anxiety. In the United States, anxiety levels among women giving birth range from approximately 7–10%, while in the United Kingdom the prevalence is 6.7%. In Indonesia, the number of anxiety cases among pregnant women reaches 373,000,000, with approximately 107,000,000 women (28.7%) experiencing anxiety prior to childbirth (Kemenkes RI, 2018).

The prevalence of anxiety during the third trimester of pregnancy is estimated at 18.2%–24.6% based on international studies (Tang et al., 2019). Risk factors for anxiety include lack of social support (Sinesi et al., 2019), a history of mental illness (Wallace & Araji, 2020), experiences of domestic violence or abuse (Chandra & Nanjundaswamy, 2020), unplanned or unexpected pregnancy, and miscarriage (Shakarami et al., 2021). These factors have been shown to be significantly associated with anxiety during pregnancy.

For primigravida mothers, pregnancy represents a first-time experience; therefore, anxiety tends to increase during the third trimester as childbirth approaches. Limited prior experience and insufficient knowledge contribute significantly to anxiety (Rohani et al., 2016). Primigravida women often have little understanding of what will occur during childbirth and may feel fearful after hearing stories about labor, particularly as gestational age increases and childbirth draws nearer. In contrast, women with multigravida parity generally have prior experience with pregnancy and childbirth, which enables them to be more mentally and psychologically prepared (Rafidah & Safitri, 2021).

Anxiety experienced by pregnant women during the third trimester, if not promptly addressed, can adversely affect both maternal and fetal health. Maternal anxiety is associated with an increased risk of cesarean delivery, low birth weight, and preterm birth. Stress hormones such as catecholamines and adrenaline released during anxiety can inhibit oxytocin secretion, which is essential for stimulating uterine contractions. Weak uterine contractions may result in prolonged labor (Nasreen et al., 2019).

The impact of anxiety during pregnancy can lead to adverse outcomes for both the mother and fetus during labor. Elevated levels of stress hormones, including adrenocorticotropic hormone (ACTH), cortisol, catecholamines, prolactin, and luteinizing hormone (LH), can cause systemic vasoconstriction, including uteroplacental vasoconstriction. This disrupts blood flow to the uterus, reducing oxygen delivery to the fetus and weakening uterine contractions. As a result, labor may be prolonged, increasing the risk of fetal emergencies such as asphyxia, fetal distress, and intrauterine fetal death (IUFD) (Laili & Wartini, 2017).

A study by Nakamura et al. (2020) found a significant relationship between parity and anxiety scores among pregnant women, indicating that as the number of pregnancies increased, anxiety and depression scores also increased ($p = 0.004$). Conversely, Guler et al. (2019) reported that anxiety occurred more frequently among primiparous pregnant women than among multiparous women and those undergoing planned cesarean delivery ($p < 0.001$). On average, women with normal anxiety scores were multiparous patients who underwent elective cesarean delivery. These findings are consistent with Brunton et al. (2020), who reported that nulliparous women experienced higher levels of pregnancy-related anxiety compared to multiparous women.

According to previous studies, primiparous women tend to experience higher levels of anxiety than multiparous women (Nakamura et al., 2020). Therefore, anxiety among primiparas should be monitored from the early stages of pregnancy. Primiparas often have limited experience in infant care and may lack confidence in their maternal role, resulting in lower maternal self-efficacy in neonatal care compared to multiparas (Brunton et al., 2020). The lack of experience and confidence has consistently been identified as a major contributor to anxiety during pregnancy and the postpartum period. Consequently, heightened anxiety related to childbirth and childcare among first-time mothers is considered a natural psychological response rather than a pathological condition (Nakamura et al., 2020).

However, most previous studies were conducted in hospital-based or urban healthcare settings, with limited focus on primary healthcare facilities in rural or semi-rural areas. This study contributes to the existing literature by examining anxiety among primiparous mothers at Puskesmas Amurang Timur, a primary healthcare facility with distinct service characteristics and resource limitations. The respondents predominantly consisted of first-time mothers receiving antenatal care at the

community health center level, a population that remains underrepresented in previous research. The findings provide context-specific evidence that can be directly applied by healthcare providers to strengthen early screening and counseling interventions for primiparous mothers, thereby improving maternal mental health services at the primary care level.

2. Research Method

This research employed an observational analytical study design using a cross-sectional approach, in which the independent and dependent variables were measured simultaneously. This design was considered appropriate for identifying associations between parity and anxiety levels without manipulating variables, thereby reflecting real-world clinical conditions in antenatal care settings.

The independent variable in this study was parity, categorized according to the number of previous births experienced by the respondent. The dependent variable was maternal anxiety, defined as a psychological state of worry or fear related to the upcoming childbirth. Anxiety levels were assessed using the Hamilton Anxiety Rating Scale (HARS), a standardized and validated instrument widely used in maternal mental health research. The HARS consists of 14 items rated on a 5-point Likert scale (0–4), with total scores ranging from 0 to 56. In this study, anxiety levels were categorized as mild (≤17), moderate (18–24), and severe (≥25). The HARS has demonstrated good psychometric properties, with reported reliability coefficients (Cronbach's alpha) ranging from 0.77 to 0.92 in previous studies.

The study population consisted of 344 pregnant women in their third trimester who attended antenatal care services at the Community Health Center in 2025. From this population, a sample of 77 respondents was selected. The sample size was determined based on inclusion criteria and feasibility considerations to ensure adequate statistical power for association testing.

A purposive sampling technique was applied to select participants who met specific inclusion criteria, including being in the third trimester of pregnancy, attending antenatal care services during the study period, and willingness to participate. This sampling method was chosen to ensure that respondents possessed characteristics directly relevant to the research objectives, particularly experience and preparedness related to childbirth. However, the use of purposive sampling may introduce selection bias, as participants were selected based on predefined criteria and availability during antenatal care visits, which may limit the generalizability of the findings to broader populations of pregnant women. Nevertheless, this approach was considered appropriate for the present study, as it allowed for an in-depth examination of maternal anxiety within a specific and contextually relevant population at the primary healthcare level.

Data were collected using structured questionnaires administered directly to respondents during antenatal care visits. Prior to data collection, ethical considerations, including informed consent, confidentiality, and voluntary participation, were strictly observed in accordance with research ethics standards.

For data analysis, both univariate and bivariate analyses were conducted. Univariate analysis was used to describe the distribution of parity and anxiety levels among respondents. Bivariate analysis was performed using the Chi-Square test to examine the association between parity and maternal anxiety levels. The Chi-Square test was selected because both variables were categorical, and a significance level of $p < 0.05$ was applied to determine statistical significance.

3. Results and Discussion

3.1 Results

Table 1. Frequency Distribution Based on Parity

Parity	Frequency	Percentage (%)
Primipara	32	41.6
Multipara	45	58.4
Total	**77**	**100**

According to Table 1, which presents the frequency distribution of respondents based on parity, the majority of respondents were multiparous, totaling 45 people (58.4%), while 32 respondents were primiparous (41.6%).

Table 2. Relationship between Parity and Maternal Anxiety

Parity	Anxiety Light		Anxiety Currently		Anxiety Heavy		P value
	n	%	n	%	n	%	
Multigravida	31	(40.3)	13	(16.9)	1	(1.3)	0.00 3
Primigravida	11	(14.3)	18	(23.4)	3	(3.9)	
Amount	**42**	**(54.5)**	**31**	**(40.3)**	**4**	**(5.2)**	

According to Table 2, which presents the relationship between parity and maternal anxiety, the results of the chi-square analysis showed that the p-value was 0.003 < 0.05, indicating a significant relationship between parity and maternal anxiety.

Anxiety related to childbirth is influenced by multiple interrelated factors, including maternal age, educational background, parity, and occupational status. These factors shape a woman's psychological readiness and perception of childbirth. Women who become pregnant at a mature age and have higher educational attainment may experience heightened anxiety, particularly when they lack previous childbirth experience or adequate family support during labor. Increased access to information may intensify fear when it is not accompanied by sufficient emotional reassurance, leading to excessive worry about potential complications and labor pain.

Parity plays a critical role in determining maternal anxiety because it is closely linked to psychological adaptation and prior experience. According to Purwandari (2018), parity significantly influences anxiety through psychological mechanisms, particularly fear and anticipation of pain during childbirth. Primigravida or primiparous women are more vulnerable to anxiety due to the novelty of the childbirth experience. The absence of previous labor experience leads to uncertainty and heightened emotional responses. Furthermore, Purwandari et al. (2018) emphasized that anxiety is not limited to first-time mothers; even women undergoing their fifth delivery may still experience anxiety. This condition is often associated with emotional disturbances in multigravida women, such as fear, tension, and anxiety arising from memories of pain experienced during previous childbirths.

These findings are supported by research conducted by Dwi et al. (2019), which indicated that primigravida or primiparous women experience anxiety more frequently than multiparous women. Pregnancy in primigravida women represents a first-time experience, making the third trimester increasingly anxiety-provoking as childbirth approaches. During this period, pregnant women tend to feel restless, worried about their pregnancy, and fearful of facing labor. A lack of knowledge and experience serves as a reinforcing factor in the development of anxiety, as limited understanding of the childbirth process contributes significantly to emotional distress (Dwi et al., 2019).

In contrast, women who have previously given birth tend to experience lower anxiety levels. Hidayat (2020) reported that multiparous women generally exhibit less anxiety compared to nulliparous women. This is because multiparous women have already experienced the childbirth process, allowing them to develop mental preparedness and emotional resilience for labor. Conversely, nulliparous women—defined as women who have never delivered a viable infant—lack firsthand experience of childbirth, which increases fear of the unknown and contributes to higher anxiety levels (Hidayat, 2020).

Maternal anxiety has significant implications for both maternal and fetal health. According to Isnaini et al. (2020), anxiety levels in pregnant women have a substantial impact on maternal well-being and fetal outcomes. Lower anxiety levels are associated with reduced pregnancy complications, which may indirectly decrease maternal and infant mortality rates. Conversely, high anxiety levels can exacerbate obstetric complications and increase the risk of adverse maternal and neonatal outcomes. Anxiety can stimulate uterine contractions and elevate blood pressure, potentially triggering preeclampsia and increasing the risk of miscarriage (Isnaini et al., 2020).

The results of this study are consistent with findings reported by Yulianto et al. (2023), which demonstrated a strong association between parity and maternal anxiety. The reported odds ratio (OR = 5.961) indicates that mothers with high-risk parity are 5.961 times more likely to experience anxiety when facing childbirth compared to those with low-risk parity. Primiparous women, in particular, lack

experience with pregnancy and childbirth, leading to excessive fear and anxiety regarding the labor process. The first pregnancy represents a critical life period for women, requiring significant psychological adjustment and increasing vulnerability to anxiety (Yulianto et al., 2023).

Overall, these findings reinforce the importance of parity as a determinant of maternal anxiety. They highlight the need for focused antenatal care strategies that address psychological readiness, particularly among primigravida and nulliparous women, through education, counseling, and emotional support to reduce anxiety and improve maternal and neonatal outcomes.

4. Conclusion

This study found that the majority of third-trimester pregnant women attending antenatal care at the East Amurang Community Health Center were multiparous (58.4%), while a substantial proportion were primiparous (41.6%). Most respondents experienced mild to moderate levels of anxiety, indicating that anxiety is a common psychological condition among pregnant women in the third trimester. Statistical analysis demonstrated a significant relationship between parity and anxiety levels ($\rho = 0.003$), suggesting that primiparous women are more vulnerable to higher levels of anxiety compared to multiparous women.

These findings have important practical implications for antenatal care services at the primary healthcare level. Routine anxiety screening should be integrated into antenatal care, particularly for primigravida mothers, to enable early identification of psychological distress. Early detection allows healthcare providers at community health centers to deliver timely counseling, emotional support, and appropriate referrals when necessary. Strengthening psychosocial components within antenatal services may contribute to improved maternal mental well-being, better childbirth preparedness, and overall quality of maternal healthcare.

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