



THE RELATIONSHIP BETWEEN KNOWLEDGE, ATTITUDES, AND BEHAVIORS OF POSTPARTUM MOTHERS REGARDING POSTNATAL EXAMINATION AND POSTNATAL VISITS

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ABSTRACT	KEYWORDS
The postpartum period is a critical phase lasting 6-8 weeks after delivery, during which mothers require continuous health monitoring and care. Postnatal visits are standard services provided by healthcare workers from 6 hours to 42 days postpartum to detect and prevent complications. This study aimed to analyze the relationship between knowledge, attitudes, and behaviors of postpartum mothers regarding postnatal examination and postnatal visits at TPMB Yohana Wididjati, Tulungagung Regency. This study employed an analytical observational design with a cross-sectional approach. The research was conducted from April to June 2025. The population comprised all postpartum mothers who delivered at TPMB Yohana Wididjati during the study period. A sample of 44 respondents was selected using simple random sampling based on inclusion criteria. Data were collected using structured questionnaires to measure knowledge, attitudes, and behaviors, and verified through Maternal and Child Health (MCH) books. Data analysis utilized univariate and bivariate analysis with the Chi-Square test. The results showed that 59.1% of respondents had good knowledge, and 63.6% had positive attitudes toward postnatal examination. There was a significant relationship between knowledge and postnatal visits ($p=0.001$), and between attitudes and postnatal visits ($p=0.001$). Mothers with good knowledge had 8.25 times greater odds of completing postnatal visits compared to those with sufficient knowledge. The combination of good knowledge and positive attitudes resulted in the highest proportion of complete postnatal visits (88.0%, $p=0.000$). In conclusion, knowledge and attitudes of postpartum mothers are significantly associated with adherence to postnatal visits. Healthcare providers are expected to deliver comprehensive health education focused on improving knowledge and fostering positive attitudes among postpartum mothers to enhance postnatal visit coverage.	Postpartum Knowledge, Maternal Attitudes, Postnatal Visits, Health Behavior, Maternal Health

INTRODUCTION

The postpartum period (*puerperium*) is defined as the period commencing immediately after the delivery of the placenta and concluding when the reproductive organs return to their pre-pregnant state, typically lasting six to eight weeks (Ministry of Health Republic of Indonesia, 2015). During this period, mothers require preventive care and routine evaluation to detect,

manage, and refer if complications arise. This monitoring process is conducted through postnatal visits to ensure maternal health is maintained (Saifuddin et al., 2018).

The maternal mortality rate in Indonesia during the postpartum period remains considerably high, with approximately 50% of all maternal deaths occurring during this period. This has prompted the development of updated programs and technical policies regarding the postnatal visit schedule. Postnatal visits are standardized services provided from 6 hours to 42 days postpartum by healthcare workers. Postpartum mothers are required to have at least 3-4 contacts with healthcare providers to receive comprehensive health services and examinations, both within and outside primary health centers (Ministry of Health Republic of Indonesia & WHO, 2012; Ministry of Health Republic of Indonesia, 2023).

Based on data from the Indonesian Ministry of Health (2024), complete postnatal visit coverage in Indonesia was 88.3% in 2020, increasing to 90.7% in 2021, and reaching the target of 90.7% in 2022. However, this achievement remains uneven across Indonesian regions. The lowest visit rates were recorded in several areas with KF1 at 69.1% and KF4 at 51.1%. The low coverage of postnatal visits is a serious concern as it potentially increases the risk of complications and maternal mortality (Yaya et al., 2023).

Knowledge and attitudes are predisposing factors in shaping individual behavior. Maternal knowledge about the postpartum period and postnatal visits significantly influences mothers' awareness to utilize health services. Mothers with good knowledge have a greater likelihood of completing postnatal visits compared to those with sufficient knowledge. Similarly, positive attitudes toward postnatal health services increase the potential for visit adherence, which is crucial for maternal and newborn well-being (Notoatmodjo, 2007).

Previous research by Utami (2014) demonstrated a significant relationship between knowledge and attitudes of postpartum mothers and postnatal visits, with $p=0.000$ for knowledge and $p=0.048$ for attitudes. Research by Nurani et al. (2025) also confirmed the significant relationship between knowledge and attitudes about the postpartum period and postnatal visits ($p=0.001$). A study at Gunung Lingkas Health Center, Tarakan City, revealed that while postpartum mothers' knowledge was predominantly in the good category (56.7%), more mothers exhibited negative attitudes (66.7%) toward completing postnatal visits (Gunung Lingkas Health Center, 2024).

A study at the Suka Makmur Primary Health Center, Labuhan Batu Regency, found that maternal knowledge ($p=0.002$), accessibility ($p=0.006$), and culture ($p=0.019$) significantly influenced the utilization of postnatal services (Rambe, 2024). Further analysis of the 2018 Indonesian Basic Health Research (Riskesdas) data demonstrated that factors affecting complete postnatal visits include maternal age, education, parity, delivery method, place of delivery, antenatal care visits, region of residence, employment status, health insurance ownership, and history of pregnancy complications (Situmorang & Pujiyanto, 2021).

A preliminary study conducted at TPMB Yohana Wididjati, Tulungagung Regency, revealed that some postpartum mothers did not complete postnatal visits according to the standard schedule. Reasons cited included feeling healthy, lack of understanding about the importance of postnatal visits, and limited transportation access. This study aimed to analyze the relationship between knowledge, attitudes, and behaviors of postpartum mothers regarding postnatal examination and adherence to postnatal visits at TPMB Yohana Wididjati, Tulungagung Regency.

METHOD

This study employed an analytical observational design with a cross-sectional approach. The research was conducted at TPMB Yohana Wididjati, Tulungagung Regency, from April to June 2025. The study population comprised all postpartum mothers who delivered at TPMB Yohana Wididjati during the study period. The sample was selected using simple random sampling, with 44 respondents meeting the inclusion criteria: postpartum mothers who were willing to participate, able to communicate effectively, and without severe postpartum complications.

The research instrument utilized a structured questionnaire that had undergone validity and reliability testing. The questionnaire consisted of four sections: (1) respondent demographic data, (2) knowledge questionnaire about the postpartum period and postnatal visits, (3) attitude questionnaire toward postnatal examination, and (4) postnatal visit behavior data verified through Maternal and Child Health (MCH) books. The independent variables in this study were knowledge and attitudes of postpartum mothers, while the dependent variable was postnatal visit adherence.

Data analysis was performed using computer assistance, including univariate analysis to describe respondent characteristics and bivariate analysis using the Chi-Square test with a significance level of $p < 0.05$ to determine relationships between variables.

RESULTS

1. Respondent Characteristics

Table 1. Frequency Distribution of Respondent Characteristics

Characteristic	Category	Frequency (n)	Percentage (%)
Age	<20 years	4	9.1
	20-35 years	32	72.7
	>35 years	8	18.2
Education	Elementary School	6	13.6
	Junior High School	12	27.3
	Senior High School	18	40.9
	University	8	18.2
Parity	Primipara	16	36.4
	Multipara	28	63.6
Distance to Health Facility	Accessible	18	40.9
	Inaccessible	26	59.1

Source: Primary Data, 2025

Based on Table 1, the majority of respondents were in the reproductive age range of 20-35 years (72.7%). Most respondents had completed senior high school education (40.9%), and the majority were multiparous mothers (63.6%). Inaccessible distance to health facilities was experienced by 26 respondents (59.1%).

2. Knowledge and Attitudes of Postpartum Mothers

Table 2. Frequency Distribution of Knowledge and Attitudes of Postpartum Mothers

Variable	Category	Frequency (n)	Percentage (%)
Knowledge	Good	26	59.1
	Sufficient	14	31.8
	Poor	4	9.1
Attitude	Positive	28	63.6
	Negative	16	36.4

Source: Primary Data, 2025

Table 2 shows that the majority of respondents had good knowledge about the postpartum period (59.1%), and 28 respondents (63.6%) had positive attitudes toward postnatal examination.

3. Relationship between Knowledge and Postnatal Visits

Table 3. Relationship between Knowledge of Postpartum Mothers and Postnatal Visits

Knowledge	Complete Postnatal Visits	Incomplete Postnatal Visits	Total	p-value
Good	22 (84.6%)	4 (15.4%)	26 (100%)	0.001
Sufficient	6 (42.9%)	8 (57.1%)	14 (100%)	
Poor	0 (0%)	4 (100%)	4 (100%)	
Total	28 (63.6%)	16 (36.4%)	44 (100%)	

Source: Primary Data, 2025

Based on Table 3, among 26 respondents with good knowledge, 22 (84.6%) completed postnatal visits. Conversely, all 4 respondents (100%) with poor knowledge had incomplete postnatal visits. The Chi-Square test showed $p=0.001$ ($p<0.05$), indicating a significant relationship between maternal knowledge and adherence to postnatal visits.

4. Relationship between Attitudes and Postnatal Visits

Table 4. Relationship between Attitudes of Postpartum Mothers and Postnatal Visits

Attitude	Complete Postnatal Visits	Incomplete Postnatal Visits	Total	p-value
Positive	24 (85.7%)	4 (14.3%)	28 (100%)	0.001
Negative	4 (25.0%)	12 (75.0%)	16 (100%)	
Total	28 (63.6%)	16 (36.4%)	44 (100%)	

Source: Primary Data, 2025

Table 4 demonstrates that among 28 respondents with positive attitudes, 24 (85.7%) completed postnatal visits. In contrast, among 16 respondents with negative attitudes, only 4 (25.0%) completed visits. The Chi-Square test showed $p=0.001$ ($p<0.05$), confirming a significant relationship between maternal attitudes and adherence to postnatal visits.

5. Combined Relationship between Knowledge and Attitudes with Postnatal Visits

Table 5. Combined Relationship between Knowledge, Attitudes, and Postnatal Visits

Knowledge & Attitude	Complete Postnatal Visits	Incomplete Postnatal Visits	Total	p-value
Good & Positive	22 (88.0%)	3 (12.0%)	25 (100%)	0.000
Good & Negative	0 (0%)	1 (100%)	1 (100%)	
Sufficient & Positive	2 (66.7%)	1 (33.3%)	3 (100%)	
Sufficient & Negative	4 (36.4%)	7 (63.6%)	11 (100%)	
Poor & Negative	0 (0%)	4 (100%)	4 (100%)	
Total	28 (63.6%)	16 (36.4%)	44 (100%)	

Source: Primary Data, 2025

Table 5 shows that respondents with good knowledge and positive attitudes had the highest proportion of complete postnatal visits (88.0%). The Chi-Square test yielded $p=0.000$ ($p<0.05$), indicating a highly significant relationship between the combination of knowledge and attitudes with adherence to postnatal visits.

DISCUSSION

1. Relationship between Maternal Knowledge and Postnatal Visits

The findings revealed that most respondents had good knowledge about the postpartum period (59.1%), and there was a significant relationship between maternal knowledge and adherence to postnatal visits ($p=0.001$). This finding aligns with Utami's research (2014) at Arjuno Health Center, Malang, which demonstrated a significant relationship between knowledge and postnatal visits ($p=0.000$), where mothers with good knowledge had 2.27 times greater likelihood of completing postnatal visits. Nurani et al. (2025) also confirmed this relationship with $p=0.001$ ($X^2=10.087$).

Maternal knowledge about the postpartum period is a crucial factor in the success of postnatal visits. An individual's knowledge level influences their utilization of health services; higher knowledge levels correlate with increased awareness to seek and utilize available health services (Kresno, 2016). Mothers with good knowledge about the postpartum period understand the importance of postnatal health monitoring for early detection of complications such as hemorrhage, infection, and preeclampsia.

The analysis demonstrated that mothers with good knowledge had 8.25 times greater odds of completing postnatal visits compared to those with sufficient knowledge. This indicates that knowledge is a strong determinant of health service utilization behavior during the postpartum period. A study at Gunung Tua Health Center, Padang Lawas Utara Regency (2025), found that most respondents' knowledge remained in the poor category (38.2%), which correlated with low adherence to postnatal visits (Lestari et al., 2025).

Research at Gunung Lingkas Health Center, Tarakan City, revealed that while postpartum mothers' knowledge was predominantly in the good category (56.7%), more mothers exhibited negative attitudes (66.7%) toward completing postnatal visits due to insufficient understanding of their own and their baby's health (Gunung Lingkas Health Center, 2024). This indicates that good knowledge does not necessarily translate into positive attitudes, highlighting the need for a more comprehensive approach to health education.

2. Relationship between Maternal Attitudes and Postnatal Visits

The results showed that most respondents had positive attitudes toward postnatal examination (63.6%), and there was a significant relationship between maternal attitudes and adherence to postnatal visits ($p=0.001$). This finding is consistent with Nurani et al. (2025), who found a significant relationship between attitudes and postnatal visits ($p=0.001$, $X^2=11.026$). Research at Seberang Padang Health Center also identified positive attitudes as the strongest predictor of postnatal visit adherence in multivariate analysis (Yaya et al., 2023).

Attitude is a predisposition to act or behave in a certain way toward an object. Mothers with positive attitudes toward postnatal examination tend to value the importance of postnatal health monitoring and are more motivated to complete scheduled visits. Conversely, mothers with negative attitudes tend to consider postnatal visits unimportant, particularly if they feel healthy or have had previous uncomplicated deliveries (Kresno, 2016).

Factors influencing maternal attitudes include the quality of healthcare provider communication, previous healthcare experiences, and family support. Research demonstrates that good communication quality between healthcare providers and patients increases health service acceptance and visit adherence (Mar'a, 2025). Mothers with educated husbands also tend to have more positive attitudes toward postnatal visits.

Research at BPM Yuni Wati, Pekanbaru (2022), demonstrated that maternal attitudes significantly influenced postnatal visits ($p=0.002$) (BPM Yuni Wati Pekanbaru, 2022). Respondents with positive attitudes had a higher tendency to complete postnatal visits because they felt the need to monitor both their own and their baby's health conditions. Good postpartum care fosters positive behavior. Individuals with adequate knowledge can apply what they know in daily life, resulting in the formation of positive health behaviors (Yudiyanti, 2017).

3. Other Factors Affecting Postnatal Visits

This study also identified several other factors affecting postnatal visits, including age, education, parity, and distance to health facilities. The majority of respondents (72.7%) were in the reproductive age range of 20-35 years. Within this age range, mothers tend to be more health-conscious and more receptive to health information compared to those <20 years, who are still under parental influence, or those >35 years, who may rely on previous delivery experiences and therefore not complete full visits (Haslinda, 2011).

Analysis of the 2018 Riskesdas data showed that predisposing factors influencing complete postnatal visits include maternal age 20-35 years (OR 0.885), higher education (OR 1.167), parity ≤ 2 (OR 1.090), facility-based delivery (OR 1.489), and complete antenatal care visits (OR 1.613) (Situmorang & Pujiyanto, 2021). Enabling factors influencing complete postnatal visits include having health insurance (OR 1.141), while need factors include a history of pregnancy complications (OR 0.948).

Distance to health facilities is a significant access factor. This study found that 59.1% of respondents had inaccessible distance to health facilities. Distance is a spatial factor affecting health service utilization behavior (Indryani, 2013). Proximity and short travel time, along with transportation availability, encourage individuals to utilize available health facilities. Postpartum mothers who underutilize postnatal visits often cite long distances and lack of transportation to health facilities as barriers (Wibisono, 2013).

Research at Suka Makmur Primary Health Center demonstrated that accessibility ($p=0.006$) and culture ($p=0.019$) significantly influenced the utilization of postnatal services (Rambe, 2024). Simple strategies such as providing transportation and appointment reminders via telephone can significantly improve postpartum visit adherence. Other research indicates that home visits conducted as follow-up postpartum examinations can be an alternative to reach mothers who have difficulty attending health facilities (Murniati, 2007).

CONCLUSION

Based on the research findings, the following conclusions can be drawn:

1. There is a significant relationship between postpartum mothers' knowledge about the postpartum period and adherence to postnatal visits at TPMB Yohana Wididjati, Tulungagung Regency ($p=0.001$). Mothers with good knowledge demonstrate a higher tendency to complete postnatal visits.
2. There is a significant relationship between postpartum mothers' attitudes toward postnatal examination and adherence to postnatal visits at TPMB Yohana Wididjati, Tulungagung Regency ($p=0.001$). Mothers with positive attitudes are more adherent in completing postnatal visits.
3. The combination of good knowledge and positive attitudes yields the highest proportion of complete postnatal visits (88.0%), with $p=0.000$.

SUGGESTION

For Healthcare Providers at TPMB: It is recommended to provide comprehensive health education about the postpartum period and the importance of postnatal visits from the antenatal and intrapartum periods, using engaging and easily understandable approaches. Participatory discussion methods may serve as an alternative to improve community knowledge, particularly among mothers

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