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The First Seven Days Matter: Knowledge and Attitudes of Postpartum Mothers Toward Newborn Care - A Cross-Sectional Study in Buleleng Regency

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ABSTRACT

Background: The first 0–7 days of life represent the most critical period for neonatal survival, with a high risk of morbidity and mortality. Although maternal knowledge and attitudes are considered key determinants of newborn care, evidence regarding their influence on actual practices remains inconsistent.
Method: A cross-sectional analytic study was conducted among 128 postpartum mothers selected using purposive sampling. Data were collected using validated questionnaires measuring knowledge, attitudes, and newborn care practices. Data analysis was performed using Chi-square and Fisher-Freeman-Halton Exact tests with a significance level of 0.05.
Result: Most respondents had good knowledge (66.4%), very positive attitudes (79.7%), and good newborn care practices (94.5%). A significant association was found between maternal knowledge and newborn care practices ($p < 0.001$), indicating that higher knowledge is associated with better practices. However, maternal attitudes were not significantly associated with practices ($p = 0.136$), despite the predominance of positive attitudes. Conclusion: Maternal knowledge plays a critical role in shaping newborn care practices, whereas positive attitudes alone are insufficient to ensure appropriate behavior.
Conclusion: highlight a gap between attitude and practice, emphasizing the importance of contextual and enabling factors. Strengthening maternal and child health programs should focus on skill-based education, structured postnatal counseling, and family support to ensure effective translation of knowledge into practice

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INTRODUCTION

The first seven days of life represent the most vulnerable period for neonatal survival, as newborns undergo critical physiological adaptations from intrauterine to extrauterine life. Instability in body temperature regulation, respiratory function, and immune defense increases the risk of morbidity and mortality during this period. Globally, the WHO (2024) reported that approximately 75% of neonatal deaths occur during the first week of life, and approximately 1 million newborns die within the first 24 hours. In Indonesia, neonatal mortality remains quite high. As many as 18,281 neonatal deaths occurred in 2023, and 75.5% of them occurred in the 0-7 day age group (Kemenkes RI, 2023b). Buleleng is the largest regency in Bali geographically, with several rural and mountainous areas that can create disparities in access to maternal and newborn health services. The infant mortality rate aged 0-7 days in Buleleng Regency was 13 in 2025 (Dinas Kesehatan Kabupaten Buleleng, 2025). The persistence of newborn deaths indicates that variations in healthcare accessibility, educational background, and socioeconomic conditions potentially influence mothers' understanding and implementation of recommended newborn care practices. Balinese postpartum traditions and family-centered parenting practices remain deeply embedded in the community and may influence maternal decision-making regarding newborn care.

Previous studies have demonstrated that maternal knowledge and practices regarding newborn care vary widely and may contribute to preventable neonatal complications. For instance, studies in low and middle income countries have shown that although mothers may prossess moderate knowledge, the implementation of appropriate newborn care practices is often suboptimal (Khatun et al., 2021; Wudu et al., 2024). In several settings, traditional practices that may endanger newborn health are still prevalent, such as providing prelacteal feeding (e.g., sugar water), delaying early bathing practices, inappropriate umbilical cord care, and excessive swaddling (Kucuk & Tanrıverdi, 2021; Nukpezah & Konlan, 2025). These practices can increase the risk of infection, hypothermia, and impaired growth among newborn.

The persistence of inappropriate newborn care practices suggests that knowledge alone may not be sufficient to ensure proper care. Previous research indicates that maternal behavior is also influenced by attitudes, cultural beliefs, family support, and access to health information (Nyaloko et al., 2024). Furthermore, sociodemographic factors such as maternal age, education level, and prior caregiving experience have been associated with variations in knowledge and caregiving practices (Bello- et al., 2026; Kelany & Alkalash, 2022). However, finding across studies remain inconsistent, particularly regarding the extent to which knowledge and attitudes translate into actual caregiving practices.

This study is conceptually grounded in the Health Belief Model theory (Alyafei & Easton-Carr, 2024), which states that how knowledge shapes perceptions of risks and benefits thereby influencing health behavior. The HBM framework is highly relevant to this study because newborn care practices in Indonesia are often embedded in sociocultural traditions and family-centered decision-making. In Bali, including Buleleng Regency, traditional beliefs and customary practices can influence maternal parenting behaviors during the postpartum period. Therefore, understanding the relationship between maternal knowledge, attitudes, and newborn care practices requires a broader behavioral perspective that considers environmental and social influences in addition to cognitive factors.

In Indonesia, various strategies have been implemented to reduce neonatal mortality, including maternal and child health programs, essential newborn care guidelines, and postnatal home visits within 48 hours and days 3-7 (Menteri Kesehatan RI, 2021). Despite these efforts, disparities in maternal education and the persistence of culturally rooted practices indicate a potential gap between what mothers know, how they perceive newborn care, and how they actually practice it.

However, sudies examining the relationship between knowledge, attitudes, and actual newborn care practices, particularly during the critical first seven days of life in Buleleng Regency are still limited. Understanding this relationship is essential to identify whether improving knowledge and attitudes alone is sufficient or whether other contextual factors play a more dominant role in shaping maternal behavior.

Therefore, this study aims to analyze the relationship between knowledge and attitudes of postpartum mothers and newborn care practices among infants aged 0-7 days in Buleleng Regency.

METHOD

Research Design

This research is an analytic cross-sectional study conducted in independent midwife practices (TPMB) and community health centers in Buleleng Regency on June 15–August 15, 2025 (61 days).

Population and Sample

The study employed an analytic cross-sectional design. The sample size was calculated using the Lemeshow formula for cross-sectional studies with a 95% confidence level and 5% margin of error, resulting in a minimum sample size of 128 respondents. A purposive sampling technique was applied to recruit postpartum mothers who met the inclusion criteria, particularly mothers with newborns aged 0–7 days who had attended neonatal visits (KN1 and KN2) at community health centers and independent midwife practices in Buleleng Regency.

Data Collection Instrument and Procedures

Data were collected using a structured questionnaire completed by the researchers, developed based on the essential newborn care guidelines from the Indonesian Ministry of Health and relevant previous studies. The questionnaire consisted of four sections: respondent characteristics, maternal knowledge, maternal attitudes, and newborn care practices.

The knowledge section contained questions regarding colostrum feeding, thermal care, umbilical cord care, immunization, recognition of neonatal danger signs, and use of the Maternal and Child Health (KIA) handbook. Each correct answer was scored 1 and an incorrect answer was scored 0. The total score was converted to a percentage and categorized as poor (≤60), fair (60–75), and good (76–100).

The attitude section assessed maternal perceptions and beliefs regarding newborn care using a three-point Likert scale (disagree = 1, agree = 2, strongly agree = 3). The total attitude score was converted to a percentage and categorized as poor (≤60), good (60–75), and very good (76–100).

The practice section evaluates maternal and newborn care behaviors, including breastfeeding, umbilical cord care, thermal protection, hygiene, and recognition of neonatal danger signs. Practice scores are categorized into appropriate and inappropriate practices according to essential newborn care recommendations.

Data collection was conducted from June 15 to August 15, 2025, at community health centers (Puskesmas) and independent midwife practices (TPMB) in Buleleng Regency. Data were collected by researchers face-to-face during neonatal visits (KN1 and KN2) or postpartum care visits.

Prior to the main study, the questionnaire was piloted on postpartum mothers outside the study area to assess clarity and understanding. Content validity was evaluated by maternal and child health experts. Construct validity testing showed item-total correlation coefficients greater than 0.30 for all items. Reliability testing demonstrated good internal consistency, with Cronbach's alpha values of 0.82 for knowledge, 0.79 for attitudes, and 0.81 for practices.

Data Analysis

Data were analyzed using SPSS version 27. Univariate analysis was performed to describe respondents' characteristics and the distribution of study variables, including maternal knowledge, attitudes, and newborn care practices. The results were presented as frequencies, percentages, means, standard deviations, and medians where appropriate.

Bivariate analysis was conducted to assess the association between maternal knowledge, attitudes, and newborn care practices. The Chi-square test was used for categorical variables when the test assumptions were met. When the expected cell counts were less than five, the Fisher-Freeman-Halton Exact test was applied as an alternative to ensure statistical validity. A significance level of $\alpha = 0.05$ was used for all statistical analyses.

Ethical Considerations

This research has received ethical approval from the Research Ethics Committee of Ganesha University of Education (Number: 154/UN.48.16.04/PT/2025). Written informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity of respondents were strictly maintained throughout the study.

RESULTS AND DISCUSSION

Respondent Characteristics

The distribution of respondent characteristics in this study reflects generally favorable biological and socio-demographic conditions for newborn care, although several variations remain important for consideration in maternal and child health interventions.

Half of the respondents (50%) were aged 21–38 years, which is considered the optimal reproductive age. At this stage, women are physiologically more prepared for pregnancy, childbirth, and postpartum adaptation. However, 20.3% of mothers were aged <21 years and 29.7% were >38 years, indicating the presence of age groups associated with higher obstetric and neonatal risks. Advanced maternal age (>35 years) has been linked to adverse pregnancy outcomes, including increased risk of complications for both mother and baby (Bhasin et al., 2019). Similarly, maternal age outside the optimal reproductive range has been reported to influence psychological conditions such as postpartum blues (Susilawati et al., 2020).

In terms of educational background, most respondents had completed high school (51.6%), followed by college education (24.2%). This suggests a relatively adequate level of literacy, which is essential for understanding and applying health information related to newborn care. Education plays a critical role in shaping maternal behavior, including childcare practices, health-seeking behavior, and adaptation to the parenting role (Khadka et al., 2024; Li et al., 2026). Nevertheless, 24.2% of respondents had only elementary or middle school education, indicating potential disparities in knowledge and caregiving practices.

Regarding the type of delivery, 60% of mothers experienced spontaneous (normal) childbirth, while 40% underwent assisted or operative delivery (e.g., cesarean section, vacuum extraction). Spontaneous delivery is generally associated with fewer complications and faster postpartum recovery, which may enhance early maternal involvement in newborn care (Yunitawati et al., 2024).

Based on gestational age, almost all respondents (97.7%) delivered at term (37–42 weeks), with only 1.6% preterm and 0.7% post-term births. Term gestation is considered the optimal period for delivery, as it is associated with lower neonatal morbidity and mortality compared to preterm birth, thereby supporting better neonatal adaptation and standard newborn care practices. In terms of parity, the largest proportion of mothers had one child (39%), followed by those with 2–3 children (34.4%) and more than three children (26.6%). Primiparous mothers tend to have limited experience in infant care, which may increase their need for education, guidance, and support from healthcare providers. Overall, although the respondent profile indicates relatively supportive conditions for newborn care, variations in maternal age, education level, and parity

highlight the need for targeted and context-specific health education interventions. Respondent characteristics can be seen in the table 1.

Table 1. Descriptive statistics of respondent characteristics

Variable	Frequency (n)	Percent (%)
Age (years)		
1. < 21	26	20.3
2. 21-38	64	50
3. > 38	38	29.7
Type delivery		
1. Spontaneous birth	80	60
2. SC, vacuum, ect	48	40
Gestational age		
1. Pre-term (< 37 weeks)	2	1.6
2. Aterm (37-42 weeks)	125	97.7
3. Post-term (≥42 weeks)	1	0.7
Number of children		
1. 1 children	50	39
2. 2-3 children	44	34.4
3. > 3 children	34	26.6
Last education		
1. No schooling-elementary school	12	9.4
2. Middle school	19	14.8
3. High school	66	51.6
4. College	31	24.2
Total	**128**	**100**

Univariate Analysis Results

Newborn care for newborns aged 0-7 days is the most important care to prevent health problems and complications resulting from childbirth. The study results showed that the majority of respondents were postpartum mothers aged 21-38 years (50%), with a high school education (51.6%), and most had given birth spontaneously (60%). Maternal age within the reproductive age range and secondary education or higher were important factors supporting mothers' understanding of newborn care. As mothers' age increases, their knowledge increases and they are more receptive to information, especially regarding newborn care (Albarqi, 2025; Kelany & Alkalash, 2022). The majority of respondents also gave birth at term (97.7%), indicating that both mother and baby were physically prepared for the early stages of life. This supports the implementation of postpartum practices for optimal daily newborn care, in accordance with WHO and the Indonesian Ministry of Health guidelines (Kemenkes RI, 2023a).

1. Postpartum Mother's Knowledge

The analysis results showed that the majority of respondents had good knowledge (66.4%), with a mean of 1.59 and a standard deviation of 0.620, indicating relatively homogeneous variation. The median of 2.00 indicated that the majority of respondents were in the good knowledge category. The distribution of responses indicated that most mothers understood important aspects of newborn care, such as colostrum administration, hypothermia prevention, umbilical cord care, recognizing danger signs, and utilizing the KIA handbook. However, knowledge gaps remained in certain aspects, such as immunization and early infant care practices.

These findings indicate that the general level of knowledge among postpartum mothers is good, but not evenly distributed. These results align with previous research that found maternal knowledge is a crucial factor in supporting newborn care practices (Das & Mistry, 2022; Khatun et al., 2021). Therefore, ongoing education is needed, especially for mothers with limited access to information.

Table 2. Postpartum Mothers' Knowledge of Caring for Newborns Aged 0-7 Days

Knowledge	Frequency (n)	Percent (%)
Good if the score is ≥ 76–100	85	66.4
Sufficient if the score is 60–75	34	26.6
Inadequate if the score is ≤ 60	9	7.0
Total	128	100

The distribution of responses to knowledge items shows that most respondents correctly understood essential aspects of newborn care, such as 1) the importance of colostrum (74.2%), 2) prevention of hypothermia (98.4%), 3) umbilical cord care (96.9%), 4) recognition of neonatal danger signs (100%), 5) and utilization of the KIA handbook (100%). However, misconceptions were still found in certain items, particularly related to immunization and early newborn care, indicating specific gaps in maternal knowledge.

Table 3. Distribution of Questions Regarding Postpartum Mothers' Knowledge Regarding Newborn Care Aged 0-7 Days

Question	Answer	Frequency (n)	Percent (%)
Newborns should be given their first breast milk (colostrum) because it contains natural antibodies.	False	33	25.8
	True	95	74.2
Bathing a newborn can cause hypothermia.	False	2	1.6
	True	126	98.4
The umbilical cord should be kept clean and dry to prevent it from falling off quickly.	False	4	3.1
	True	124	96.9
Peeling skin in newborns is normal and does not require lotion.	False	5	3.9
	True	123	96.1
Refusal to breastfeed, fever, and jaundice are common signs in newborns.	False	0	0
	True	128	100
Cigarette smoke does not affect a baby's breathing.	False	2	1.6
	True	126	98.4
Babies can be held by their mothers with direct skin-to-skin contact.	False	4	3.1
	True	124	96.9
Babies can experience eye pain due to blocked tear ducts.	False	5	3.9
	True	123	96.1
Newborns aged 0-1 week do not need immunizations.	False	22	17.2
	True	106	82.8
The pink book (KIA Book) can provide information on newborn care.	False	0	0
	True	128	100

2. Postpartum Mother's Attitude

The results of the respondent attitude analysis showed a Mean value = 1.75, Median = 2.00, and SD = 0.532. This indicates that respondents generally had positive attitudes with relatively low variability. Based on categorical data, most respondents had very good attitudes (79.7%), followed by good (15.6%) and not good (4.7%) (Table 4). These findings suggest that the majority of postpartum mothers demonstrate a positive orientation toward recommended newborn care practices.

Table 4. Distribution of Attitudes in Caring for Newborns Aged 0-7 Days

Attitude	Frequency (n)	Percent (%)
Not good if ≤ 60	6	4.7
Good if 60–75	20	15.6
Very good if ≥ 76–100	102	79.7
Total	128	100

Table 5. Distribution of Questions on Postpartum Mothers' Attitudes in Caring for Newborns Aged 0-7 Days

Question	Answer	Frequency (n)	Percent (%)
I feel it's important to provide the first breast milk, which is yellow.	Disagree	33	25.8
	Agree	95	74.2
I feel uncomfortable if the baby isn't bathed after birth.	Disagree	21	16.4
	Agree	107	83.6
I believe that keeping the umbilical cord clean and dry is important to prevent infection.	Disagree	0	0
	Agree	128	100
I feel it's necessary to apply lotion if the baby's skin is dry or peeling.	Disagree	13	10.2
	Agree	115	89.8
I feel the need to see a midwife or health care provider if the baby won't breastfeed, has a fever, or is jaundiced.	Disagree	0	0
	Agree	128	100
I believe cigarette smoke can affect a baby's breathing.	Disagree	2	1.6
	Agree	126	98.4
I believe that holding a baby with direct skin-to-skin contact can improve the baby's health.	Disagree	2	1.6
	Agree	126	98.4
I feel that cleaning the baby's eyes regularly is an important part of baby care.	Disagree	3	2.3
	Agree	125	97.7
I feel there's no need to give the baby immunizations because they already have immunity from the mother.	Disagree	120	93.8
	Agree	8	6.3
I feel it's important to read the KIA (pink book) when caring for a baby.	Disagree	14	10.9
	Agree	114	89.1

Postpartum mothers' attitudes showed positive results, with 79.7% having a very good attitude toward newborn care practices that align with newborn care standards. The mean attitude score of 1.75 and SD of 0.532 indicated a high degree of uniformity in respondents' attitudes. This attitude reflects postpartum mothers' readiness to accept recommended newborn care practices, such as early initiation of breastfeeding (IMD), maintaining infant hygiene, and delaying bathing. These results reinforce the Health Belief Model theory (Alyafei & Easton-Carr, 2024) which explains that health behavior is influenced by an individual's attitude toward the benefits and risks of health care. A positive attitude emerges when a postpartum mother believes that the care she is taking provides significant benefits for her baby's health. Furthermore, cultural factors and social norms in Buleleng Regency also influence the formation of this positive attitude. The involvement of health workers and families in providing emotional support is crucial for the mother's acceptance of appropriate care behavior (Ardianti et al., 2024; Helman, 2007).

3. Newborn Care 0-7 Days Old

The results of the analysis of respondents' practices obtained Mean = 0.95, Median = 1.00 and SD = 0.228. The average value of respondents' practices in caring for newborns aged 0-7 days was 0.95, indicating that most respondents had carried out good practices or according to the recommendations of health workers. The median of 1.00 indicates consistency of the results, that the majority of respondents carried out good practices. The SD value of 0.228 indicates a very low data distribution so that respondents' practices are very homogeneous (Table 6).

Tabel 6. Newborn Care 0-7 Days Old

Practice	Frequency (n)	Percent (%)
Not good	7	5.5
Good	121	94.5
Total	128	100

The majority of respondents (94.5%) practiced good care, with a mean of 0.95 and a SD of 0.228, indicating high homogeneity. The results of this study illustrate the practical application of knowledge and positive attitudes among postpartum mothers. Good practices include exclusive breastfeeding, keeping the baby warm, and avoiding the use of materials when caring for the umbilical cord. These findings align with research suggestin g that behavioral-based education and active postpartum guidance can improve newborn care practices (Navabi et al., 2021; Sakelo et al., 2020). However, 5.5% of postpartum mothers still practice inappropriate practices. This is likely due to sociocultural factors and inherited beliefs that do not fully align with health standards. This situation aligns with findings in Turkey, where traditional practices are often maintained due to family beliefs and customs (Kucuk & Tanrıverdi, 2021).

Bivariate Analysis Results

1. Association Between Maternal Knowledge and Newborn Care Practices

The results of the bivariate analysis showed a significant relationship between knowledge level and newborn care practices, based on the Fisher-Freeman-Halton Exact test with a p-value <0.001. This indicates that the higher the respondent's knowledge level, the better the practices implemented. This finding is evident from the data distribution, where respondents with good knowledge demonstrated good practices. Knowledge is the result of the sensing process that forms the basis for forming a person's actions. Good knowledge will increase an individual's awareness of the importance of a behavior, thus encouraging the formation of positive practices. Furthermore, within the Health Belief Model framework, it is stated that a person's behavior is influenced by perceptions of benefits and risks, which are closely related to the level of knowledge possessed. The results of this study are also in line with previous research showing that increasing knowledge through health education contributes significantly to behavioral change for the better (Gasper et al., 2025; Koulouvari et al., 2025; Notoatmodjo, 2012). The results of the analysis of the relationship between maternal knowledge levels and newborn care practices are presented in Table 7.

Table 7. Association Between Maternal Knowledge and Newborn Care Practices

		Newborn Care Practices		
		Not Good n(%)	**Good n(%)**	**Total n(%)**
Level of Knowledge	Less	5 (55.6)	4 (44.4)	9 (100)
	Enough	2 (5.9)	32 (94.1)	34 (100)
	Good	0 (0.0)	85 (100)	85 (100)
Total		**7 (5.5)**	**121 (94.5)**	**128 (100)**

Description:

Fisher-Freeman-Halton Exact Test, $p < 0.001$. There were 2 cells (33.3%) with an expected count <5

Compared with other studies, the relationship in this study appears more consistent. The Ghana study showed that knowledge significantly increased the likelihood of good practice, but not as significantly as in this study (Nukpezah & Konlan, 2025). This suggests the presence of other contributing factors within the study context, such as access to services or the intensity of education.

Conversely, the Pakistan study showed that knowledge did not always correlate directly with practice due to strong cultural influences and low levels of education (Memon et al., 2019; Nyaloko et al., 2024). This finding aligns with the results of this study, which found that good practice was still found among mothers with low knowledge, possibly influenced by experience or interventions from health workers.

Furthermore, a study in Kenya found a gap between knowledge and practice, with mothers having good knowledge in some areas (e.g., breastfeeding) but lacking in others, such as umbilical cord care (Amolo et al., 2017). This phenomenon suggests that knowledge is domain-specific and does not always translate evenly across all aspects of practice. This is relevant to the findings of this study, particularly in the moderate knowledge group, which still exhibits variation in practice. Thus, the results of this study confirm that although knowledge plays an important role, practice is still influenced by contextual factors such as culture, experience, and health service support.

2. Association Between Maternal Attitudes and Newborn Care Practices

The results of the analysis of the relationship between maternal attitudes and newborn care practices are presented in Table 8. Based on the table, the majority of respondents (102 respondents) strongly agreed, with 100% demonstrating good newborn care practices. Among those who agreed, the majority also demonstrated good practices (80.0%), while among those who disagreed, the proportion of good and bad practices was equal (50.0% each). However, the chi-square test showed a χ^2 value of 3.986 with a p value of 0.136 ($p > 0.05$), indicating no statistically significant relationship between maternal attitudes and newborn care practices.

The analysis showed that most respondents with strongly agree attitudes also had good infant care practices (102 out of 128 respondents). However, the Chi-square test results showed no significant relationship between maternal attitudes and newborn care practices ($\chi^2 = 3.986$; $p = 0.136$; $p > 0.05$). This finding suggests that although positive attitudes toward infant care are quite high, they are not significantly related to actual practices.

Table 8. Relationship between Attitudes to Care for Newborns Aged 0-7 Days

		Newborn Care Practices		
		Not Good	**Good**	**Total**
Respondents' Attitudes	Don't agree	3	3	6
	Agree	4	16	20
	Strongly agree	0	102	102
Total		7	121	128

Although descriptively, it appears that respondents with more positive attitudes tend to have good newborn care practices, statistical analysis results show that this relationship is not significant. This indicates that good attitudes do not necessarily translate directly into consistent practices.

This finding indicates a gap between attitudes and behavior. Empirically, all respondents with strongly agree attitudes did demonstrate good practices, but the predominance of numbers in this category may have limited data variation, thus preventing a statistically significant relationship from being detected. Furthermore, good practices were still found in the lower attitude group, indicating that factors other than attitudes influence behavior.

From the perspective of the Theory of Planned Behavior, behavior is determined not only by attitudes but also by subjective norms and perceived behavioral control. In this context, newborn care practices can be influenced by family support, cultural customs, and access to health services. Therefore, even if a mother has a positive attitude, her practices still depend on environmental conditions and available social support (Ajzen, 1991).

The results of this study align with a study in Ethiopia, which showed that social factors and environmental support play a stronger role in determining neonatal care practices than attitudes or knowledge alone (Wudu et al., 2024). Furthermore, skills training interventions were also reported to be more effective in improving practices than attitudes alone (Giri et al., 2024).

Thus, the results of this study confirm that positive attitudes are a supportive factor, but not the primary determinant, of neonatal care practices. A more comprehensive approach, including skills development, family support, and access to health services, is needed to optimally implement positive attitudes into practice.

This study has several limitations. The cross-sectional design limits causal inference between knowledge, attitudes, and practices. The dominance of respondents with good knowledge and very positive attitudes reduced data variability, potentially affecting statistical sensitivity, particularly for the attitude–practice relationship. Additionally, key contextual factors such as family support, cultural influences, and access to health services were not fully assessed. Finally, the use of purposive sampling in a single region limits the generalizability of the findings.

CONCLUSION

Maternal knowledge is significantly associated with newborn care practices, whereas maternal attitudes are not, despite being predominantly positive. This indicates a critical gap between attitude and actual behavior, highlighting that knowledge alone is a stronger predictor of practice than attitudes in this context.

Novelty: This study reveals a consistent knowledge practice link alongside a non-significant attitude practice relationship, suggesting that behavioral translation in early neonatal care is more dependent on enabling and contextual factors than previously emphasized attitudinal components.

Policy implication: Strengthening Indonesia's maternal and child health (KIA) programs should prioritize skill based postnatal education, structured counseling during KN1–KN2 visits, and family centered interventions (including husbands and caregivers), rather than focusing solely on knowledge dissemination. Integrating practical demonstrations and follow-up supervision into routine postnatal care is essential to ensure that knowledge is effectively translated into optimal newborn care practices

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