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Relationship Between Knowledge Level, Mother's Attitude, and Exclusive Breastfeeding Frequency to the Occurrence of Physiological Jaundice in Newborn Babies

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ABSTRACT

***Background**: Infants who are breastfed early and effectively and receive colostrum are believed to have a reduced incidence of jaundice. Out of 30 mothers with newborns, where Midwife Rahma Juita, S.Keb, conducted an initial observation by reviewing data from medical records, it was found that 3 neonates experienced jaundice within 1 week. Objective: To determine the relationship between mothers' knowledge and attitudes, and the frequency of exclusive breastfeeding, and the occurrence of physiological jaundice in newborns at the Bd. Rahma Juita Midwifery Clinic in 2024. Research Methods: The type of research is Descriptive Analytic with a Cross-Sectional Study approach. This research will be conducted at the "RJ" Independent Midwife Practice in Tangerang City from April-June 2024. Independent variables are knowledge, attitude, and frequency of breastfeeding. The dependent variable is physiological jaundice. The population in this study consisted of 120 mothers with infants aged 0-14 days who came to the Midwife's Clinic. Accidental sampling was used, resulting in a sample of 92 mothers. Data collection was carried out using questionnaires. The data was processed using a computerized system and analyzed using univariate and bivariate statistical tests with the Chi-square test. Results: 58 respondents (63%) did not experience jaundice. 47 respondents (51.1%) had high knowledge, 57 respondents (62%) had negative attitudes. 61 respondents (66.3%) frequently breastfed. There was a relationship between knowledge and the occurrence of physiological jaundice, with a p-value of 0.035 and an OR of 2.790. There was a relationship between attitude and the occurrence of physiological jaundice, with a p-value of 0.048 and an OR of 2.831. There was a relationship between the frequency of breastfeeding and the occurrence of physiological jaundice, with a p-value of 0.000 and an OR of 17.486. For mothers, there needs to be increased awareness about the importance of knowledge, attitudes, and the frequency of breastfeeding. Conclusion: There is a significant relationship between mothers' knowledge levels, attitudes, and the frequency of breastfeeding and the occurrence of physiological jaundice in newborns.*

Keywords:
Knowledge, Attitude, Frequency of Breastfeeding, Physiological Jaundice

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Introduction

Neonatal jaundice is yellowing of the skin and eyes in newborns. This disease is caused by the accumulation of bilirubin in body tissues, causing the skin, mucous membranes, and sclera in infants to turn yellow, which is often referred to as hyperbilirubinemia in infants (Badiatur, 2024). Most cases of hyperbilirubinemia in infants are physiological and do not require special treatment, but due to the toxic potential of bilirubin, all newborns

should be monitored to detect possible acute hyperbilirubinemia (Badiatur, 2024).

There are as many as 7000 newborns worldwide who die every day (WHO, 2022). Meanwhile, in Indonesia, approximately 185 newborns die each day, with a Neonatal Mortality Rate (NMR) of 15/1000 live births. Most neonatal deaths occur in the first week, specifically in infants aged 0-6 days, and approximately 40 babies die within the first 24 hours. The most common causes of death are low birth weight infants, asphyxia, birth trauma, hyperbilirubinemia, infections, and congenital abnormalities (Nyoman et al, 2021).

The prevalence of neonatal jaundice according to the World Health Organization (WHO) reaches 3.6 million (3%) per year out of 120 million newborns who experience neonatal jaundice (WHO, 2022). According to the Indonesian Demographic and Health Survey (SDKI), the Neonatal Mortality Rate (NMR) reaches 15 per 1000 live births (LB). One of the causes of infant mortality in Indonesia is jaundice (9%). According to data from Tangerang General Hospital, there has been an increase in the incidence of neonatal jaundice. In 2023, there were 300 cases of neonatal jaundice (Rahmawati et al, 2023).

The factors that can cause jaundice are broadly categorized as excessive bilirubin production, impaired uptake and conjugation processes in the liver, impaired transport in metabolism, and impaired excretion (Rahmawati et al, 2023). Untreated physiological jaundice can become pathological jaundice, leading to kernicterus. One risk factor for jaundice is insufficient breast milk intake (Kemenkes RI, 2023).

The transition to parenthood will be difficult for new mothers. In the first week, the mother was still not ready to accept her new duties as a mother. Mothers often experience feelings of inadequacy and inability in performing infant care skills, such as breastfeeding or nursing their babies. The difficulties experienced by mothers include challenges in caring for the baby, as well as internal inhibiting factors such as feelings of inadequacy, lack of experience, and low self-esteem, and external factors such as lack of support from husbands or family, healthcare professionals, and the baby's condition. Therefore, support and education from healthcare professionals are needed to assist mothers in caring for their babies.

The support and education on infant care provided to mothers, starting 24 hours after the postpartum period and continuing for 7 days after delivery, is greatly needed. Because in the first week, mothers are still not ready to accept their new responsibilities as mothers (Rahayu, 2023).

Based on research by Lestari & Theresia (2022) conducted in the Jatiuwung Public Health Center area, Banten, the results showed that out of 30 mothers with newborns, 15 had never heard of neonatal jaundice, 5 mothers said it was normal for newborns to have jaundice, 5 mothers said they knew about jaundice but didn't know how to care for it, and 5 mothers did not respond at all to the topic of jaundice in newborns (Fitriani et al, 2022).

The incidence of neonatal jaundice at the "RJ" independent midwifery practice in 2023 was 120 out of 200 infants, and 30 mothers did not exclusively breastfeed. Based on the results of a preliminary study conducted by the researcher on April 1st at the "RJ" Midwife's Private Practice, an initial observation was made by reviewing data from medical records showing that the number of newborns experiencing neonatal jaundice within 1 week was 3 babies.

Based on the above description and problems, the researcher is interested in conducting research on "The Relationship between Knowledge Level, Maternal Attitude, and Exclusive Breastfeeding Frequency and the Occurrence of Physiological Jaundice in

Newborns at the "RJ" Midwife's Independent Practice in 2024"

Research Methods

The type of research is Descriptive Analytic with a Cross-Sectional Study approach. This research will be conducted at the "RJ" Independent Midwife Practice in Tangerang City from April-June 2024. Independent variables are knowledge, attitude, and frequency of breastfeeding. The dependent variable is physiological jaundice. The population in this study consisted of 120 mothers with infants aged 0-14 days who came to the Midwife's Clinic. Accidental sampling was used, resulting in a sample of 92 mothers. Data collection was carried out using questionnaires. The data was processed using a computerized system and analyzed using univariate and bivariate statistical tests with the Chi-square test.

Result And Discussion

Based on Table 1, it can be seen that more than half of the respondents, namely 58 respondents (63%), did not experience jaundice. 47 respondents (51.1%) had high knowledge. 57 respondents (62%) had a negative attitude, and 61 respondents (66.3%) were good at breastfeeding.

Table 1. Univariate Analysis

Variable	F	%
Physiological Jaundice		
Yes	34	37
No	58	63
Knowledge		
Low	45	48,9
High	47	51,1
Attitude		
Negative	57	62
Positive	35	38
Breastfeeding		
Rarely	31	33,7
Always	61	66,3
	92	**100,00**

Table 2. Bivariate Analysis

Knowledge	Physiological Jaundice				Total		p *Value*	OR
	Yes		No					
	n	%	n	%	N	%		
Low	22	48,9	23	51,1	45	100	0,035	2,790
High	12	25,5	35	74,5	47	100		
Total	34	37	58	63	92	100		
Attitude								
Negative	26	45,6	31	54,4	57	100	0,048	2,831
Positive	8	22,9	27	77,1	35	100		
Total	34	37	58	63	92	100		
Breastfeeding								
Not Often	24	77,4	7	22,6	31	100	0,000	17,486
Often	10	16,4	51	83,6	61	100		
Total	34	37	58	63	92	100		

The Relationship Between Maternal Knowledge And The Occurrence Of Physiological Jaundice

Based on the results, it was found that out of 45 respondents with low knowledge, 22 (48.9%) experienced jaundice. Meanwhile, out of 47 respondents with high knowledge, 12 (25.5%) experienced jaundice. The statistical test results show a p-value of 0.035 < 0.05 (α), meaning Ho is rejected. Therefore, it is concluded that there is a relationship between knowledge and the occurrence of physiological jaundice. Further statistical analysis yielded an OR of 2.790, meaning mothers with low knowledge have a 3 times higher risk of experiencing physiological jaundice compared to mothers with high knowledge.

Knowledge is the result of human perception, or the result of a person's understanding of an object thru their senses (eyes, nose, ears, etc.). Naturally, the process of perception that leads to this knowledge is highly influenced by the intensity of attention and perception of the object. Most of a person's knowledge is acquired thru the sense of hearing (ears) and the sense of sight (eyes) (Notoatmodjo , 2018).

Based on research conducted by Enita Sumilva, 2023, on the Relationship between Mothers' Knowledge and Attitudes and the Occurrence of Jaundice in Newborns at the Sri Widia Astuti Midwife Clinic in Batang Kuis District, Deli Serdang, it was found that out of 40 respondents, the p-value was 0.000 (p <0.005), indicating a relationship between mothers' knowledge and the occurrence of jaundice in newborns at the Sri Widia Astuti Midwife Clinic in Batang Kuis District, Deli Serdang. Research by Sri Ilawati, 2022, on the Relationship between Mothers' Knowledge and Attitudes Toward the Prevention of Physiological Jaundice in Infants Aged 0-14 Days in Dusun I, Sei Mencirim Village, stated that the results of the Chi-Square statistical test analysis showed a p-value of 0.023 (p<0.05), meaning there was a relationship between mothers' knowledge and the prevention of physiological jaundice in infants aged 0-14 days (Ilawati, 2022).

According to the author's assumption, mothers' knowledge regarding the prevention of physiological jaundice in infants aged 0-14 days is highly influential. When mothers with infants aged 0-14 days have good knowledge, they will better understand the purpose and ways to prevent jaundice in infants. And if mothers with infants aged 0-14 days have sufficient knowledge, they will begin to understand, or even already understand, the purpose and ways to prevent jaundice in infants. Conversely, if mothers with infants aged 0-14 days have limited knowledge, they will have less understanding, or even no understanding, of the purpose and ways to prevent jaundice in infants.

The Relationship Between Maternal Attitude And The Occurrence Of Physiological Jaundice

Based on the research findings, it is known that out of 57 respondents with negative attitudes, 26 (45.6%) experienced jaundice. Meanwhile, out of 35 respondents with positive attitudes, 8 (22.9%) experienced jaundice. The statistical test results show a p-value of

0.048 < 0.05 (α), meaning Ho is rejected. Therefore, it is concluded that there is a relationship between attitude and the occurrence of physiological jaundice. Further statistical analysis yielded an OR of 2.831, meaning mothers with negative attitudes have a 3 times higher risk of experiencing physiological jaundice compared to mothers with positive attitudes.

Attitudes are evaluative statements toward objects, people, or events. Attitudes are a person's still hidden reaction or response to a stimulus or object (Notoatmodjo, 2018). Based on research conducted by Enita Sumilva, 2023, on the Relationship between Mothers' Knowledge and Attitudes and the Occurrence of Jaundice in Newborns at the Sri Widia Astuti Midwife Clinic in Batang Kuis District, Deli Serdang Regency, it was found that out of 40 respondents, the p-value was 0.000 (p <0.005), indicating a relationship between mothers' attitudes and the occurrence of jaundice in newborns at the Sri Widia Astuti Midwife Clinic in Batang Kuis District, Deli Serdang Regency.

Research by Sri Ilawati, 2022, on the Relationship between Mothers' Knowledge and Attitudes toward the Prevention of Physiological Jaundice in Infants Aged 0-14 Days in Dusun I, Sei Mencirim Village, stated that the results of the Chi-Square statistical test showed that the p-value was 0.032 (p<0.05), meaning there was a relationship between mothers' attitudes and the prevention of physiological jaundice in infants aged 0-14 days (Ilawati, 2022).

According to the researcher's assumption, there is a relationship between mothers' attitudes and physiological jaundice. With positive knowledge, mothers with babies will better understand the purpose and ways to prevent physiological jaundice, which is thru sufficient breastfeeding and the mother's willingness to prevent physiological jaundice in her baby.

The Relationship Between Breastfeeding And The Occurrence Of Physiological Jaundice

Based on the research findings, it is known that out of 31 respondents who do not frequently breastfeed, 24 (77.4%) experienced jaundice. Meanwhile, out of 61 respondents who frequently breastfeed, 10 (16.4%) experienced jaundice. The statistical test results show a p-value of 0.000 < 0.05 (α), meaning Ho is rejected. Therefore, it is concluded that there is a relationship between the frequency of breastfeeding and the occurrence of physiological jaundice. Further statistical analysis yielded an OR of 17.486, meaning mothers who do not breastfeed frequently are 17 times more likely to experience physiological jaundice compared to mothers who breastfeed frequently.

Babies who do not receive sufficient breast milk during breastfeeding may have problems because there is not enough breast milk entering the intestines to process the elimination of bilirubin from the body. This can happen to premature babies whose mothers don't produce enough breast milk. Birth weight, perinatal complications, and prematurity are also risk factors for neonatal jaundice (Yuliawati et al, 2018).

Based on Fitri Yuliana's 2018 study on the Relationship between Breastfeeding Frequency and the Occurrence of Jaundice in Newborns at Dr. H. Moch. Ansari Saleh Regional General Hospital Banjarmasin, the relationship between breastfeeding frequency and the occurrence of jaundice in newborns at Dr. H. Moch Ansari Saleh Regional General Hospital Banjarmasin is (ρ=0.016).

According to the researcher's assumption, insufficient breast milk intake is also one of the causes of jaundice in infants. In the first two to three days after birth, the lack of breast milk causes the baby to turn yellow due to insufficient nutrient intake. The more frequently a mother breastfeeds her baby, the lower the incidence of neonatal jaundice. The more frequently a baby breastfeeds, the more prolactin hormone is released by the pituitary gland. As a result, more breast milk is produced by the gland cells. Conversely, a decrease in the baby's sucking can lead to a decrease in breast milk production.

According to the researcher's assumption, that in the first few days after birth, the mother's breast milk production is not yet optimal. Many mothers only produce a small amount of colostrum, so the baby may not get enough. When intake is insufficient, the baby's bowel movement frequency also decreases. In fact, bilirubin formed from the breakdown of red blood cells must be excreted thru stool. Because the stool is not adequately eliminated, bilirubin will be reabsorbed into the bloodstream thru the intestines (enterohepatic circulation), and as a result, bilirubin levels in the baby's body will increase.

Beside the issue of breast milk quantity, improper breastfeeding technique is also a frequent cause. Many new mothers are still learning the correct positioning and latch, so the baby doesn't breastfeed effectively. This further extends the period during which the baby does not receive enough fluids and nutrients. This condition is considered to worsen the appearance of jaundice, especially on the 2nd to 5th day of life.

Another factor believed to be involved is the high beta-glucuronidase content in colostrum and early breast milk. This enzyme can break down conjugated bilirubin in the intestines, causing it to revert to its unbound form and be easily reabsorbed into the bloodstream. Therefore, some healthcare professionals in the field assume that the breastfeeding process itself can influence the increase in bilirubin, especially if fluid intake is insufficient.

Nevertheless, as time goes on and more breast milk comes in, and as the breastfeeding process becomes more effective, the baby will have more frequent bowel movements. During this phase, bilirubin excretion also increases, and physiological jaundice usually gradually improves without special intervention.

Conclusion

Based on the research findings regarding the relationship between maternal knowledge, attitudes, and breastfeeding frequency and the occurrence of physiological jaundice at the "RJ" Independent Midwifery Practice in 2024,

it can be concluded that most mothers have a high level of knowledge about newborn care, but are still dominated by negative attitudes in its application. Although the majority of respondents showed a high frequency of breastfeeding, the research results indicate that the three variables of knowledge, attitudes, and breastfeeding frequency have a significant relationship with the incidence of physiological jaundice. Lower levels of maternal knowledge and less supportive attitudes were found to increase the risk of physiological jaundice, although not as much as the influence of breastfeeding frequency. The factor most strongly associated with the occurrence of physiological jaundice is breastfeeding frequency, indicating that proper breastfeeding patterns play an important role in preventing excessive bilirubin buildup. Thus, this study underscores the importance of understanding, positive attitudes, and consistent breastfeeding practices in preventing physiological jaundice in newborns.

The results of this study have several important implications for nursing practice, particularly in neonatal care and maternal education. First, healthcare professionals need to increase their educational efforts, focusing not only on improving mothers' knowledge but also on changing attitudes thru therapeutic communication approaches, lactation counselling, and direct support during the postpartum period. Second, nurses and midwives need to provide practical support regarding breastfeeding techniques, latch positions, and appropriate feeding frequency to prevent physiological jaundice. Third, the results of this study support the need for the development of structured education protocols or programs on breastfeeding management and early jaundice detection as part of standard care. With these implications, it is hoped that nursing services can be more prevention-oriented, improve the quality of care for mothers and babies, and reduce the risk of complications due to physiological jaundice.

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