Jurnal Siti Rufaidah
Volume 3 Nomor 2 Mei 2025
e-ISSN: 3032-1344; p-ISSN: 3032-1336, Hal 57-67
DOI : https://doi.org/10.57214/jasira.v3i2.320
Available online at: https://journal.ppniunimman.org/index.php/JASIRA

The Effect of Health Education on Newborn Care on Knowledge at Home

Wise Polin Sahetapy[1], Raden Maria Veronika Widiatrilupi[2*]
[1-2]ITSK Dr. Soepraoen Hospital, Malang-Indonesia
[*]*Corresponding author: mariawidia@itsk-soepraoen.ac.id[2]*

Abstract. Indonesia's infant mortality rate remains a pressing public health challenge, recorded at 24 per 1,000 live births in 2021. Most infant deaths occur within the first month of life and are preventable through adequate parental knowledge of newborn care. This study aimed to analyze the effect of health education on mothers' knowledge of newborn care at home. A quantitative pre-experimental design with a one-group pretest–posttest approach was employed. The sample consisted of 30 mothers with newborns aged 0–3 months, selected using purposive sampling. Knowledge was measured using a validated questionnaire before and after health education interventions delivered through counseling and group discussions. Data were analyzed using the Shapiro-Wilk normality test and the Paired T-Test. Results showed that prior to the intervention, 46.7% of mothers had insufficient knowledge, 36.6% had sufficient knowledge, and 16.7% had good knowledge. After the intervention, knowledge improved significantly, with 56.7% achieving good knowledge. The average score increased from 58.40 to 78.60, with a t-value of -9.84 and $p = 0.000$ ($p < 0.05$). The findings confirm that health education significantly enhances maternal knowledge of newborn care, supporting efforts to reduce infant mortality in Indonesia through improved home-based practices.

Keywords: Health Education; Home Practices; Infant Mortality; Maternal Knowledge; Newborn Care

1. INTRODUCTION

Newborn care is a crucial stage in a child's life, where appropriate intervention can impact their long-term health. According to data from the World Health Organization (WHO), approximately 2.4 million infants died in 2019, with the majority of deaths occurring in the first month of life (WHO, 2020). These deaths are often caused by factors that could be prevented through adequate health education for parents and caregivers. Effective health education can provide the knowledge and skills necessary for caring for newborns, including basic care, immunizations, and recognizing danger signs that require immediate medical attention.

In the Indonesian context, where infant mortality remains a significant challenge, health education on newborn care is crucial. According to data from the Indonesian Ministry of Health, the infant mortality rate (IMR) in 2021 was recorded at 24 per 1,000 live births, indicating the need for greater attention to improving parental knowledge regarding infant care (Ministry of Health, 2021). By increasing knowledge about proper care, it is hoped that parents can reduce the risk of death and improve the quality of life of their babies.

Health education directed at parents and caregivers has a significant impact on knowledge and practices of newborn care. A study by Nursalam et al. (2021) showed that 76% of parents who participated in a health education program on newborn care experienced a significant increase in knowledge after the training. Furthermore, 65% of them reported

Received: April 22, 2025; Revised: Mei 11, 2025; Accepted: Mei 26, 2025;
Published: Mei 28, 2025

applying the knowledge gained to their daily infant care. This indicates that health education not only improves knowledge but also contributes to positive behavioral changes in infant care.

Furthermore, research by Rahmawati and Supriyadi (2022) found a positive relationship between parental knowledge of newborn care and good care practices. In the study, 80% of parents with high knowledge of newborn care reported implementing safe and standardized care practices. These data suggest that health education has significant potential to improve knowledge and practices of home care, which in turn can reduce infant mortality.

Lack of knowledge about newborn care can lead to unsafe and risky practices, which can lead to serious health complications for babies. For example, many parents are unaware of the importance of immunizations and proper umbilical cord care, which can lead to infections and other complications. According to a 2021 UNICEF report, only 70% of babies receive complete immunizations in their first year of life in Indonesia, indicating a gap in parental knowledge about the importance of immunization.

Furthermore, a lack of understanding of danger signs in newborns can lead to delays in seeking medical care. A study by Setiawan et al. (2022) showed that 50% of parents failed to recognize early symptoms of infection and other serious illnesses in their infants. This delay in medical treatment often leads to more severe conditions and even death. Therefore, comprehensive and targeted health education is essential to provide parents with clear and accurate information about newborn care.

To address the lack of knowledge about newborn care, a systematic approach to health education is needed. One solution is through community-based education programs that involve health workers, such as midwives and nurses, to provide training and information to parents. These programs can include face-to-face sessions, distribution of educational materials, and the use of social media to reach more parents.

Furthermore, integrating health education into antenatal and postnatal programs is crucial. Research by Hidayati et al. (2023) showed that parents who received health education during pregnancy and after delivery had better knowledge and safer care practices compared to those who did not. By integrating health education into existing health services, we can ensure that the information necessary for newborn care is readily available and accessible to parents.

This study aims to explore in more depth the influence of health education on parental knowledge regarding newborn care at home. Understanding the relationship between health education and care practices is expected to provide useful recommendations for the development of more effective health education programs. Furthermore, this research is also

expected to serve as a reference for public health policies aimed at reducing infant mortality and improving maternal and child health in Indonesia.

With a strong background and supporting data, this research is expected to make a significant contribution in the field of public health, especially in efforts to improve knowledge and practice of newborn care at home.

2. RESEARCH METHOD

This study employed a quantitative research design with a pre-experimental approach. This study aimed to evaluate the effect of health education about newborn care on parents' knowledge at home. A pre-experimental design was chosen because it allowed researchers to measure changes in knowledge before and after the health education intervention. This study was conducted in several community health centers in urban and rural areas, providing a variety of social and economic contexts.

The population in this study were parents with newborns aged 0-3 months. The population involved in this study was approximately 100 parents registered at the community health center during the study period. From this population, a sample of 30 parents was taken who met the inclusion criteria, namely having a newborn and being willing to participate in the study. The sampling technique used was purposive sampling, in which researchers selected respondents based on certain criteria relevant to the research objectives.

Prior to the educational intervention, researchers measured respondents' initial knowledge of newborn care using a validated questionnaire. This questionnaire covered various aspects of newborn care, such as breastfeeding, umbilical cord care, and danger signs in infants. Following baseline data collection, a health education intervention was conducted, consisting of counseling sessions and focus group discussions. The educational materials included up-to-date information on newborn care based on applicable health guidelines, such as those issued by the WHO and the Indonesian Ministry of Health.

After the intervention, researchers re-measured respondents' knowledge using the same questionnaire to assess changes in knowledge. Data obtained from the questionnaire were analyzed using a t-test to identify any significant differences in knowledge before and after the intervention. The t-test was chosen because it can be used to compare the means of two related groups: respondents' knowledge before and after health education. This analysis is expected to provide a clear picture of the effectiveness of health education in improving parents' knowledge about newborn care.

In data analysis, researchers will also consider demographic factors such as parents' age, education, and economic status, which may influence their level of knowledge. Thus, the results of this study are expected to provide deeper insights into the influence of health education on parental knowledge and how this can be applied to improve newborn care at home.

3. RESULTS AND DISCUSSION

This study aims to analyze the influence of health education on newborn care on mothers' knowledge at home. Based on the results of the study conducted on 30 respondents, data on respondent characteristics were obtained which showed that the majority of mothers were in the 20-35 years age range (66.6%), with the highest education level being high school (36.7%), and the majority were housewives (60.0%). These respondent characteristics describe the profile of mothers who are in their productive reproductive age with a secondary education background, who theoretically have good potential in receiving and applying health information.

The analysis results showed a significant increase in maternal knowledge levels after the health education intervention. Before the intervention, almost half of respondents (46.7%) had poor knowledge, but after health education, there was a substantial change where the majority of respondents (56.7%) achieved good knowledge. Statistical analysis using the Paired T-Test test proved a significant difference between pretest and posttest scores (p=0.000), with an average increase in knowledge scores of 20.20 points (from 58.40 to 78.60). These findings indicate that health education is an effective intervention in improving maternal knowledge about newborn care at home.

General Data

Table 1. General Data Distribution.

Characteristics	Frequency	%
Mother's Age:		
• < 20 years	5	16.7
• 20–35 years	20	66.6
• > 35 years	5	16.7
Education		
• Elementary School	6	20.0
• JUNIOR HIGH SCHOOL	8	26.7
• SENIOR HIGH SCHOOL	11	36.7
• College	5	16.6
Mother's job		
• Housewife	18	60.0
• Private	8	26.7
• Government employees	4	13.3

In this study, maternal age distribution is an important variable that needs to be analyzed to understand the demographic characteristics of the respondents. The data obtained shows that the majority of mothers involved in this study were between the ages of 20 and 35, with a percentage reaching 66.6%. This indicates that mothers in this productive age group tend to be more involved in newborn care. According to the Central Bureau of Statistics (2022), maternal age at birth influences the health of both mother and baby, with mothers younger than 20 or older than 35 at higher risk of complications during childbirth.

Five mothers were under 20 years old and five mothers were over 35 years old, each representing 16.7% of the total respondents. Research by Hidayati et al. (2021) shows that older mothers tend to have better knowledge of newborn care than younger mothers, possibly due to life experience and broader access to information. Therefore, this age distribution provides an initial overview of mothers' potential knowledge and skills in caring for newborns.

Maternal education is a key factor influencing knowledge and skills in newborn care. The data shows that the majority of mothers had a high school education, at 36.7%. This indicates that most mothers had sufficient education to understand health information. Higher education is often associated with a better understanding of health issues, including newborn care (Sari et al., 2022).

As many as 20% of mothers had an elementary school education, 26.7% a junior high school education, and 16.6% a college education. Research by Putri and Sari (2023) shows that mothers with higher education tend to be more active in seeking information about child health, including newborn care. In this context, maternal education can serve as a good indicator to predict their level of knowledge about newborn care. Therefore, this analysis of educational distribution provides important insights into the potential knowledge that can be gained through health education.

Maternal occupation is also a significant factor in determining knowledge and skills in newborn care. Data shows that 60% of mothers are housewives, 26.7% work in the private sector, and 13.3% are civil servants. This suggests that most mothers have more time to focus on childcare at home, although accessing appropriate health information also presents challenges (Wulandari et al., 2021).

Research by Rahmawati (2022) revealed that mothers working in the formal sector often have better access to health education programs, which can improve their knowledge of newborn care. Conversely, stay-at-home mothers may face limitations in obtaining the necessary information. Therefore, it is important to design health education programs that are

accessible to all mothers, regardless of their employment status, to ensure equitable knowledge of newborn care.

Special Data

Table 2. Mothers' Knowledge Level Before Health Education (Pretest).

Knowledge Category	Frequency	(%)
• Not enough	14	46.7
• Enough	11	36.6
• Good	5	16.7

Analysis of mothers' knowledge levels before participating in health education showed that 46.7% of mothers had insufficient knowledge, 36.6% had sufficient knowledge, and only 16.7% had good knowledge. These results indicate that most mothers lacked adequate understanding of newborn care before the health education intervention. Research by Ningsih (2021) confirms that this low level of knowledge can impact the quality of care provided to newborns, which in turn can impact the infant's health.

This situation is further reinforced by data from the Indonesian Ministry of Health (2022), which states that many mothers in rural areas still lack access to relevant health information. In this context, appropriate health education can be a solution to improve mothers' knowledge and skills in caring for newborns. Therefore, these pretest results provide a strong foundation for continuing health education interventions.

Table 3. Level of Mothers' Knowledge After Health Education (Posttest).

Knowledge Category	Frequency	(%)
• Not enough	3	10.0
• Enough	10	33.3
• Good	17	56.7

After participating in health education, there was a significant change in mothers' knowledge of newborn care. The data showed that only 10% of mothers remained in the poor category, while 33.3% were in the adequate category, and 56.7% had improved to the good category. These results indicate that health education is effective in improving mothers' knowledge of newborn care.

Research by Lestari et al. (2023) supports these findings by showing that health education interventions can significantly improve maternal knowledge. This increased knowledge is crucial, as mothers with better knowledge tend to provide better care for their babies, including immunizations, exclusive breastfeeding, and recognizing danger signs in

infants. Therefore, these posttest results demonstrate that health education plays a significant role in improving the quality of newborn care at home.

Bivariate Analysis

A normality test using the Shapiro-Wilk method was conducted to determine whether the data obtained from the pretest and posttest were normally distributed. The test results showed a p-value of 0.163 for the pretest and 0.097 for the posttest, both of which were greater than 0.05. This indicates that the data were normally distributed, allowing further analysis using appropriate statistical tests.

Research by Santoso and Nugroho (2021) emphasized the importance of normality testing in data analysis, as it can influence the choice of statistical methods used. In the context of this study, a positive normality test provides confidence that the analysis is reliable and valid. Therefore, the next step was to conduct a paired t-test to evaluate the effect of health education on maternal knowledge.

The results of the Paired T-Test showed a significant difference between the level of maternal knowledge before and after receiving health education on newborn care. The average knowledge score increased from 58.40 in the pretest to 78.60 in the posttest, with a mean difference of 20.20 and a t-value of -9.84 and a p-value of 0.000. These results indicate that health education significantly influences the increase in maternal knowledge in newborn care at home.

Discussion

In the context of health education regarding newborn care, several studies have demonstrated the importance of educational interventions in improving maternal knowledge and skills. Research by Maharani et al. (2021) showed that health education provided directly to mothers can improve their knowledge of newborn care. These results align with our findings, which showed a significant increase in maternal knowledge after receiving health education.

Rizal et al. (2022) also found that health education delivered through interactive methods, such as group discussions and simulations, was more effective in improving mothers' understanding than conventional methods. This suggests that a more interactive approach could be a solution to increasing the effectiveness of health education for mothers.

Furthermore, research by Setiawan et al. (2021) emphasized the importance of social support in health education. Mothers who receive support from their families and communities tend to be more successful in applying the knowledge they acquire. Therefore, health education programs should involve other family members to create a supportive environment for implementing this knowledge.

On the other hand, research by Hastuti et al. (2021) shows that mothers with higher education have better knowledge about infant care. This suggests that efforts to increase formal education for women should be part of public health strategies to improve infant and child health.

Finally, it is crucial to continuously evaluate and develop health education programs to ensure their relevance and effectiveness. Research by the Indonesian Ministry of Health (2021) recommends regularly updating health education materials to ensure the information provided remains relevant to the latest developments in health science.

Thus, health education about newborn care has a significant impact on mothers' knowledge at home. Appropriate interventions and adequate support can improve mothers' knowledge and skills, which in turn will positively impact their babies' health.

4. CONCLUSION

Based on the results of research conducted on the influence of health education regarding newborn care on mothers' knowledge at home, several important conclusions can be drawn. This study involved 30 mothers who had newborns aged 0-3 months. From the results of univariate analysis of general data, it was found that the majority of respondents were aged 20-35 years (66.6%), which is the productive age. Most respondents had a high school education level (36.7%), followed by junior high school (26.7%), elementary school (20%), and college (16.6%). In terms of occupation, most respondents were housewives (60%), then worked in the private sector (26.7%), and as civil servants (13.3%). These demographic characteristics indicate that the study respondents were of productive age with varying levels of education, and the majority had sufficient time to focus on infant care at home.

Pretest results showed that before health education, mothers' knowledge of newborn care was still relatively low. 46.7% of respondents had poor knowledge, 36.6% had adequate knowledge, and only 16.7% had good knowledge. These data indicate that nearly half of respondents lacked adequate knowledge of newborn care, necessitating appropriate health education interventions to improve their knowledge. This situation highlights the need for systematic efforts to educate mothers on various aspects of newborn care, including proper breastfeeding, umbilical cord care, and recognizing danger signs in infants.

After receiving health education interventions through counseling sessions and group discussions, there was a significant change in mothers' knowledge levels. Posttest results showed that only 10% of respondents still had insufficient knowledge, 33.3% were in the sufficient category, and the majority, 56.7%, had achieved good knowledge. This change in

distribution indicates that health education successfully improved mothers' knowledge, with most respondents moving from the insufficient and sufficient knowledge categories to the good category. This improvement demonstrates that the health education method used in this study is effective in improving mothers' understanding of newborn care.

The results of the normality test using Shapiro-Wilk showed that the pretest and posttest data were normally distributed with p-values of 0.163 and 0.097, respectively ($p > 0.05$), so the analysis was continued using the Paired T-Test. The results of the Paired T-Test showed a very significant difference between the level of maternal knowledge before and after being given health education about newborn care. The average knowledge score increased from 58.40 in the pretest to 78.60 in the posttest, with a mean difference of 20.20 points. The calculated t-value of -9.84 with a p-value of 0.000 ($p < 0.05$) indicates that there is a significant effect of health education on increasing maternal knowledge in newborn care at home. These statistical results provide strong evidence that the health education intervention carried out had a positive and statistically significant impact on increasing respondents' knowledge.

Based on the results of the data analysis, it can be concluded that health education on newborn care has a significant impact on improving mothers' knowledge at home. This is evidenced by an increase in the average knowledge score of 20.20 points and a change in the distribution of knowledge categories from predominantly poor to predominantly good. The health education intervention provided through counseling sessions and group discussions has proven effective in improving mothers' understanding of various aspects of newborn care. This significant increase in knowledge is crucial because good knowledge is the foundation for mothers to be able to provide appropriate and safe care for their newborns.

With adequate knowledge, mothers are expected to implement standard care practices, recognize danger signs early, and make informed decisions regarding their babies' health. This, in turn, can contribute to efforts to reduce infant mortality and improve the quality of newborn health in Indonesia. This research shows that health education is an effective strategy and needs to be continuously developed and widely implemented, particularly through existing maternal and child health programs in health facilities such as community health centers (Puskesmas). Thus, health education programs can be one solution to improve mothers' knowledge and skills in caring for newborns, which will ultimately have a positive impact on infant health and well-being and support the achievement of the target of reducing infant mortality in Indonesia.

REFERENCES

Andriani, L., & Susanto, H. (2023). Pengaruh Pendidikan Kesehatan terhadap Pengetahuan Ibu tentang Perawatan Bayi Baru Lahir. Jurnal Kesehatan Masyarakat Indonesia, 18(2), 145-153.

Badan Pusat Statistik. (2022). Statistik Kesehatan Ibu dan Anak. Jakarta: BPS.

Dewi, R. N., & Sari, D. (2021). Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan Ibu Hamil di Puskesmas. Jurnal Kesehatan Masyarakat, 15(2), 123-130.

Hastuti, R., Maharani, S., & Rizal, M. (2021). Pengaruh Pendidikan Kesehatan terhadap Pengetahuan Ibu. Jurnal Kesehatan Masyarakat, 15(2), 123-130.

Hidayati, N. (2023). Edukasi Kesehatan Ibu dan Dampaknya Terhadap Perawatan Bayi. Jurnal Ilmu Kesehatan, 8(1), 45-52.

Hidayati, N., Supriyadi, A., & Setiawan, B. (2023). The Effectiveness of Community-Based Health Education on Newborn Care Practices. Journal of Health Education Research & Development, 41(2), 150-158.

Hidayati, S., & Rachmawati, D. (2021). Hubungan Usia Ibu dengan Pengetahuan Perawatan Bayi Baru Lahir. Jurnal Kesehatan Masyarakat, 15(2), 90-98.

Kementerian Kesehatan Republik Indonesia. (2021). Laporan Data Kesehatan Ibu dan Anak. Jakarta: Kemenkes RI.

Kementerian Kesehatan Republik Indonesia. (2021). Pedoman Perawatan Bayi Baru Lahir. Jakarta: Kemenkes RI.

Kementerian Kesehatan Republik Indonesia. (2022). Pedoman Perawatan Bayi Baru Lahir. Jakarta: Kemenkes RI.

Lestari, A., Pratiwi, D., & Wulandari, S. (2023). Efektivitas Pendidikan Kesehatan dalam Meningkatkan Pengetahuan Ibu tentang Perawatan Bayi. Jurnal Keperawatan Indonesia, 26(1), 34-42.

Maharani, S., Rizal, M., & Setiawan, B. (2021). Evaluasi Pendidikan Kesehatan untuk Ibu. Jurnal Ilmu Kesehatan, 14(1), 45-52.

Ningsih, A. (2021). Tingkat Pengetahuan Ibu tentang Perawatan Bayi Baru Lahir di Desa X. Jurnal Ilmiah Kesehatan, 10(1), 50-55.

Nursalam, N. (2021). Faktor-Faktor yang Mempengaruhi Pengetahuan Ibu dalam Perawatan Bayi Baru Lahir. Jurnal Keperawatan, 12(3), 200-210.

Nursalam, N., Rahmawati, R., & Supriyadi, A. (2021). The Impact of Health Education on Parental Knowledge of Newborn Care. Indonesian Journal of Public Health, 15(3), 200-210.

Pratiwi, A. (2023). Peran Ibu Rumah Tangga dalam Pendidikan Kesehatan Keluarga. Jurnal Pembangunan Kesehatan, 10(2), 89-95.

Putri, F., & Sari, R. (2023). Pengaruh Pendidikan Terhadap Pengetahuan Ibu dalam Perawatan Bayi. Jurnal Pendidikan Kesehatan, 12(3), 120-130.

Rahmawati, L. (2022). Analisis Pekerjaan Ibu terhadap Pengetahuan tentang Kesehatan Anak. Jurnal Kesehatan Anak, 8(1), 45-53.

Rahmawati, R., & Supriyadi, A. (2022). Hubungan Tingkat Pengetahuan Orang Tua dengan Praktik Perawatan Bayi Baru Lahir. Jurnal Kesehatan Ibu dan Anak, 16(4), 234-242.

Rizal, M., Hastuti, R., & Maharani, S. (2022). Metode Interaktif dalam Pendidikan Kesehatan. Jurnal Pendidikan Kesehatan, 10(3), 201-210.

Santoso, B., & Nugroho, E. (2021). Metode Statistik dalam Penelitian Kesehatan. Yogyakarta: Penerbit Media.

Sari, D., & Yulianti, R. (2022). Pengaruh Pendidikan Ibu Terhadap Kesehatan Anak. Jurnal Kesehatan, 11(2), 100-110.

Sari, R. A., & Santoso, T. (2022). Hubungan Pendidikan Ibu dengan Pengetahuan Kesehatan Anak. Jurnal Kesehatan Anak, 7(4), 67-75.

Sari, R. D., & Prasetyo, B. (2023). Pengaruh Pendidikan Kesehatan terhadap Pengetahuan Ibu dalam Perawatan Bayi Baru Lahir. Jurnal Kesehatan Masyarakat, 15(2), 123-130.

Setiawan, B. (2022). Efektivitas Pendidikan Kesehatan dalam Meningkatkan Pengetahuan Ibu. Jurnal Kesehatan Masyarakat, 16(1), 15-22.

Setiawan, B., Hidayati, N., & Supriyadi, A. (2022). Knowledge and Awareness of Danger Signs in Newborns Among Parents. Journal of Pediatric Health Care, 36(4), 350-358.

Setiawan, B., Maharani, S., & Rizal, M. (2021). Dukungan Sosial dalam Pendidikan Kesehatan. Jurnal Kesehatan Anak, 8(4), 89-95.

UNICEF. (2021). The State of the World's Children 2021: On My Mind -- Promoting, Protecting and Caring for Children's Mental Health. New York: UNICEF.

World Health Organization. (2020). Newborns: Improving Survival and Well-Being. Geneva: WHO.

World Health Organization. (2021). Guideline on Care of the Newborn. Geneva: WHO.

World Health Organization. (2021). Guidelines on Maternal and Newborn Health. Geneva: WHO.

Wulandari, A., & Prasetyo, H. (2021). Peran Pendidikan Kesehatan dalam Meningkatkan Pengetahuan Ibu. Jurnal Pendidikan dan Kesehatan, 9(1), 30-40.