IJH INTERNATIONAL JOURNAL OF HEALTH

Volume 02, Number 01 (May 2026)
p-ISSN: 000000000
e-ISSN: 000000000

Midwifery care for a neonate with icterus

Farra Kharismadiyanti[1], Finta Isti Kundarti[1]

[1]Department of Midwifery, Poltekkes Kemenkes Malang, Indonesia

Corresponding Author: Finta Isti Kundarti; fintaistikundarti@gmail.com

Abstract:
Physiological icterus is a condition that commonly occurs in newborns due to increased levels of unconjugated bilirubin in the blood. This condition generally appears on the 2nd–3rd day of life (within <2 weeks) and is characterized by a yellowish discoloration of the skin and sclera. Physiological icterus is usually temporary but still requires monitoring to prevent excessive increases in bilirubin levels. The purpose of this study is to describe midwifery care for a neonate, By. K, aged 3 days with physiological icterus, and to evaluate the outcomes of the care provided. This study used a descriptive case study method on By. K, a 3-day-old neonate with physiological icterus. Data were collected through maternal anamnesis, observation of the infant's condition, physical examination, and medical record documentation. The care provided included monitoring the infant's general condition, assessing the degree of icterus, and providing education to the mother regarding newborn care. The assessment results showed that the infant was in good general condition, had normal reflexes, and showed yellow discoloration on the face indicating signs of physiological icterus. The infant received adequate breast milk with a good feeding frequency. The interventions included educating the mother to provide optimal breastfeeding, monitoring changes in the infant's skin color, and recommending safe morning sun exposure for the infant. Adequate breastfeeding can help increase the excretion of bilirubin through feces, thereby assisting in reducing bilirubin levels in infants with physiological icterus. Midwifery care for newborns with physiological icterus through monitoring the infant's condition, providing adequate breastfeeding, and educating the mother can help improve the infant's condition and prevent complications. Health workers are expected to enhance education for mothers regarding the danger signs of icterus, the importance of optimal breastfeeding, and regular monitoring of the infant's condition.

Keywords:
breastfeeding; midwifery care; neonates; physiological icterus

Check for updates

Article Info:
Submitted:
14-04-2025
Revised:
17-05-2026
Accepted:
17-05-2026
Published:
17-05-2026

https://doi.org/10.53713/ijh.v2i1.729

INTRODUCTION

Neonatal transition from intrauterine to extrauterine life requires complex physiological adaptations, during which newborns are highly susceptible to various health problems. One of the most common conditions in this period is neonatal icterus, a clinical manifestation characterized by yellow discoloration of the skin, sclera, and mucous membranes resulting from elevated bilirubin

Volume 02, Number 01 (May 2026)
p-ISSN: 000000000
e-ISSN: 000000000

levels or hyperbilirubinemia (Widodo & Kusbin, 2023). This condition reflects an imbalance between bilirubin production and elimination in the early neonatal period.

Neonatal icterus is frequently encountered during the first week of life and remains one of the most prevalent neonatal concerns globally. Approximately 65% of newborns experience some degree of jaundice in the early postnatal period, and while most cases are physiological and self-limiting, a proportion may progress to severe hyperbilirubinemia if not appropriately identified and managed (Bella et al., 2024). The clinical significance of this condition lies in its potential to progress from a benign physiological process to a life-threatening complication.

The occurrence of neonatal icterus is influenced by multiple risk factors, including low birth weight (LBW), breastfeeding patterns, and blood group incompatibility. In infants with low birth weight, hepatic immaturity contributes significantly to impaired bilirubin metabolism. This is compounded by increased erythrocyte turnover, shorter red blood cell lifespan, and immature liver enzyme activity responsible for bilirubin conjugation and excretion (Rahmadani et al., 2022). These physiological limitations increase the likelihood of bilirubin accumulation in the neonatal circulation.

From a pathophysiological perspective, most cases of neonatal icterus are physiological and result from elevated unconjugated (indirect) bilirubin. Bilirubin is produced from the breakdown of hemoglobin in erythrocytes, which in neonates have a shorter lifespan (70–90 days) than in adults (approximately 120 days). Due to their immature structure and increased fragility, neonatal red blood cells are more prone to hemolysis, which can lead to increased bilirubin production. Because unconjugated bilirubin is fat-soluble, it tends to accumulate in subcutaneous tissues rich in lipid content, producing the characteristic yellow discoloration of the skin and sclera.

However, pathological icterus may also occur, commonly associated with conditions such as septicemia, ABO incompatibility, or hypothyroidism. Although less frequent, pathological hyperbilirubinemia requires immediate attention due to its risk of progression to kernicterus. Kernicterus results from the deposition of unconjugated bilirubin in brain tissues, particularly those with high lipid content, leading to irreversible neurological damage and potentially neonatal mortality (Marcdante et al., 2021). Without timely intervention, neonatal icterus may progress to bilirubin encephalopathy, resulting in long-term neurological impairment or death (Supliyani, 2023).

Management of neonatal icterus includes optimizing feeding practices, particularly breastfeeding, to enhance bilirubin excretion. In addition, controlled exposure to morning sunlight has been identified as a simple and supportive intervention that may help reduce bilirubin levels in cases of physiological jaundice (Handayani & Susianty, 2024). These approaches are commonly integrated into neonatal care practices, especially in resource-limited settings.

Volume 02, Number 01 (May 2026)
p-ISSN: 000000000
e-ISSN: 000000000

Midwives play a crucial role in the early identification, monitoring, and management of neonatal icterus. Their responsibilities include assessing clinical signs, providing appropriate interventions, and educating families regarding warning signs and preventive measures. Effective midwifery care is essential to reduce the risk of complications and ensure optimal neonatal outcomes. Therefore, this study aims to provide comprehensive nursing care for newborns with icterus through systematic monitoring and appropriate management strategies, aiming to reduce bilirubin levels and prevent further complications.

METHODS

This study employed a case study research design using a midwifery care approach for a newborn with icterus. The research subject was By. K, a newborn diagnosed with icterus. The study was conducted using the midwifery care management approach, which includes the assessment of subjective data, objective data, assessment, and management (planning and implementation of care). Data collection techniques included interviews or anamnesis, observation, and physical examination. The care provided included newborn care for infants with icterus, as well as education for the mother and family regarding icterus and daily newborn care. Data analysis was performed by comparing the findings obtained during the assessment with relevant theoretical references to determine the appropriate diagnosis and care plan. Ethical considerations were also observed in this study, including maintaining the patient's confidentiality and obtaining informed consent from the family before conducting the assessment and providing care.

RESULTS

A full-term female infant was delivered via normal vaginal birth on February 1, 2026, with a birth weight of 3,100 grams and a gestational age of 40 weeks. The infant cried immediately after birth, had a reddish skin color, and demonstrated active movements. No congenital abnormalities were observed at birth. The newborn received a Vitamin K injection (0.1 mL) and the Hepatitis B (HB0) immunization. Early initiation of breastfeeding (IMD) was performed immediately after delivery. After 12 hours of observation, both the mother and infant were discharged home.

During the neonatal visit on the third day at the health center, mild yellowish discoloration was observed on the infant's facial area. The mother stated that her breast milk production was still limited. Upon further examination, the infant was diagnosed with physiological icterus. The infant's general condition was good, with a clear, alert state of consciousness. Vital signs were within normal

Volume 02, Number 01 (May 2026)
p-ISSN: 000000000
e-ISSN: 000000000

limits, including a heart rate of 128 beats per minute, a respiratory rate of 48 breaths per minute, and a body temperature of 36.7°C. Anthropometric measurements showed a birth weight of 3,100 grams, a body length of 50 cm, a head circumference of 34 cm, and a chest circumference of 33 cm.

Physical examination revealed thin black hair with no caput succedaneum. The face showed no edema or swelling, although yellowish discoloration was noted. The conjunctiva appeared pink, the sclera was icteric, and the blinking reflex was normal. The nose was clean with no nasal flaring. Examination of the mouth showed no abnormalities such as labioschisis or palatoschisis, and the rooting, sucking, and swallowing reflexes were strong. The ears were bilaterally symmetrical, and no abnormalities were found in the neck; a normal tonic neck reflex was observed. The chest was symmetrical with no swelling or chest wall retractions. The abdomen was symmetrical without swelling, and the umbilical cord remained wet. Examination of the upper and lower extremities showed complete fingers and toes, with positive Babinski and walking reflexes. The genitalia were normal, with the labia majora covering the labia minora and a normal clitoris. The anus was patent and normal. The skin appeared reddish, with yellowish discoloration on the face.

Based on the examination findings, the infant was assessed as a 3-day-old term neonate, appropriate for gestational age, with physiological icterus. The management plan included informing the mother about the examination results and the care to be provided, explaining that physiological icterus is a normal condition that commonly appears on the third day of life and usually resolves within 10 days to 2 weeks, and teaching the mother correct breastfeeding techniques and positioning. The mother was advised to breastfeed the baby every two hours or whenever the baby showed signs of hunger. Education was also provided regarding danger signs in infants, including fever, refusal to breastfeed, rapid breathing, low body temperature, excessive sleepiness, and bleeding or foul-smelling discharge from the umbilical cord. In addition, the mother was advised to expose the baby to morning sunlight between 07:00 and 08:00 a.m. for 5–10 minutes, while protecting the baby's eyes and changing the baby’s position periodically to ensure even exposure. This measure may help prevent excessive bilirubin accumulation and support bone growth due to vitamin D exposure. All care provided was documented in the Maternal and Child Health (MCH) handbook.

DISCUSSION

Observations, assessments, and monitoring were conducted through structured home visits over three days. During each visit, a comprehensive neonatal assessment was performed, including both subjective and objective data collection to obtain updated clinical information. Based on these

Volume 02, Number 01 (May 2026)
p-ISSN: 000000000
e-ISSN: 000000000

findings, continued midwifery care was provided to ensure ongoing evaluation and appropriate management of the newborn's condition.

The assessment of Baby By. K, aged 3 days, presented with yellowish discoloration primarily on the face. This condition was first observed on the third day of life, while the infant's general condition remained stable, with vital signs within normal limits. These clinical features are consistent with physiological icterus, a common neonatal condition resulting from elevated unconjugated bilirubin levels. Physiological jaundice typically appears between the second and third day after birth and generally resolves within one week in the absence of complications (Sumiyati et al., 2023).

The management approach emphasized optimizing early breastfeeding practices. The infant's sucking reflex plays an important role in stimulating neurohormonal pathways, including prolactin release, which supports lactogenesis and enhances breast milk production, thereby increasing the success of exclusive breastfeeding. In addition, early initiation of breastfeeding (IMD) facilitates early skin-to-skin contact, during which the newborn may ingest beneficial maternal skin flora. These microorganisms contribute to gut colonization and support the conversion of bilirubin into stercobilin, which is subsequently excreted through feces, thereby reducing the risk of bilirubin accumulation and neonatal icterus.

Early initiation of breastfeeding also provides multiple physiological and psychological benefits for the newborn, including thermoregulation, comfort, protection against pathogenic microorganisms, and strengthening of mother–infant bonding. Therefore, early and uninterrupted breastfeeding initiation is essential to ensure adequate colostrum intake immediately after birth (Umar et al., 2021).

Colostrum itself contains high concentrations of immunoglobulins that provide passive immunity and protect newborns from infectious agents. It also acts as a natural laxative, promoting intestinal motility and facilitating the excretion of meconium. Since meconium contains a significant amount of bilirubin, delayed elimination may lead to enterohepatic circulation and reabsorption of bilirubin into the bloodstream, thereby contributing to increased serum bilirubin levels and worsening or development of icterus (Nirwana et al., 2022).

In addition to breastfeeding optimization, the researcher provided the mother with education on controlled morning sunlight exposure as a supportive management strategy for physiological icterus. Based on Wahyu et al., sun exposure is recommended in the morning between 07:00 and 08:00 a.m. for approximately 15–30 minutes, with the infant's eyes protected and only the diaper or genital area covered. To ensure even exposure, the infant's position should be periodically adjusted so that sunlight reaches different parts of the body uniformly.

Volume 02, Number 01 (May 2026)
p-ISSN: 000000000
e-ISSN: 000000000

CONCLUSION

Based on the findings of this study, Baby By. K, aged 3 days, was diagnosed with physiological icterus, as evidenced by yellow discoloration of the skin and sclera. Despite these clinical signs, the infant's general condition remained stable, and vital signs were within normal physiological limits. These findings indicate that the condition was non-pathological and consistent with normal neonatal adaptation.

The implementation of midwifery care through continuous monitoring, optimization of breastfeeding practices, and structured maternal education on newborn care and warning signs of icterus contributed to improving the infant's condition and preventing potential complications. These interventions support the effectiveness of early, community-based neonatal care in managing physiological jaundice.

The role of midwives and other health professionals is essential in the early detection, ongoing assessment, and education of families regarding neonatal icterus. Strengthening maternal knowledge, particularly on the importance of adequate breastfeeding and routine monitoring of neonatal conditions, is critical to ensuring timely management and preventing progression to more severe complications in newborns.

ACKNOWLEDGEMENT

The author would like to express sincere gratitude to all parties who have provided support in the implementation of this study, especially to the health care facility that granted permission and the opportunity to conduct this case study. The author also extends appreciation to the mother and family of By. K for their willingness to participate in this study, as well as to the supervising lecturer for the guidance, direction, and valuable input throughout the preparation of this article. The support and cooperation from various parties greatly contributed to the successful completion of this case study and the provision of care.

CONFLICT OF INTEREST

There is no conflict of interest in this research.

Volume 02, Number 01 (May 2026)
p-ISSN: 000000000
e-ISSN: 000000000

REFERENCES

Bella, R., Sari, D., & Pratama, A. (2024). Faktor yang berhubungan dengan kejadian ikterus neonatorum pada bayi baru lahir. *Jurnal Keperawatan dan Kesehatan Masyarakat, 12*(2), 115–122. https://doi.org/10.37287/jppp.v7i2.6248

Handayani, P., & Susianty, N. (2024). Penanganan ikterus fisiologis pada bayi baru lahir melalui terapi jemur pagi. *Jurnal Medika Nusantara, 2*(4), 112–118. https://doi.org/10.59680/medika.v2i4.1519

Marcdante, K. J., Kliegman, R. M., Jenson, H. B., Behrman, R. E., & Indonesia, I. D. A. (2021). *Nelson ilmu kesehatan anak esensial*. Elsevier Health Sciences. https://books.google.co.id/books?id=aQjgEAAAQBAJ

Mawaddah, S., Muliani, S., & Safinatunnaja, B. (2023). Studi kasus ikterus fisiologis neonatal dan perawatannya melalui paparan sinar matahari. *Neonatal, 4*(4), 6555–6563. https://doi.org/10.31004/jkt.v4i4.22326

Nirwana, N., Fitrahminarsih, N., & Hatimah, H. (2022). Hubungan inisiasi menyusu dini dengan kejadian ikterus neonatorum fisiologis pada bayi baru lahir di RSKDIA Pertiwi Makassar. *Jurnal Rumpun Ilmu Kesehatan, 2*(3), 151–156. https://doi.org/10.55606/jrik.v2i3.842

Nurma, Y., Rahmawati, D., & Lestari, A. (2025). Faktor risiko hiperbilirubinemia pada neonatus di fasilitas pelayanan kesehatan. *Jurnal Klinik dan Kesehatan, 9*(1), 45–52. https://doi.org/10.55606/klinik.v4i1.5322

Rahmadani, E., Sutrisna, M., & Sakti, M. T. (2022). Faktor-faktor yang berhubungan dengan kejadian ikterus pada bayi baru lahir di RS Ummi. *Sehatrakyat: Jurnal Kesehatan Masyarakat, 1*(3), 179–188. https://doi.org/10.54259/sehatrakyat.v1i3.1059

Rahmadhani, S. P., Noviana, R., Sianipar, I. M. G., Komariyah, S., Mawaddah, S., Utari, M. D., & Susilawati. (2024). *Buku ajar fisiologi kehamilan, persalinan, nifas, dan bayi baru lahir (BBL)*. PT Nuansa Fajar Cemerlang.

Sumiyati, Niar, & Ariani. (2023). Studi penerapan asuhan kebidanan pada bayi baru lahir dengan ikterus fisiologis. *Jurnal Berita Kesehatan, 16*(1), 45–51.

Supliyani. (2023). Penatalaksanaan ikterus neonatorum pada bayi baru lahir. *Jurnal Kesehatan dan Sains, 8*(2), 88–94. https://doi.org/10.34011/jks.v3i3.1419

Susanti, S., Mansoben, N., & Pademme, D. (2022). Faktor yang berhubungan dengan kejadian ikterus pada neonatus. *Jurnal Keperawatan Medika, 1*(1), 35–40.

Umar, S., Rauf, E. L., & Koem, H. K. N. (2021). Pengaruh inisiasi menyusui dini terhadap ikterus neonatorum. *Kampurui Jurnal Kesehatan Masyarakat, 3*(2), 53–60. https://doi.org/10.55340/kjkm.v3i2.486

Yuliarty, D. (2020). *Faktor-faktor yang memengaruhi pengetahuan ibu nifas tentang ikterus neonatrum pada bayi*. STIKES RSPAD Gatot Soebroto Repository.

Yulizawati, Fitria, H., & Chairani, Y. (2021). *Continuity of care: Tinjauan asuhan pada masa kehamilan, bersalin, nifas, bayi baru lahir dan keluarga berencana*. Indomedia Pustaka.