Volume 03 Number 05 October 2025 p-ISSN: 2986-5662

e-ISSN: 2985-959X

# **Midwifery Care for Neonates with Jaundice**

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#### Abstract:

Excess bilirubin accumulation occurs in 60% of babies born on time and 80% of premature babies in the first week of life, causing the skin and sclera to turn vellow. This condition is called neonatal jaundice. It is important to provide appropriate treatment so that severe complications such as kernicterus and permanent neurological damage can be avoided. This study aims to analyze Midwifery Care for Neonates with Jaundice. This study applied a case study design with a comprehensive approach to midwifery care in one patient. Information was collected through interviews, observations, physical examinations, and documentation studies. The data was then analyzed by following the stages of the midwifery process, which include assessment, diagnosis, intervention, implementation, and evaluation. A case study was conducted on baby A, aged 7 days with a birth weight of 3020 grams, who had jaundice on the face, neck, and chest. The diagnosis was a 7-day-old full-term neonate with physiological jaundice. The intervention was conducted by educating mothers to dry the baby for 10-15 minutes before 10 am and breastfeed as often as possible, 8-12 times a day. Evaluation at the second visit showed that the facial, neck, and chest jaundice was no longer visible, and the body weight increased from 3010 grams to 3030 grams. This case demonstrates the effectiveness of non-pharmacological interventions in managing physiological jaundice. An educative approach through adequate breastfeeding and exposure to morning sunlight as natural phototherapy is proven to be safe and easy to do at home.

#### Article info:

Submitted: 23-05-2025 Revised: 28-07-2025 Accepted: 15-09-2025

#### **Keywords:**

neonatal, jaundice, sunlight, breastfeeding

DOI: https://doi.org/10.53713/htechj.v3i5.363

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# INTRODUCTION

Neonatal jaundice is one of the most prevalent clinical conditions encountered in newborn care globally, characterized by a visible yellow discoloration of the skin, sclera, and mucous membranes resulting from excessive bilirubin accumulation in tissues and plasma (Asefa et al., 2020). As a leading sign of neonatal hyperbilirubinemia, it stands among the most common health challenges in the early postnatal period, frequently occurring alongside other critical neonatal concerns such as asphyxia, hypothermia, infection, low birth weight, and respiratory distress syndrome. Its high incidence underscores its significance as a routine yet potentially serious condition requiring vigilant monitoring and evidence-based management within the first days of life (Asaye et al., 2023).

The clinical presentation of jaundice arises directly from elevated levels of unconjugated bilirubin in the bloodstream, a byproduct of red blood cell breakdown (Obeagu & Obeagu, 2024). Neonatal jaundice is particularly prevalent in the initial two weeks after birth, with epidemiological studies indicating that approximately 60% of full-term infants and up to 80% of preterm infants develop clinically apparent jaundice within the first week of life (Hansen, 2021). This high frequency

positions it as the most common medical condition during the early neonatal period, necessitating standardized assessment protocols in maternity and newborn care settings (Geest et al., 2022).

A critical modifiable factor contributing significantly to the development of neonatal jaundice is insufficient breastfeeding volume and frequency (Gao et al., 2022). Inadequate breast milk intake affects over half of infants experiencing significant hyperbilirubinemia, as suboptimal feeding reduces gastrointestinal motility (Wilde, 2021). This impairment diminishes bilirubin excretion through the stool while promoting increased enterohepatic recirculation, where bilirubin is reabsorbed from the gut back into the bloodstream. Consequently, unconjugated bilirubin levels rise, exacerbating the visible jaundice and increasing the infant's risk for complications if unaddressed (Falke, 2025).

The pathophysiology of neonatal jaundice is intrinsically linked to the physiological immaturity of the newborn's hepatic system (Hegyi & Kleinfeld, 2021). Bilirubin, primarily in its unconjugated form, is bound to albumin in circulation and requires hepatic conjugation in the liver to become water-soluble for biliary excretion. However, the neonatal liver's immature conjugation capacity, particularly in the first week of life, often results in a temporary imbalance between bilirubin production and clearance (Jayanti et al., 2021). While physiological jaundice typically follows a benign course, unmonitored or severe hyperbilirubinemia can lead to acute bilirubin encephalopathy and, in extreme cases, kernicterus—a permanent neurological injury caused by bilirubin neurotoxicity (Qian et al., 2022).

Effective management of neonatal jaundice hinges significantly on optimizing breastfeeding practices (Aduramo et al., 2024). Evidence strongly supports initiating breastfeeding within the first hour after birth and maintaining a high feeding frequency of eight to twelve times per day during the initial days of life. Adequate and frequent breastfeeding enhances caloric intake, stimulates peristalsis, and promotes bilirubin elimination through stools, thereby reducing the risk and severity of hyperbilirubinemia (Adiiboka et al., 2022; Pakilaran et al., 2022). This non-invasive, physiological intervention remains a cornerstone of preventive and therapeutic care, emphasizing the critical role of lactation support and maternal education in the immediate postpartum period (Nainggolan et al., 2025).

When bilirubin levels exceed physiological thresholds, phototherapy becomes the primary clinical intervention. This treatment utilizes high-intensity light within the 430–490 nm wavelength range (typically ≥30 µW/cm² per nm) to convert unconjugated bilirubin into water-soluble isomers that can be excreted renally without hepatic conjugation (Agrawal et al., 2024). Although sunlight contains therapeutic blue wavelengths, its use as a standalone treatment is strongly discouraged due to the concurrent presence of harmful ultraviolet and infrared radiation, which pose risks of skin damage, sunburn, and thermal instability. A systematic review by Saloojee (2024) confirms that sunlight may offer supplementary benefits in resource-limited settings. However, it lacks standardized phototherapy equipment-controlled efficacy and safety profile, and should never replace conventional treatment protocols.

Given the high prevalence of neonatal jaundice and its potential for serious complications, the role of midwives in early detection, risk assessment, and holistic management is paramount. As primary caregivers during the critical first days postpartum, midwives are uniquely positioned to monitor jaundice progression, promote effective breastfeeding, educate families on warning signs, and facilitate timely interventions such as phototherapy (Broom et al., 2025; Safira & Luthfiyana, 2024). This paper examines midwifery-led care for a term neonate presenting with physiological jaundice, illustrating the integration of clinical assessment, evidence-based interventions, and family-centered support within the structured framework of the midwifery process to ensure optimal neonatal outcomes.

# STUDY DESIGN

This study employed a single-case study design to provide an in-depth and comprehensive examination of holistic midwifery care delivered to a specific neonate. The primary objective was to illustrate the application and integration of the complete midwifery process within a real-world clinical scenario involving neonatal care. The case selection focused on Baby A, a 7-day-old full-term male neonate with a birth weight of 3020 grams, presenting with visible jaundice localized to the face, neck, and upper chest. This specific case was chosen as a representative example of physiological jaundice management in the early neonatal period, allowing for detailed exploration of clinical decision-making and care provision. Ethical approval for the research was formally granted by the Health Research Ethics Committee of the Ministry of Health Polytechnic Malang, ensuring adherence to international standards for participant welfare, confidentiality, and informed consent procedures, which were obtained from the infant's primary caregiver before data collection.

Data collection was conducted using a multi-method approach to ensure comprehensiveness and triangulation, capturing diverse facets of the midwifery care experience. Primary data sources included semi-structured interviews with the infant's primary caregiver (mother) to explore perceptions of the infant's condition, care received, and family experience; direct, non-participant observations of midwifery care interactions and routines performed by the attending midwife; structured physical examinations of the neonate conducted by the researcher (a qualified midwife) to assess jaundice progression (using the Kramer scale), vital signs, feeding behavior, and general well-being; and thorough review of the infant's medical documentation, including the partograph, partogram, neonatal progress notes, and laboratory results (specifically total serum bilirubin levels). This combination of qualitative and quantitative data sources provided a rich, multi-dimensional dataset reflecting the clinical management and the contextual aspects of care delivery over the observed period.

The collected data underwent systematic analysis guided explicitly by the sequential stages of the midwifery process framework: assessment, diagnosis, planning, implementation, and evaluation. Data from interviews, observations, physical exams, and documentation were synthesized during the assessment phase to form a complete picture of the neonate's health status, risk factors, and the family's situation. This informed the diagnosis phase, where the primary clinical judgment of "physiological jaundice in a 7-day-old full-term neonate" was confirmed and differentiated from pathological causes, based on established clinical criteria (timing of onset, bilirubin levels within the expected range for age in hours, absence of risk factors). The planning phase involved detailing evidence-based interventions aligned with national guidelines for managing physiological jaundice, primarily focusing on promoting adequate feeding frequency and volume, providing parental education on jaundice monitoring, and scheduling follow-up bilirubin checks. The implementation phase documented the specific actions taken by the midwife to execute this plan. Finally, the evaluation phase assessed the outcomes of the care provided, including the resolution trajectory of the jaundice, parental understanding and satisfaction, and the overall effectiveness of the interventions in achieving the expected care goals for this specific case. This structured analytical approach ensured the findings were clinically relevant and directly linked to standard midwifery practice.

# PATIENT INFORMATION

This case study was conducted on baby A, who was 7 days old. Based on the assessment results, the obstetric problems that can be identified in this case are physiological jaundice. The researcher will describe the study's results in relation to the stages of the midwifery process.

#### **CLINICAL FINDINGS**

Based on the results of a complete examination, subjective data obtained, the baby was born by section cesarean on January 16, 2025, at 2:30 pm at the Kediri Regency Hospital with female sex, birth weight 3020 grams, birth length 50 cm, head circumference 34 cm. From the objective data the following results were obtained: body weight 3010 grams, body length 50 cm, head circumference 34 cm, vital signs (axillary temperature: 37 ° C, pulse 87x / min, breathing 40x / min, SpO2 98x / min) face jaundice, neck jaundice, chest jaundice, umbilical cord is dry and has not been released, normal baby reflexes (rooting, sucking, moro, babynski, grappe and swallowing). Based on the analysis of the data obtained, a midwifery diagnosis can be made, namely a full-term neonate aged 7 days with jaundice.

## THERAPEUTIC INTERVENTION

The intervention is to educate mothers to dry their babies in the morning for 10-15 minutes a day before 10 am without wearing clothes or pants, using only diapers/pampers and eye protection, and teach mothers to breastfeed their babies as often as possible, or breastfeed them 8-12 times a day or more. If the baby sleeps for more than three hours, the mother should wake up and feed until the breast feels empty, then transfer to the other side of the breast.

The results of the evaluation in this case were at a home visit 2 days after the first examination (January 25, 2025), the baby's general condition was good, axillary temperature 37 ° C, pulse 87x/min, breathing 40x/min, SpO2 99%, body weight 3030 grams (an increase of 20 grams from the previous examination), body length 50 cm, head circumference 34 cm. The baby's face, neck, and chest are no longer yellow (jaundice has resolved) because the mother has taken care according to the education provided, namely drying the baby in the morning sun and giving breast milk every two hours or whenever the baby cries for milk. Based on the evaluation results, it can be concluded that the condition of jaundice in neonates has been effectively resolved through the provided interventions, and the baby's growth is optimal, as evidenced by an increase in body weight.

# **DISCUSSION**

The yellow color of the skin and whites of the eyes of a newborn with jaundice is caused by a build-up of unconjugated bilirubin. Most babies experience the condition of unconjugated hyperbilirubinemia, which is typically part of normal physiological changes (Bajwan et al., 2024). In this situation, a 7-day-old baby shows signs of jaundice on the face, neck, and chest. There are several known risk factors for newborn jaundice, including premature birth, maternal age, low birth weight, glucose-6-phosphate dehydrogenase (G6PD) deficiency, genetic factors, gender, drug use, race, altitude of residence, polycythemia, maternal diabetes, oxytocin use, bleeding under the skin, bruising, nursing, weight loss, blood group incompatibility, and other hemolytic diseases (Ayalew et al., 2024).

Obstetric diagnosis in this case is a 7-day-old full-term neonate with jaundice. To put it simply. physiological jaundice is jaundice (only on the face, neck, chest, and belly above the navel) without any additional abnormal symptoms, like anemia, spleen or liver enlargement, lethargy, or refusal to eat. Full-term infants have a maximum bilirubin concentration in blood of 12 mg%, while premature infants have a maximum of 14 mg%. The daily increase in blood bilirubin levels should not exceed 5 mg. The baby's urine is also brown or yellow (newborn pee is usually white), and the feces are pale. On the other hand, jaundice may appear as early as 24 hours after birth in a condition known as pathologic jaundice. Pathological neonatal jaundice is characterized by an early onset of a dark tint that lasts for one week in term infants or two weeks in preterm infants. Yellowing can affect the palms of the hands, the soles of the feet, and the conjunctivae. Jaundice may be accompanied by other unusual symptoms, such as convulsions, lethargy, and an unwillingness to breastfeed. Blood tests usually show a higher-than-normal bilirubin level (Abiha et al., 2023). Based on this idea, it is feasible to determine that neonate A has physiological jaundice. The appearance of a yellow tint, limited to the face, neck, and chest regions, is one of the symptoms of physiological jaundice. Additionally, the yellow tint on neonate A's cheeks, neck, and chest vanished at the second visit, indicating that her condition had improved.

Elevated bilirubin levels cause acute bilirubin encephalopathy (ABE), which impairs mental status and behavior. If left untreated, ABE progresses to chronic bilirubin encephalopathy (CBE) or kernicterus. Kernicterus causes cerebral palsy, sensorineural hearing loss, gaze paralysis, and neurodevelopmental retardation; unbound bilirubin also increases the chance of auditory toxicity. In addition, jaundice increases the risk of childhood allergic diseases such as bronchial asthma, acute urticaria, and allergic rhinitis (Bante et al., 2024). The intervention in this situation involved providing the mother with information on how to dry the baby for 10-15 minutes every morning, before 10 am, without clothes, using only diapers or Pampers, and with eye protection. In addition, mothers are also counseled to breastfeed their babies as often as possible (about 8 to 12 times a day or more). If the baby sleeps for more than 3 hours, mothers are advised to wake the baby and breastfeed until the breast feels empty, then switch to the other breast. Many parents feel anxious about how to treat jaundice at home. If a newborn has low-grade jaundice, several measures can be taken at home to manage the condition. The primary actions to take are to ensure the baby is sufficiently hydrated and, if safe, to expose them to some indirect sunlight (Khudhair et al., 2022).

Many parents worry about how to help with jaundice at home. If a newborn has mild jaundice, some steps can be taken at home to help manage the condition. The key steps involve ensuring the baby gets enough fluids and, if safe, some exposure to indirect sunlight. Ensure that the baby gets enough sun exposure by placing him near a window exposed to indirect sunlight for a limited time. Breastfeeding your baby at a high frequency is crucial; breastfeeding 8 to 12 times daily helps remove bilirubin through the feces (Chiu et al., 2021; Wanadi et al., 2023).

Jaundiced babies should be breastfed more frequently (at least 10 to 12 times in 24 hours) and more effectively (check to see if the baby latches on and sucks well) to reduce bilirubin levels as soon as possible. Skin-to-skin contact and the use of breast compression during breastfeeding can help encourage slow babies to breastfeed actively. Sunlight can be beneficial because phototherapy was created to treat hyperbilirubinemia. Bilirubin is best converted into its excretable, water-soluble isomer by the blue-green light spectrum of the sun. However, there are concerns regarding potential safety risks associated with using sunlight to treat or prevent hyperbilirubinemia, as it emits UV light and infrared radiation. In addition to the possibility of developing skin neoplasms, infants may experience sunburn or hyperthermia. Exposing the baby to 20 to 30 minutes of indirect sunlight daily may be helpful (Horn et al., 2021).

# **CONCLUSION**

The case of a 7-day-old full-term neonate with jaundice shows that proper handling through education and non-pharmacological interventions is very effective in overcoming physiological jaundice in newborns. Educating mothers to breastfeed their babies as often as possible and providing exposure to morning sunlight as a form of natural phototherapy has yielded satisfactory results. The success of this treatment was evident from the improvement in the baby's clinical condition at the second visit, where the jaundice on the face, neck, and chest had resolved, and there was an increase in the baby's weight, indicating adequate nutritional intake. This case study highlights the crucial role of health professionals in educating mothers on managing neonatal jaundice at home, emphasizing the importance of frequent and adequate breastfeeding to facilitate bilirubin elimination through stool and prevent dehydration.

# **ACKNOWLEDGEMENT**

Thank you to Mrs. P, who has been willing to provide midwifery care for her baby during the neonatal period.

## **CONFLICT OF INTEREST**

There are no conflicts in this article.

# REFERENCES

- Abiha, U., Banerjee, D. S., & Mandal, S. (2023). Demystifying non-invasive approaches for screening jaundice in low resource settings: A review. *Frontiers in Pediatrics*, *11*, 1292678. https://doi.org/10.3389/fped.2023.1292678
- Adiiboka, F., Soni, R. K., Vuvor, F., & Abobi-Kanbigs, D. (2022). The Role of Nutrition in the Prevention and Management of Neonatal Jaundice in Ghana. https://doi.org/10.21522/TIJPH.2013.10.03.Art021
- Aduramo, E., Esan, D. T., Adesuyi, E., Olabode, O., Awoniyi, E., Oyama, B., & Akingbade, O. (2024). Exploring Developmental Care in Neonatal Jaundice Management: A Case Report with Supporting Literature Synthesis. *Journal of Pediatrics Review*, *12*(4), 321-328. http://dx.doi.org/10.32598/jpr.12.4.1138.2
- Agrawal, P., Dubey, R., Thakur, P., & Punj, A. (2024). Effect of Phototherapy on Serum Levels of Calcium, Magnesium, Phosphorus, and Vitamin D in Infants With Hyperbilirubinemia. https://doi.org/10.21203/rs.3.rs-5716274/v1
- Asaye, S., Bekele, M., Getachew, A., Fufa, D., Adugna, T., & Tadasa, E. (2023). Hyperbilirubinemia and Associated Factors Among Neonates Admitted to the Neonatal Care Unit in Jimma Medical Center. *Clinical Medicine Insights: Pediatrics*. https://doi.org/10.1177/11795565231193910
- Asefa, G. G., Gebrewahid, T. G., Nuguse, H., Gebremichael, M. W., Birhane, M., Zereabruk, K., Zemicheal, T. M., Hailay, A., Abrha, W. A., Hadera, S. A., Hailu, A. G., Beyene, B. H., Dagnazgi, E. A., Tekulu, F. G., & Welay, F. (2020). Determinants of Neonatal Jaundice among Neonates Admitted to Neonatal Intensive Care Unit in Public General Hospitals of Central Zone, Tigray, Northern Ethiopia, 2019: A Case-Control Study. *BioMed Research International*, 2020(1), 4743974. https://doi.org/10.1155/2020/4743974

- Ayalew, T., Molla, A., Kefale, B., Alene, T. D., Abebe, G. K., Ngusie, H. S., & Zemariam, A. B. (2024). Factors associated with neonatal jaundice among neonates admitted at referral hospitals in northeast Ethiopia: A facility-based unmatched case-control study. *BMC Pregnancy and Childbirth*, 24(1), 150. https://doi.org/10.1186/s12884-024-06352-y
- Bajwan, D., Thakur, N., Bhardwaj, R., & Chaorsiya, A. (2024). NEONATAL JAUNDICE: AN OVERVIEW. *International Journal of Advanced Research*, 12(06), 110–113. https://doi.org/10.21474/IJAR01/18855
- Bante, A., Ahmed, M., Degefa, N., Shibiru, S., & Yihune, M. (2024). Neonatal jaundice and associated factors in public hospitals of southern Ethiopia: A multi-center cross-sectional study. *Heliyon*, *10*(2), e24838. https://doi.org/10.1016/j.heliyon.2024.e24838
- Broom, M., Briguglio, L., Lowe, P., Muirhead, R., Jyoti, J., Ng, L., Blay, N., Perumbil Pathrose, S., Trajkovski, S., Spence, K., Chetty, N., & Foster, J. (2025). Mapping neonatal nursing interventions that significantly impact on neonatal outcomes to neonatal practice standards. *Journal of Neonatal Nursing*, *31*(1), 196-205. https://doi.org/10.1016/j.jnn.2024.07.030
- Chiu, Y. W., Cheng, S. W., Yang, C. Y., & Weng, Y. H. (2021). Breastfeeding in relation to neonatal jaundice in the first week after birth: parents' perceptions and clinical measurements. *Breastfeeding Medicine*, *16*(4), 292-299.
- Falke M. (2025). The Basics of Neonatal Hyperbilirubinemia. *Neonatal network : NN*, 44(1), 61–67. https://doi.org/10.1891/NN-2024-0051
- Gao, C., Guo, Y., Huang, M., He, J., & Qiu, X. (2022). Breast Milk Constituents and the Development of Breast Milk Jaundice in Neonates: A Systematic Review. *Nutrients*, *15*(10), 2261. https://doi.org/10.3390/nu15102261
- Geest, B. A., de Mol, M. J., Barendse, I. S., de Graaf, J. P., Bertens, L. C., Poley, M. J., ... & STARSHIP Study Group Baartmans Martin GA 8 Bekhof Jolita 9 Buijs Harry 10 11 Bunt Jan Erik 12 Dijk Peter H. 13 Hulzebos Christian V. 13 Leunissen Ralph WJ 14 Snoeren Ben JPW 15 de Vries Bente 16 Wewerinke Leo 17. (2022). Assessment, management, and incidence of neonatal jaundice in healthy neonates cared for in primary care: a prospective cohort study. *Scientific Reports*, *12*(1), 14385. https://doi.org/10.1038/s41598-022-17933-2
- Hansen, T. W. R. (2021). Narrative review of the epidemiology of neonatal jaundice. *Pediatric medicine*, *4*. http://dx.doi.org/10.21037/pm-21-4
- Hegyi, T., & Kleinfeld, A. (2021). Neonatal hyperbilirubinemia and the role of unbound bilirubin. *The Journal of Maternal-Fetal & Medicine*, 35(25), 9201–9207. https://doi.org/10.1080/14767058.2021.2021177
- Horn, D., Ehret, D., Gautham, K. S., & Soll, R. (2021). Sunlight for the prevention and treatment of hyperbilirubinemia in term and late preterm neonates. *Cochrane Database of Systematic Reviews*, (7).
- Jayanti, S., Ghersi-Egea, J. F., Strazielle, N., Tiribelli, C., & Gazzin, S. (2021). Severe neonatal hyperbilirubinemia and the brain: the old but still evolving story. *Pediatric Medicine*, *4*. http://dx.doi.org/10.21037/pm-21-5
- Khudhair, A. F., Nikfarid, L., Varzeshnejad, M., & Eyvazi, S. (2022). Nursing diagnoses of hospitalized infants with physiologic hyperbilirubinemia: A cross sectional study. *Journal of Neonatal Nursing*, 28(4), 270-278. https://doi.org/10.1016/j.jnn.2022.02.007
- Nainggolan, L., Wahyuni, T. S., Rahayu, T. P. ., & Ngestiningrum, A. H. . (2025). Prevention of Early Jaundice in Babies Through Empowerment: Quasi-Experiments with Pregnant Women. *Jurnal Promkes: The Indonesian Journal of Health Promotion and Health Education*, *13*(1), 18–26. https://doi.org/10.20473/jpk.V13.I1.2025.18-26
- Obeagu, E. I., & Obeagu, G. U. (2024). Antioxidants and the Prevention of Neonatal Jaundice: A Narrative Review. *International Journal of Medical Sciences and Pharma Research*, 10(4), 28–34. https://doi.org/10.22270/ijmspr.v10i4.120

- Pakilaran, G., Rasni, H., Rosyidi Muhammad Nur, K., & Wijaya, D. . (2022). Family Support on Exclusive Breastfeeding in Babies Aged 0-6 Months in Indonesia: Literature Review. *Nursing and Health Sciences Journal (NHSJ)*, 2(2), 104–107. https://doi.org/10.53713/nhs.v2i2.53
- Qian, S., Kumar, P., & Testai, F. D. (2022). Bilirubin encephalopathy. *Current Neurology and Neuroscience Reports*, 22(7), 343-353. https://doi.org/10.1007/s11910-022-01204-8
- Safira, & Nurul Ulya Luthfiyana. (2024). Maternal Factors Associated with Exclusive Breastfeeding Practices in Situbondo, Indonesia: A Cross-Sectional Study. *Nursing and Health Sciences Journal* (*NHSJ*), 4(2), 188–193. https://doi.org/10.53713/nhsj.v4i2.361
- Saloojee, H. (2024). Innovative approaches to neonatal jaundice diagnosis and management in low-resourced settings. *South African Family Practice*, 66(1). https://doi.org/10.4102/safp.v66i1.5833
- Wanadi, E. D., Wahyuningsih, S., Widayati, A., & Sunanto. (2023). The Relationship Between Mothers' Knowledge Level about Exclusive Breastfeeding and Providing Exclusive Breastfeeding Behavior . *Health and Technology Journal (HTechJ)*, 1(4), 414–419. https://doi.org/10.53713/htechj.v1i4.72
- Wilde V. K. (2021). Breastfeeding Insufficiencies: Common and Preventable Harm to Neonates. *Cureus*, *13*(10), e18478. https://doi.org/10.7759/cureus.18478