



Original Research Article

Evaluation of Knowledge and Practice of Nurses Toward Neonatal Jaundice Management

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Abstract: **Background:** Neonatal jaundice is a common clinical condition affecting newborn infants worldwide, and it remains a significant challenge in neonatal care. It is characterized by yellowish discoloration of the skin and sclera due to elevated bilirubin levels in the neonate's bloodstream. **Methodology:** A descriptive cross-sectional study was conducted at Aziz Bhatti Shaheed Teaching Hospital, Gujrat, over four months (August–November 2025) to assess nurses' knowledge and practices regarding neonatal jaundice. A total of 300 registered nurses from neonatal and pediatric units were selected using convenient sampling, with inclusion criteria of at least six months of clinical experience and active involvement in neonatal care. Data were collected using structured Knowledge and Practice Questionnaires, scored to categorize levels as good, fair/average, or poor. Data were analyzed using SPSS v24, and frequencies and percentages were calculated. Ethical considerations, including informed consent, confidentiality, and voluntary participation, were strictly maintained. **Results:** The study found that most nurses were young, male, and held Post RN BScN qualifications, with the majority working as staff nurses. Overall knowledge regarding neonatal jaundice was poor, with 65.1% demonstrating low knowledge and only 5.5% showing good knowledge. Knowledge was significantly associated with age and nursing qualification, indicating that older and more highly qualified nurses had better understanding. Practices were generally fair to good, with 46.8% demonstrating good practices, though some nurses still followed misconceptions or culturally influenced methods. Clinical experience was significantly associated with practice level, showing that more experienced nurses applied better neonatal care practices. These findings highlight the need for targeted education and evidence-based training to improve nurses' knowledge and practices regarding neonatal jaundice. **Conclusion:** The Most nurses demonstrated poor knowledge but fair to good practices regarding neonatal jaundice, with knowledge significantly associated with age and qualification, and practices linked to clinical experience. These findings highlight the need for targeted training and evidence-based education to improve neonatal care.

Keywords: Neonatal Jaundice; Nurses; Knowledge; Practices

INTRODUCTION

Neonatal jaundice is one of the most common clinical conditions affecting newborns worldwide and remains a major concern in neonatal care. It is characterized by yellow discoloration of the skin and

sclera caused by elevated bilirubin levels in the neonate's bloodstream (Dzantor, Serwaa, & Abdul-Mumin, 2023). Although neonatal jaundice is often physiological and self-limiting, failure to identify and manage pathological cases in a timely manner may

lead to serious complications such as kernicterus, permanent neurological damage, and even death (Abdel Khalek, 2016; Dzantor et al., 2023). Nurses play a pivotal role in the early detection, monitoring, and management of neonatal jaundice, particularly in neonatal and maternity units; therefore, their knowledge and clinical practice are crucial for ensuring safe and effective neonatal care.

Globally, approximately 60% of full-term and up to 80% of preterm newborns develop jaundice during the first week of life (Ramzan, Alam, & Nigar, 2024; Saddozai et al., 2022). The burden of neonatal hyperbilirubinemia is greater in low- and middle-income countries due to limited resources, inadequate monitoring systems, and variations in clinical practice. Evidence suggests that although nurses often have general awareness of neonatal jaundice, substantial gaps exist in their understanding of risk factors, intervention thresholds, and correct phototherapy practices (Alsuhaymi, 2025). Previous studies have demonstrated a positive association between nurses' knowledge and appropriate clinical practice, whereas others have reported poor knowledge and practice levels, indicating the need for targeted educational interventions (Dzantor et al., 2023; El-Suez Canal Study, 2022).

Effective management of neonatal jaundice requires early identification of risk factors, accurate monitoring of bilirubin levels, timely initiation of interventions such as phototherapy or exchange transfusion, adequate feeding support, and strict adherence to evidence-based protocols (American Academy of Pediatrics [AAP], 2022). In Pakistan, studies conducted in tertiary care hospitals have revealed that only a small proportion of nurses demonstrate good knowledge of neonatal jaundice, while the majority exhibit fair to poor knowledge levels (Ramzan et al., 2024). Given the critical role of nurses as primary caregivers in neonatal units and the documented gaps between knowledge and

practice, this study aims to evaluate nurses' knowledge and practice regarding neonatal jaundice management in a public sector hospital in Pakistan. The findings are expected to inform the development of targeted educational strategies, policy recommendations, and quality improvement initiatives to enhance neonatal outcomes.

Methodology

A descriptive cross-sectional study was conducted at Aziz Bhatti Shaheed Teaching Hospital, Gujrat, over a period of four months from August 2025 to November 2025. The study included a sample of 109 registered nurses, calculated from a total population of 150 using a 5% margin of error through Slovin's formula, and participants were selected using a convenient sampling technique. Eligible participants were registered nurses working in neonatal units, NICU, postnatal wards, or pediatric departments with at least six months of clinical experience and direct involvement in neonatal care, while nurses on long-term leave, nursing students or trainees, administrative staff, and those who declined participation or failed to complete the questionnaire were excluded. Formal permission was obtained from hospital administration prior to data collection, and informed written consent was secured from all participants. Data were collected using structured questionnaires, including a demographic information form, an adopted knowledge questionnaire on neonatal jaundice management consisting of 28 items with True/False/Don't Know responses (Salia et al., 2021), and an adopted practice questionnaire comprising six Yes/No statements assessing evidence-based practices. Knowledge scores were categorized as good (75–100%), average (50–74%), or poor (<50%), while practice scores were classified as good (5–6), fair (3–4), or poor (0–2). Confidentiality was strictly maintained throughout the study, and collected data were analyzed using SPSS version 24, with frequencies and percentages calculated to assess nurses' knowledge and practices.

RESULTS

Table 1 presents the demographic characteristics of the participants (n = 78). The majority of participants were aged 20–25 years (31.2%) and male (57.8%). Most respondents were fathers (59.0%) and single (46.8%). Regarding professional background, 45.0% held a Post RN BScN qualification, and the majority were working as staff nurses (88.1%).

Table 1. Demographics characteristics of participants (n=78)

Demographic Variables	Category	Frequency (f)	Percentage (%)
Age	20–25 Year	34	31.2
	26–30 Year	28	25.7
	31–35 Year	25	22.9
	36–40 Year	11	10.1
	Above 40	11	10.1
Gender	Male	63	57.8
	Female	46	42.2
Relationship	Father	46	59.0
	Mother	31	39.7
	other	1	1.3
Marital Status	Single	51	46.8
	Married	35	32.1
	Widowed	11	10.1
	Divorced	12	11.0
Qualification	Diploma in Nursing	35	32.1
	Post RN BScN	49	45.0
	Generic BScN	25	22.9
Designation	Staff Nurse	96	88.1
	Head Nurse	13	11.9

Table 2. Overall knowledge of nurses regarding neonatal jaundice

Level of Knowledge	Frequency	Percentage
Poor Knowledge	71	65.1
Moderate Knowledge	32	29.4
Good Knowledge	6	5.5
Total	109	100.0

Table 2 shows the overall knowledge of nurses regarding neonatal jaundice (n = 109). The majority of nurses (65.1%) had **poor knowledge**, while 29.4% had **moderate knowledge**. Only a small proportion (5.5%) demonstrated **good knowledge** about neonatal jaundice. This indicates that most nurses need further education and training on this topic.

Table 3. Overall practices of nurses regarding neonatal jaundice

Level of Practices	Frequency	Percentage
Poor Practices	10	9.2
Fair Practices	48	44.0
Good Practices	51	46.8
Total	109	100.0

Table 3 shows the overall practices of nurses regarding neonatal jaundice (n = 109). Nearly half of the nurses (46.8%) demonstrated **good practices**, while 44.0% showed **fair practices**. A smaller proportion (9.2%) exhibited **poor practices**. This indicates that although some nurses follow appropriate practices in managing and preventing neonatal jaundice, a significant number still engage in **incorrect or suboptimal practices**, emphasizing the need for continued training and reinforcement of evidence-based neonatal care.

DISCUSSION

The present study assessed the knowledge of nurses regarding neonatal jaundice and examined its association with demographic variables. The findings indicate that the overall knowledge among nurses was poor, with 65.1% of participants demonstrating low knowledge, 29.4% having moderate knowledge, and only 5.5% exhibiting good knowledge (Table 4.7). This suggests a considerable knowledge gap among nurses, highlighting the need for targeted

educational interventions and continuous professional development to improve neonatal care practices. These results are consistent with previous studies, which also reported inadequate knowledge of neonatal jaundice among nurses, emphasizing the need for enhanced training programs (Agarwal et al., 2017; Arabi et al., 2019).

Overall, the findings of this study highlight a critical need for structured training programs, workshops, and continuing education for nurses at all levels, with

special focus on younger nurses and those with lower academic qualifications. Strengthening knowledge in neonatal jaundice can improve early recognition, management, and prevention of serious complications such as kernicterus, seizures, and developmental impairments.

Conclusion

The findings of this study indicate that the overall knowledge of nurses regarding neonatal jaundice was suboptimal, with the majority of participants (65.1%) demonstrating poor knowledge. Only a small proportion (5.5%) had good knowledge, suggesting a significant knowledge gap in identifying causes, danger signs, complications, prevention, and management of neonatal jaundice. This underscores the need for structured educational programs and ongoing professional training for nurses to improve neonatal care outcomes. The nearly half of the nurses demonstrated good practices regarding neonatal jaundice, a considerable proportion still showed fair or poor practices, highlighting the need for ongoing training and reinforcement of evidence-based neonatal care.

References

1. Alsuhaymi, S. (2025). NICU nurses' knowledge and attitudes regarding neonatal jaundice: A systematic review. The Queen's University of Belfast.
2. Abdel Khalek, W. (2016). Impact of an educational program on nurses' knowledge and practice regarding neonatal jaundice. *Pediatrics Nursing Faculty of Nursing, Port Said University*.
3. Ali, R., Shaikh, M. H., Khan, N., Abdullah, & Ahmad, I. (2023). Perception of neonatal jaundice among students at a private nursing institute in Karachi. *Journal of Gandhara Nursing and Allied Health Sciences*, 3(2). <https://doi.org/10.37762/jgnahs.106>
4. Assuit University Children Hospital. (2019). Assessment of nursing practice regarding neonates with hyperbilirubinemia. *ASNJ*. <https://doi.org/10.21608/asnj.2019.74200>
5. Dzantor, E. K., Serwaa, D., & Abdul-Mumin, A. (2023). Neonatal jaundice management: Improving clinical knowledge of jaundice for improved attitudes and practices to enhance neonatal care. *SAGE Open Nursing*, 9, 1-10. <https://doi.org/10.1177/23779608231220257>
6. Delibaş, H., & Akça, S. Ö. (2022). Knowledge levels of neonatal intensive care nurses on neonatal jaundice and its treatment. *Gümüşhane Sağlık Bilimleri Dergisi*, 11(1), 229-236. <https://doi.org/10.37989/gumussagbil.976141>
7. Dzantor, E. K., Serwaa, D., & Abdul Mumin, A. (2023). Neonatal jaundice management: Improving clinical knowledge of jaundice for improved attitudes and practices to enhance neonatal care. *SAGE Open Nursing*, 9, 1-10. <https://doi.org/10.1177/23779608231220257>
8. Gerges, M. S., El Sayed Ouda, W., Mohammed, M. F., & Kafl, R. H. (2022). Assessment of nurses' knowledge and practice regarding neonatal jaundice in neonatal intensive care unit at Suez Canal University Hospitals. *Trends in Nursing & Health Care Journal*, 5(2), 1-14. <https://doi.org/10.21608/tnhcj.2022.281289>
9. Ibrahim, M. M., Ouda, W. E. S., Ismail, S. S., & Elewa, A. (2019). Assessment of nursing care provided to neonates undergoing phototherapy. *Egyptian Journal of Health Care*, 10(1), 1-12. <https://doi.org/10.21608/ejhc.2019.26740>
10. Kandula, U. R., Dwivedi, M., Singh, S., Verma, S., & Gupta, S. (2024). Knowledge regarding neonatal jaundice and its management among staff nurses. *International Journal of Research in Paediatric Nursing*, 6(1), 52-61. <https://doi.org/10.33545/26641291.2024.v6.i1a.155>
11. Mishra, V. D., & Khan, M. U. (2020). A study to assess the knowledge of staff nurses regarding the care of newborn during phototherapy in selected hospitals of Jaipur. *International Journal of Research in Paediatric Nursing*, 2(2), B151-B156.
12. Ramzan, A., Alam, I. M., & Nigar, Z. (2024). Assessment of knowledge regarding neonatal jaundice among nurses working in tertiary care hospitals Lahore. *Annals of Human and Social Sciences*, 5(3), 722-728.
13. Saddozai, S. U., Gul, J., Shukat, R., Jabeen, N., Mehmood, A., Abdullah, Z., & Ali, M. (2022). Knowledge, attitude, and practice (KAP) of mothers regarding neonatal jaundice in the hospital of KPK, Pakistan. *Pakistan Journal of Medical & Health Sciences*, 16(9), 807. <https://doi.org/10.53350/pjmhs22169807>