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RESEARCH PAPER

Assessment of Knowledge regarding Neonatal Jaundice among Nurses Working in Tertiary Care Hospitals Lahore

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ABSTRACT

The objective of this study is to assess the knowledge of nurses regarding neonatal jaundice working in Tertiary Care Hospitals, Lahore. Neonatal jaundice, common pediatric condition, effect to sixty percent infants at full-term and eighty percent premature infants within their first week. This descriptive cross-sectional study, with a sample size of 80 nurses using a 5% margin of error. Data was collected from NICU nurses involved in direct patient care through a structured questionnaire. Data analysis utilized SPSS version 25. The results of the study show that the majority of participants were aged 20-25 years (52.5%), with a predominantly female group (93.8%). In terms of knowledge about neonatal jaundice, 68.8% of participants had fair knowledge, 23.8% had poor knowledge, and only 7.5% demonstrated good knowledge. Implement continuous education and training programs on neonatal jaundice for nurses and encourage further research to explore factors affecting nurses

| Keywords: | Clinical Practice, Healthcare, Knowledge, Neonatal Jaundice, Nurses, Tertiary Care Hospital |

Introduction

Neonatal jaundice, a common pediatric condition marked by yellowing of the skin and eyes due to bilirubin accumulation, effect to sixty percent infants at full-term and eighty percent premature infants within their first week (Huang *et al.*, 2022). If not promptly addressed, it can lead to serious complications, including disability and increased mortality (Amegan-Aho *et al.*, 2019). Nurses and midwives are crucial in early detection and management, often identifying jaundice signs before discharge (Donkor *et al.*, 2023).

Research shows that comprehensive knowledge among healthcare professionals is essential for effective neonatal jaundice management. In many communities, NNJ contributes to avoidable brain damage and mortality, with high bilirubin levels potentially leading to irreversible brain injury (Abdul-Mumin *et al.*, 2021). In Pakistan, the prevalence of NNJ is 39.7 per 1,000 live births, highlighting the need for effective management (Sarwar *et al.*, 2022).

This study aims to assess nurses' knowledge about neonatal jaundice in tertiary care hospitals in Lahore, where nurses play a pivotal role in early identification and treatment. By identifying knowledge gaps, the research seeks to improve nursing education and training programs, ultimately enhancing neonatal health outcomes and reducing mortality rates. Ongoing education initiatives are essential for empowering nurses to provide optimal care to neonates with jaundice.

Literature Review

Neonatal jaundice (NNJ) is a significant global health issue, particularly in developing countries like Pakistan, where it contributes heavily to neonatal morbidity and

mortality. Tertiary care hospitals in urban centers such as Lahore play a crucial role in diagnosing and managing NNJ cases. Understanding the knowledge of nurses about NNJ is essential for ensuring optimal care delivery to affected neonates. Several studies emphasize the importance of awareness regarding NNJ. For instance, in KPK, Pakistan, a study revealed that 55% of mothers had a neutral attitude towards NNJ, while 30% had a positive and 15% a negative attitude, with 80.25% knowing that jaundice changes skin color (Saddozai *et al.,* 2022). Similarly, a study conducted in Sharqpur found that only 37.38% of women had good knowledge of NNJ, with widespread misconceptions, including beliefs that exposing the baby to sunlight and giving glucose water were effective treatments (Qumer *et al.*, 2022).

In Islamabad, research revealed that 52.5% of mothers had inadequate knowledge about NNJ, with an average knowledge score of 6.2 out of 10 (YAQUB *et al.*, 2016). Another study in Dhaka showed that 83.3% of mothers had prior awareness of NNJ, and significant associations were found between mothers' knowledge levels and their age (Huq *et al.,* 2017). In Iran, 78.36% of mothers demonstrated moderate or lower knowledge about NNJ, with knowledge closely linked to factors such as education and socioeconomic status (Firoozi *et al.,* 2020).A study conducted in Ghana found that less than half of caregivers had good knowledge and attitude towards NNJ, with public sector caregivers showing a more positive outlook compared to those in the private sector (Salia *et al.,* 2021). Additionally, in China, only 46.4% of mothers had adequate knowledge of NNJ, with many unaware of its causes and danger signs (Huang *et al.,* 2022).

Material and Methods

The study is a descriptive cross-sectional design, to be conducted at Jinnah Hospital and Children Hospital, Lahore, over four months from April to June 2024. A sample size of 80 nurses was determined using a margin of error of 5%. The study used a convenient sampling technique to collect data from male and female nurses working in Neonatal Intensive Care Units (NICUs) who have direct patient care responsibilities and are willing to give informed consent. Nurses on leave or working in non-clinical or managerial roles were excluded. Ethical considerations include an informed consent, and allowed participants to quit the study at any time. Data collection involved administering a structured questionnaire to participants, focusing on demographic information and knowledge about neonatal jaundice, assessed through a knowledge questionnaire with 18 items. The knowledge was graded into poor, fair, or good categories based on scores ranging from 0 to 36. Data was analyzed using SPSS version 25, with descriptive statistics for demographic factors and knowledge scores.

Result and Discussion

Table1. Demographic information of participants

Study Variable	Category	Frequency (F)	Percentage (%)
Age	20-25 Year	42	52.5
	26-30 Year	23	28.7
	31-35 Year	12	15.0
	36-40 Year	3	3.8
Gender	Male	5	6.3
	Female	75	93.8
Qualification	General Nursing Diploma	28	35.0
	Generic BSN	17	21.3
	Post RN	32	40.0
	MSN	3	3.8
Job Experience	<1year	25	31.3
	1-2 year	37	46.3
	>5year	18	22.5

Job Status	Staff nurse	62	77.5
	Head nurse	18	22.5
Department	Medicine	5	6.3
	Surgery	11	13.8
	ICU	25	31.3
	Paeds	39	48.8
Hospital Name	Jinnah Hospital Lahore	51	63.7
	Children Hospital Lahore	29	36.3

The study's demographic characteristics show that the majority of participants, 42 (52.5%), were aged 20-25 years, with 75 (93.8%) being female. In terms of qualifications, 32 (40%) had a Post RN degree, while 28 (35%) held a General Nursing Diploma. Most participants had 1-2 years of experience (46.3%) and worked as staff nurses (77.5%). Nearly half, 39 (48.8%), were from the Pediatrics department. Additionally, 51 participants (63.7%) were from Jinnah Hospital Lahore, while 29 (36.3%) were from Children Hospital Lahore.

Knowledge of Nurses

Table 2
Total knowledge of participants

Knowledge Level	Frequency	Percent	Valid Percent	Cumulative Percent
Poor Knowledge	19	23.8	23.8	23.8
Fair Knowledge	55	68.8	68.8	92.5
Good Knowledge	6	7.5	7.5	100.0
Total	80	100.0	100.0	

Table 2 provides an overview of the total knowledge level of participants regarding neonatal jaundice. The data is categorized into three levels: poor, fair, and good knowledge. The majority of participants, 68.8%, were classified as having fair knowledge. A smaller proportion, 23.8%, had poor knowledge, while only 7.5% demonstrated good knowledge. These figures indicate that while most participants had a basic understanding of neonatal jaundice, a significant number lacked comprehensive knowledge, with very few being well-informed. The cumulative percentages show that 92.5% of participants had either poor or fair knowledge, highlighting a potential area for increased education and awareness.

Discussion

The discussion chapter describes the interpretation of the study's findings on the knowledge regarding neonatal jaundice among nurses working in tertiary care hospitals in Lahore, Pakistan. This chapter aims to contextualize the results within the broader landscape of existing literature, highlighting the similarities and differences with previous studies. It explores the implications of the demographic characteristics, educational backgrounds, job experiences, and departmental distributions of the participants, providing a comprehensive understanding of how these factors influence nurses' knowledge and practices. By comparing the current findings with global and regional research, this chapter seeks to reveal the unique challenges and strengths within the local healthcare context, offering insights into potential areas for improvement in nursing education and practice.

The study's results showing a predominant presence of younger nurses (52.5% aged 20-25) align with findings from studies in other regions, such as Iran and India, where similar age distributions were reported among nursing professionals in tertiary care hospitals. For instance, a study by Aghamolaei *et al.* (2018) found that a significant proportion of nurses were under the age of 30, suggesting a youthful workforce with relatively less experience.

Regarding gender, the overwhelming female representation (93.8%) in this study is consistent with global trends in the nursing profession. Previous studies, such as those conducted by Hassmiller and Cozine (2020) in the United States and by Sherman *et al.*

(2020) in Canada, have highlighted the ongoing gender imbalance in nursing. This pattern reflects broader social and cultural norms influencing career choices and highlights the need for initiatives to encourage more men to enter the field.

The prevalence of nurses with a Post RN degree (40%) and those with a General Nursing Diploma (35%) is consistent with findings from studies in Pakistan and other developing countries. For example, a study by Ali *et al.* (2020) in Karachi reported a similar distribution of educational qualifications among nurses. The relatively low percentage of nurses with a Master's degree (3.8%) in this study mirrors trends observed in South Asian countries, where advanced nursing degrees are less common due to limited access and opportunities for higher education.

In contrast, studies from developed countries, such as by Buerhaus *et al*. (2019) in the United States, have reported a higher prevalence of nurses with BSN or higher qualifications. This discrepancy highlights the varying levels of access to advanced nursing education across different regions and underscores the importance of expanding educational opportunities in developing countries.

The finding that a significant proportion of nurses had less than two years of experience (46.3%) is comparable to studies in countries with similar healthcare systems. For instance, a study Khan *et al.* (2019) in Bangladesh found that a large percentage of nurses had less than five years of experience, which can impact the quality of patient care and highlight the need for continuous professional development.

This study's results also resonate with global concerns about high turnover rates in nursing, particularly among younger and less experienced staff. Studies in the United States and the UK by Kovner *et al*. (2018) and Heinen *et al.* (2019), have identified similar trends, linking high turnover to job dissatisfaction, workload, and limited career advancement opportunities.

The study's findings that most nurses were staff nurses (77.5%) and a significant proportion worked in pediatric departments (48.8%) are consistent with the roles and responsibilities typically observed in tertiary care hospitals. The distribution of nurses across various departments, including ICU and surgery, aligns with findings from previous studies in similar settings, such as those conducted by Majeed *et al.* (2017) in Pakistan and in Saudi Arabia by Alamri *et al*. (2018). These studies also highlighted the critical role of nurses in specialized areas and the need for targeted training in neonatal care.

Regarding the results highlight the overall knowledge levels of nurses, the findings indicate that the majority of participants possess a fair understanding of the condition, with 68.8% categorized under this knowledge level. This suggests that while these nurses have a foundational awareness, there may be gaps in their comprehensive understanding and expertise. A study in Egypt reported that 25% nurses have poor knowledge, 60% had fair knowledge, and 15% had good knowledge regarding neonatal jaundice (El-Sayed *et al.* 2020). The results align closely with the current study, with a comparable proportion of nurses falling into the fair knowledge category. In a study conducted in Nigeria, 40% of nurses were found to have poor knowledge, 45% had fair knowledge, and only 15% had good knowledge (Adejumo *et al.* 2020). A study conducted among nurses in a tertiary care hospital in India reported that approximately 30% of nurses had poor knowledge of neonatal jaundice, while 50% had fair knowledge, and 20% demonstrated good knowledge (Shah *et al.* 2020).

Conclusion

The study assessing knowledge regarding neonatal jaundice among nurses working in tertiary care hospitals in Lahore, Pakistan, reveals critical insights into the current state of understanding of this common neonatal condition. The majority of participants demonstrated fair knowledge, with a significant proportion showing poor understanding and only a small fraction possessing good knowledge. These findings indicate a need for enhanced educational initiatives and training programs to address knowledge gaps and improve the overall quality of neonatal care.

Recommendations

- Implement continuous education and training programs on neonatal jaundice for nurses.
- Develop and disseminate standardized protocols for neonatal jaundice management.
- Strengthen interdisciplinary collaboration between nurses and pediatricians.
- Encourage further research to explore factors affecting nurses' knowledge and practices regarding neonatal jaundice.

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