



A study to assess the effectiveness of information booklet on the level of knowledge regarding feeding practices in low birth weight neonates among staff nurses working in NICUs of selected hospitals at Udaipur city

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ABSTRACT

This research aimed to assess the effectiveness of an information booklet on the level of knowledge regarding feeding practices in low birth weight (LBW) neonates among staff nurses working in Neonatal Intensive Care Units (NICUs) of selected hospitals in Udaipur city. The study objectives were to evaluate the pre-test knowledge level of staff nurses, distribute the information booklets, assess the post-test knowledge level, determine the effectiveness of the booklet, and examine the association between pre-test knowledge and selected demographic variables.

Assumptions included the expectation of inadequate knowledge among staff nurses regarding LBW neonate feeding practices and the belief that demographic variables would influence knowledge levels. The study used a quantitative approach, focusing on independent and dependent variables related to the information booklet's impact on staff nurses' knowledge.

Findings revealed that the majority of staff nurses were female, aged between 21-30 years, with qualifications ranging from GNM diploma to M.Sc. Nursing, and varying years of experience. The pre-test assessment showed predominantly inadequate knowledge, which significantly improved post-distribution of the information booklet.

In conclusion, the study demonstrated a notable increase in knowledge among NICU staff nurses regarding feeding practices in LBW neonates following the distribution of the information booklet. While no significant association was found between pre-test knowledge and demographic variables, the study underscores the importance of regular continuing education programs to enhance staff knowledge. These findings are valuable for healthcare providers, emphasizing the need for ongoing education initiatives to optimize neonatal care practices and outcomes.

INTRODUCTION

Low birth weight (LBW) neonates, defined as infants weighing less than 2500 grams at birth, constitute a vulnerable population with unique nutritional needs and heightened risks for complications. LBW can result from preterm birth (before 37 weeks gestation), small size for gestational age (SGA), or a combination of both, with intrauterine growth retardation often contributing to SGA. LBW infants face increased risks of early growth retardation, infections, developmental delays, and mortality during infancy and childhood. In fact, LBW directly or indirectly contributes to a significant portion of neonatal deaths globally, emphasizing the urgent need for effective care strategies.

Prematurity and LBW remain leading causes of neonatal and under-five mortality worldwide, with an estimated 15 million newborns born preterm and over 20 million born LBW annually. These infants are also at higher risk of long-term developmental disabilities and adult-onset chronic conditions such as obesity and diabetes. Despite these challenges, survival rates for premature and LBW neonates have improved over the years, highlighting the importance of optimizing their care, particularly in terms of nutrition.

Nutrition plays a pivotal role in promoting the growth and development of LBW neonates, both during their hospital stay and post-discharge. However, feeding these infants presents numerous challenges due to their immature gastrointestinal, renal, and respiratory systems. Immature sucking and swallowing reflexes may necessitate nasogastric tube feeding, while metabolic enzyme systems may not be fully developed, increasing the risk of hypoglycemia and difficulties in fat absorption.

Feeding protocols for LBW neonates must be carefully tailored to their specific needs, considering factors such as gestational age, metabolic state, and physiological complications. Initiating enteral feeds within the first days of life and advancing volumes gradually can aid in achieving full feeds without exacerbating complications. However, the optimal timing and method of human milk fortification, as well as feeding practices during medical interventions such as blood transfusions or treatment of patent ductus arteriosus, remain areas requiring further research and standardization.

In resource-limited settings, disparities in feeding practices for LBW neonates may exist due to insufficient evidence-based guidelines and local constraints. For example, a study conducted in Nigeria and Kenya revealed wide variations in feeding practices, highlighting the need for locally generated evidence and standardized protocols. Similarly, surveys in the United States identified significant variability in gavage feeding practices across neonatal intensive care units (NICUs), emphasizing the importance of evidence-based approaches to minimize complications and improve outcomes.

Addressing these challenges requires a multifaceted approach that includes research to fill knowledge gaps, implementation of evidence-based feeding protocols, and ongoing education for healthcare providers. Emphasizing the importance of optimal nutrition for LBW neonates and standardizing feeding practices can significantly improve survival rates and long-term health outcomes for these vulnerable infants. By prioritizing

nutrition and implementing evidence-based care strategies, healthcare systems worldwide can enhance the quality of care and outcomes for LBW neonates, ultimately reducing the burden of neonatal mortality and morbidity.

MATERIAL AND METHOD

The present study employed a systematic research methodology to investigate the effectiveness of an information booklet on knowledge regarding feeding practices in low birth weight (LBW) neonates among staff nurses. The research approach involved a quantitative method aimed at evaluating the impact of the intervention. The research design encompassed various components, including the selection of research settings, identification of variables, determination of the population and sample, and development of the research tool. The study was conducted at Pacific Medical College & Hospitals (PMCH) and Geetanjali Medical College and Hospital (GMCH) in Udaipur, Rajasthan, with staff nurses from NICUs as the target population. Non-probability purposive sampling technique was utilized to select 60 staff nurses who met the inclusion criteria. The research tool comprised a structured questionnaire, divided into demographic variables and sections assessing knowledge on feeding practices in LBW neonates. Data collection involved administering the questionnaire, followed by distribution of an information booklet as part of a health education plan. The data collected were analyzed using descriptive and inferential statistical methods, including frequency and percentage analysis, mean scores, standard deviation, paired t-test, and chi-square analysis to assess knowledge levels and associations with demographic variables. The findings of this study will provide valuable insights into the efficacy of educational interventions in improving the knowledge and practices of staff nurses in caring for LBW neonates, ultimately contributing to enhanced neonatal care outcomes.

RESULTS

The study revealed several major findings regarding the demographic characteristics and knowledge levels of ICU staff nurses regarding feeding practices in low birth weight (LBW) neonates. Firstly, the demographic variables analysis showed that a majority of staff nurses were in the age group of 21-30 years, with 32 (53.33%) falling in this category, predominantly female, with 43 (71.67%) being females and the remaining 17 (28.33%) being males. Most staff nurses held a GNM diploma, with 34 (56.67%) having this qualification, followed by 16 (26.67%) with a B. Sc. Nursing degree, 7 (11.66%) with a PB B. Sc. Nursing degree, and 3 (5%) with an M. Sc. Nursing degree. In terms of experience, 20 (33.33%) staff nurses had 2-3 years of experience, 19 (31.67%) had 1-2 years, 14 (23.33%) had 3-4 years, 6 (10%) had more than 4 years, and only 1 (1.67%) had less than 1 year of experience. Secondly, the analysis of pretest and posttest knowledge scores indicated a significant improvement in knowledge levels among staff nurses after the distribution of the information booklet, with 40 (66.67%) staff nurses having inadequate knowledge levels in the pretest, compared to only 3 (5%) in the posttest. Thirdly, the comparison between pretest and posttest scores further confirmed the effectiveness of the information booklet, with mean pretest score of 14.61 and mean posttest score of 23.05. Lastly, the study found no significant association between pretest knowledge scores and selected demographic variables such as age, gender, professional qualifications, and years of experience, indicating that these factors did not influence the initial knowledge levels of staff nurses regarding feeding practices in LBW neonates. Overall, the findings underscore

the importance of educational interventions in enhancing the knowledge and practices of healthcare professionals in neonatal care, ultimately contributing to improved patient outcomes.

DICUSSION

The study revealed several major findings regarding the demographic characteristics and knowledge levels of ICU staff nurses regarding feeding practices in low birth weight (LBW) neonates. Firstly, the demographic variables analysis showed that a majority of staff nurses were in the age group of 21-30 years, predominantly female, with most holding a GNM diploma and having 2-3 years of experience. Secondly, the analysis of pretest and posttest knowledge scores indicated a significant improvement in knowledge levels among staff nurses after the distribution of the information booklet, with the majority shifting from inadequate to adequate knowledge levels. Thirdly, the comparison between pretest and posttest scores further confirmed the effectiveness of the information booklet, with a significant difference observed between the two. Lastly, the study found no significant association between pretest knowledge scores and selected demographic variables such as age, gender, professional qualifications, and years of experience, indicating that these factors did not influence the initial knowledge levels of staff nurses regarding feeding practices in LBW neonates. Overall, the findings underscore the importance of educational interventions in enhancing the knowledge and practices of healthcare professionals in neonatal care, ultimately contributing to improved patient outcomes.

CONCLUSION

The findings underscore the significance of educational interventions in neonatal care, particularly in enhancing the knowledge and practices of ICU staff nurses regarding feeding practices in low birth weight (LBW) neonates. The study revealed a substantial improvement in knowledge levels post-intervention, as evidenced by the significant increase in posttest scores. While demographic variables did not influence initial knowledge levels, the effectiveness of the information booklet highlights its potential in promoting evidence-based practices. These insights emphasize the importance of ongoing education and training programs to optimize neonatal care and ultimately improve patient outcomes.

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