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To assess the effectiveness of a self-instructional module on knowledge regarding the nursing care of babies undergoing phototherapy among staff nurses working in the paediatric unit in selected hospitals

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Abstract

This study assessed the effectiveness of a self-instructional module on knowledge regarding nursing care of babies undergoing phototherapy among staff nurses in paediatric units of selected hospitals. Objectives included assessing the baseline knowledge, evaluating the effectiveness of the self-instructional module, and analyzing associations with demographic variables. The study followed a descriptive evaluative approach with a quasi-experimental one-group pretest-posttest design. Sixty staff nurses participated. Data collection involved a structured questionnaire, and statistical tests (paired t-test and p-values) were used to determine significance. The mean knowledge score improved significantly from 18.96 (pretest) to 30.58 (posttest). The results indicate the effectiveness of the module. No demographic variable showed a significant association with post-test knowledge scores.

Keywords: Phototherapy, nurses, NICU, self-instructional module

Introduction

The immature new born brain is susceptible to toxicity from unconjugated bilirubin, resulting in kernicterus or bilirubin brain damage. Approximately 80% of preterm infants and 45-60% of term infants in India develop jaundice in the first week of life. Jaundice results from increased bilirubin production and delayed elimination. High levels of unconjugated bilirubin may cause serious neurological damage. Phototherapy is the most commonly used treatment for neonatal hyperbilirubinemia.

Bilirubin is a yellow pigment formed during haemoglobin breakdown. Excess bilirubin leads to jaundice. Phototherapy involves exposing a neonate's skin to specific light wavelengths to accelerate bilirubin excretion. It is especially effective in preventing kernicterus.

Research Methodology

A quasi-experimental one-group pretest-posttest design (O1 X O2) was adopted. The sample included 60 staff nurses from pediatric units of selected hospitals. Inclusion criteria: nurses present and willing to participate. Exclusion: nurses with over 15 years of experience or prior training in phototherapy.

- **O1:** Pretest knowledge assessment using structured questionnaire.
- **X:** Intervention - Self-instructional module.
- **O2:** Posttest knowledge assessment using the same questionnaire.

Content validity was established by experts, and reliability was tested using the Spearman-Brown split-half method.

Results

Demographics.

- **Age:** 41.7% (21-25 yrs), 26.7% (26-30 yrs), 25% (31-35 yrs), 6.7% (>36 yrs).
- **Gender:** 98.3% female, 1.7% male.
- **Qualification:** 85% diploma holders, 15% B.Sc. Nursing.
- **Experience:** 53.3% (1-5 yrs), 33.3% (6-10 yrs), 13.3% (11-15 yrs).

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- **Area:** 43.3% NICU, 30% general pediatric ward, 26.7% PICU.

Knowledge levels

- **Pretest:** 55% good, 30% very good, 11.67% average, 3.33% excellent.
- **Posttest:** 80% excellent, 20% very good.

Statistical significance

- **Pretest mean score:** 18.96.
- **Posttest mean score:** 30.58.
- **Calculated t-value:** 28.75 (greater than tabulated value 2.00 at 5% significance).
- **P-value:** 0.000 (< 0.05), indicating statistical significance.

No significant association was found between knowledge improvement and demographic variables.

Conclusion

The self-instructional module significantly improved staff nurses' knowledge of neonatal phototherapy care. It is an effective educational intervention. No demographic factor significantly influenced knowledge gains, emphasizing the universal benefit of structured learning.

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