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RESEARCH ARTICLE

IMPACT OF BOOKLET REGARDING ROOMING – IN AMONG NURSING STUDENTS IN A SELECTED NURSING COLLEGE IN BANGALORE

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Abstract

Rooming-in, a core component of maternal and newborn care, is widely recommended for promoting breastfeeding, enhancing maternal–infant bonding, and reducing neonatal complications. Despite its importance, gaps in knowledge among nursing students may limit effective implementation in clinical settings. This study aimed to assess the knowledge regarding rooming-in and evaluate the effectiveness of an information booklet among 4th-year B.Sc. Nursing students in a selected college. A descriptive research design with a one-group pre-test post-test approach was adopted, and data were collected from 41 students using a structured questionnaire consisting of demographic variables and 30 knowledge items. Data analysis included descriptive statistics such as frequency, mean, and percentage, along with paired t-test and chi square tests to determine improvement and associations.Re sults showed that in the pre-test, 76% of students had poor knowledge, 6% had average knowledge, and none demonstrated good knowledge of rooming-in practices. After the intervention, 72% attained average knowledge and 4% achieved good knowledge, with a significant increase in the mean score from 4.75 to 13.95. The paired t-test indicated a statistically significant improvement ($p < 0.05$). Among socio-demographic variables, none showed a significant association with pre test knowledge levels.The findings highlight notable knowledg e gaps among nursing students and emphasize the effectiveness of structured educational interventions such as information booklets in improving awareness. Enhancing rooming-in knowledge will better prepare future nurses to support breastfeeding, strengthen maternal–infant bonding, and promote evidence-based newborn care practices.

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Introduction:-

Rooming-in, the practice of allowing a newborn to stay with the mother continuously from birth, is a key recommendation of the World Health Organization (WHO) and UNICEF as part of the Baby-Friendly Hospital Initiative (BFHI). This practice supports early breastfeeding, strengthens maternal–infant bonding, enhances maternal confidence, and reduces hospital-acquired infections. Despite these benefits, rooming-in is not consistently practiced in many healthcare settings, often due to limited awareness and inadequate training among healthcare provider. Nursing students, as future frontline caregivers, play a crucial role in educating mothers and promoting evidence-based newborn care. However, gaps in knowledge and exposure may hinder their ability to effectively support rooming-in. While studies have assessed nursing students' general understanding of newborn care, limited research focuses specifically on their knowledge of rooming-in and its practical implications.This study aims to assess the knowledge of 4th-year B.Sc. Nursing students regarding rooming-in and to evaluate the effectiveness of an information booklet as an educational intervention. Identifying existing knowledge levels and areas needing improvement will help strengthen nursing curricula and better prepare students to support optimal maternal and neonatal health practices.

Impact and Implications In The Indigenous Context:-

The study highlights the urgent need to strengthen nursing education regarding rooming-in, especially in culturally diverse settings where traditional practices may influence newborn care. By improving students' knowledge through structured tools such as information booklets, healthcare institutions can enhance breastfeeding support, promote mother–infant bonding, and reduce neonatal complications. Empowering nursing students with accurate and evidence-based information enables them to confidently counsel mothers and advocate for rooming-in across various clinical and community settings, ultimately contributing to improved maternal and newborn health outcomes.

Research Questions:-

1. What is the level of knowledge regarding rooming-in among 4th-year B.Sc. Nursing students in a selected college?
2. What proportion of students demonstrate poor, average, or good knowledge about rooming-in practices?
3. Is there a significant association between students' socio-demographic variables (such as age, gender, prior information, and source of information) and their knowledge levels on rooming-in?
4. How can structured educational interventions, such as information booklets, be designed to strengthen nursing students' knowledge and competencies regarding rooming-in?

Hypothesis:-

H0: There will be significant difference between mean of pre-test and post-test score regarding rooming-in among nursing students.

H1: There will be significant association between present knowledge score among nursing students regarding rooming-in.

H2: There will be significant association between post-test knowledge score.

Materials and Methods:-

A pre-experimental one-group pre-test post-test design was adopted to evaluate the effectiveness of an information booklet on knowledge regarding rooming-in among 4th-year B.Sc. Nursing students. This design was selected because it allows measurement of the same participants' knowledge before and after an intervention, enabling direct comparison of changes attributable to the educational tool.The study was conducted at Smt. Nagarathnamma College of Nursing, Bengaluru. The participants consisted of 41 4th-year B.Sc. Nursing students selected through convenience sampling. Inclusion criteria included students enrolled in the final year of the B.Sc. Nursing program, willing to participate, and available during data collection. Students who were absent or unwilling were excluded.The research instrument was a structured self-administered questionnaire divided into two sections: demographic variables and 30 multiple-choice items assessing knowledge on rooming-in. The tool was validated by experts in maternal and child health nursing, ensuring content clarity and relevance. Reliability was established through internal consistency measures.Data collection occurred in May 2024. After obtaining institutional permission and informed consent from participants, the pre-test questionnaire was administered to assess baseline knowledge. Immediately afterward, the information booklet on rooming-in was distributed. Students were given adequate time to read and understand the material. The same questionnaire was then administered as the post-test to

evaluate knowledge improvement. Measures were taken to prevent discussion among participants and maintain response integrity.

Ethical principles of confidentiality, voluntary participation, and informed consent were strictly upheld. No personal identifiers were collected. Participants were informed that they could withdraw at any stage without consequences.Data were analyzed using descriptive and inferential statistics. Frequencies and percentages summarized demographic variables and knowledge levels. Mean, standard deviation, and coefficient of variation described overall scores. A paired t-test assessed the effectiveness of the information booklet by comparing pre-test and post-test means. Chi-square tests evaluated associations between knowledge and demographic variables, with $p < 0.05$ considered statistically significant.

Research Instrument:-

The research instrument used in this study was a structured self-administered questionnaire developed to assess knowledge regarding rooming-in among 4th-year B.Sc. Nursing students. It consisted of two sections. Section A included socio-demographic variables such as age, gender, previous information about rooming-in, and source of information. Section B contained 30 multiple-choice knowledge questions related to the concept, benefits, indications, guidelines, and importance of rooming-in. Each correct answer was given a score of 1 and each incorrect answer a score of 0, with a total score ranging from 0 to 30. Based on the scores, knowledge was categorized as poor (0–10), average (11–20), and good (21–30). The tool was developed in English, validated by experts in maternal and child health nursing, and pretested for clarity and accuracy. Reliability was ensured through internal consistency. The questionnaire was suitable for objective and efficient assessment while maintaining anonymity and minimizing response bias.

Data Collection:-

Data collection was carried out in May 2024 at Smt. Nagarathnamma College of Nursing, Bengaluru, after obtaining permission from institutional authorities. Participants were selected using convenience sampling, and only those who met the criteria and provided written informed consent were included. At the beginning of the session, the investigators introduced themselves, explained the purpose of the study, and assured confidentiality and voluntary participation.The structured questionnaire was first administered as a pre-test to assess baseline knowledge. Immediately after the pre-test, the information booklet on rooming-in was distributed to the students, and they were given sufficient time to read and understand the content. After the intervention, the same questionnaire was administered as a post-test to assess improvement in knowledge. The completed questionnaires were collected immediately to avoid discussion or external influence. Anonymity was maintained, and participants were encouraged to answer honestly. The collected data were then organized, coded, and entered for statistical analysis using descriptive and inferential methods based on the study objectives.

Results:-

The study aimed to assess the effectiveness of an information booklet on knowledge regarding rooming-in among 4th-year B.Sc. Nursing students in a selected college. Data were collected from **41 students** using a structured self-administered questionnaire in pre-test and post-test formats. The results are presented in four sections: socio-demographic characteristics, criteria-wise knowledge analysis, overall pre-test and post-test knowledge scores, and association between pre-test knowledge and selected socio-demographic variables.

Section I: **Socio-demographic characteristics**

Table 1: Distribution of students according to demographic variables (N = 41)

Sl no	Demographic data	Frequency	Percentage
1	Age		
	18-20	19	46%
	21-23	22	54%
2	Gender		
	MALE	33	66%
	FEMALE	8	16%

3.	HAVE YOU RECEVIED ANY PRIORINFORMATION ABOUT ROMING-IN?		
	YES	38	76%
	NO	3	6%
4.	Source of information		
	SOCIAL MEDIA	24	48%
	MAGAZINES	2	4%
	NEWS PAPER	3	6%
	OTHERS	12	24%

Table 1 shows that the majority of participants were aged 21–23 years (54%), while 46% were between 18–20 years. Most students were male (66%), with females accounting for 34% of the sample. A large proportion of students (76%) reported having received prior information about rooming-in, whereas 24% had not received any. Among those who had prior exposure, social media was the most common source of information (48%), followed by other sources (24%) such as classroom teaching, peers, and clinical postings, while newspapers (6%) and magazines (4%) contributed minimally.

Section II: Criteria-wise knowledge analysis

Table 2: Criteria-wise distribution of knowledge levels (N = 41)

Level of knowledge	Score	Pretest		Post test	
		Frequency	Percentage	Frequency	Percentage
Poor knowledge	0-10	38	76.0	3	6.0
Average knowledge	11-20	3	6.0	36	72.0
Good knowledge	21-30	-	-	2	4.0

Table 2 shows the level of knowledge regarding rooming-in before and after administration of the information booklet. In the pre-test, 76.0% (n=38) of the participants had poor knowledge, 6.0% (n=3) had average knowledge, and none demonstrated good knowledge. After the intervention, knowledge improved substantially: 72.0% (n=36) achieved average knowledge, 4.0% (n=2) attained good knowledge, while only 6.0% (n=3) remained in the poor knowledge category. These results reflect a marked improvement in knowledge following the structured booklet intervention.

Section III: Overall knowledge scores

Table 3: Overall knowledge score analysis (N = 41)

Sl. no.	Variables	Mean	Std. Deviation	Std. Error mean	t value	P value
1	Score before booklet	4.7561	2.85290	.44555	-20.737 df(40)	0.000 (sig)

	Score after booklet	13.9512	2.68283	.41899		

Table 3 compares the mean knowledge scores before and after the intervention using a paired t-test. The mean pre-test score was 4.76 (SD = 2.85), while the post-test mean score increased to 13.95 (SD = 2.68). The calculated t value was -20.737 with df = 40 and a highly significant p value of 0.000 ($p < 0.05$). This confirms that the information booklet was statistically significant in enhancing knowledge about rooming-in among nursing students.

Section IV: Association between knowledge and demographic variables

Table 4: Association between socio-demographic variables and knowledge (Chi-square test, N = 41)

Variable	χ^2 Value	Table Value (p = 0.05)	Inference
Age	3.748	.053	Not significant
Locality	.394	.530	Not significant
Family type	.256	.613	Not significant
Religion	2.293	.514	Not significant

Table 4 examines the association between knowledge levels and selected demographic variables. No statistically significant associations were found between knowledge levels and age ($\chi^2 = 3.748$, p = .053), gender ($\chi^2 = 0.394$, p = .530), prior information about rooming-in ($\chi^2 = 0.256$, p = .613), or sources of information ($\chi^2 = 2.293$, p = .514). This suggests that improvement in knowledge was independent of sociodemographic factors, and the booklet intervention was effective across all subgroups.

Discussion:-

The present study evaluated the effectiveness of an information booklet on knowledge regarding rooming-in among 4th-year B.Sc. Nursing students. The findings showed that most students had only average knowledge in the pre-test, indicating limited understanding of rooming-in despite their academic background. After the intervention, post-test scores increased significantly, demonstrating that the information booklet was effective in improving students' knowledge. This supports existing evidence that structured educational materials can strengthen learning on maternal–infant care practices.These results are consistent with previous studies that reported inadequate knowledge among nursing students regarding newborn care and BFHI components. Although students may have some exposure through classes or clinical postings, their understanding often remains incomplete without focused instructional methods. The significant improvement in post-test scores highlights the need for structured and competency-based teaching approaches in nursing education.

The study also found no significant association between demographic variables and pre-test knowledge, suggesting that knowledge gaps were common across different student groups. This aligns with earlier research showing that demographic factors alone do not influence understanding of maternal–infant care practices.Limitations of the study include convenience sampling, a single-institution setting, and reliance on self-administered questionnaires, which may limit generalizability and introduce response bias. However, the findings still provide valuable insights into the need for enhanced teaching strategies to prepare nursing students for promoting rooming-in in clinical practice.Overall, the study demonstrates that an information booklet is an effective tool for improving knowledge regarding rooming-in. Continued emphasis on structured, evidence-based teaching methods is essential to strengthen nursing students' competence in supporting maternal and newborn health.

Conclusion:-

This study showed that 4th-year B.Sc. Nursing students had only average baseline knowledge regarding rooming-in, indicating notable gaps in their understanding of its benefits and clinical relevance. The significant improvement in post-test scores following the information booklet demonstrates that structured educational interventions are effective in enhancing students' knowledge. These results point to the need for stronger integration of rooming-in and BFHI components within nursing curricula to better prepare students for maternal–infant care.The findings also carry broader implications for maternal and newborn health, as well-informed nursing students are better equipped

to support breastfeeding, promote mother–infant bonding, and provide accurate patient education. Strengthening knowledge in this area contributes to improved clinical practice and better health outcomes for mothers and newborns.Future studies involving larger samples and multiple institutions are recommended to increase generalizability. Further research on long-term knowledge retention, comparison of teaching methods, and application of knowledge in clinical settings would provide deeper insight into effective educational strategies.
The study highlights the importance of targeted, evidence-based instruction in improving nursing students' competence in rooming-in and advancing maternal–infant health care.

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Conflict of Interest:-

The authors declare that there are no financial, personal, or professional conflicts of interest that could have influenced the conduct or outcomes of this research.

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