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RESEARCH ARTICLE

Nurses Knowledge and Neonatal pain management.

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Abstract

Back ground of the study: Nurses, who spend more time with patients in pain, are sometimes seen as major contributors to the problem of inadequate Neonatal pain management. Nurses' knowledge, attitudes and beliefs have a significant impact on the effectiveness of pain management. (Marks & Sachar, 1973; Ferrell, et al., 1990; Drayer et al., 1999). Knowledge deficits may cause nurses to hold negative beliefs and attitudes towards Neonatal pain management.

Purpose of the study: The purpose of the study is to explore the level of the nurses' knowledge on Neonatal pain management.

Objective of the study: 1. To assess the knowledge of staff nurses regarding Neonatal pain management. 2. To determine the association between knowledge scores of staff nurses with selected demographic variables.

Methodology: Pre experimental one group pre-test and post-test study design was used for the study. Sixty staff nurses were selected by purposive sampling technique from selected hospitals of Puducherry, as the samples.

Results: Study shows that the Pre-test and Post-test knowledge scores found statistically significant (i.e) 't' = 1.671, p<0.05. It reveals the effectiveness of structured teaching program. And the study also shows that there is no significant association between the knowledge scores of the staff nurses with the selected demographic variables like age, gender, educational qualification, total clinical experience, previous knowledge regarding Neonatal pain management.

Conclusion: Study concluded that there is a significant difference in the level of knowledge scores, where staff nurses gained adequate information regarding Neonatal pain management, for new born babies undergoing painful procedures after structured teaching program.

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INTRODUCTION

"Knowledge is in the end based on acknowledgement."

-Ludwig Wittgenstein -

New born babies constitute the foundation of a nation. What you give to the children and the child will reflect the same. Healthy children are the greatest resources of any nation. Safety and care given with love is essential for the children who are the future wealth of the nation. Many misconceptions have been held regarding neonates' ability to perceive and experience pain (Twycross 2006, Rouzan 2001, Abu-Saad 1998). These misconceptions include that neonates had an underdeveloped central nervous system, and that nerve fibers had to be myelinated to perceive pain and that neonates were unable to remember painful experiences. However, such misconceptions were removed by Anand and Hickey (1987) the researches on neonatal pain. The hemodynamic instability and prevention and protection of these infants necessitate various invasive procedures which cause pain. There is evidence that newborn infants can perceive pain as other older adults and respond to painful stimuli (Anand, 2007; Cong, 2006; Johnston et al., 2008).

Nurses, who spend more time with patients in pain, are sometimes seen as major contributors to the problem of inadequate Neonatal pain management. Why pain is under assessed and undertreated is not entirely understood. However, some of the literature suggested that this may be due to personal barriers such as knowledge, empathy, beliefs, and values (Campbell-Yeo, Latimer & Johnston, 2007; Coffman et al., 1997; Latimer et al., 2009; Van Hulle, 2005). Nurses' knowledge, attitudes and beliefs have a significant impact on the effectiveness of pain management. (Marks & Sachar, 1973; Ferrell, et al., 1990; Drayer et al., 1999). Knowledge deficits may cause nurses to show negative beliefs and attitudes towards Neonatal pain management.

Possible reasons for the nurses to neglect of Newborn pain

- Lack of awareness of neonates' capability to perceive pain.
- Lack of awareness of clinical situations wherein pain is perceived.
- Inability of neonates to express pain specifically.
- Nurses temptation to complete procedures without analgesia as there is less man power
- Reluctance to use analgesics due to side effects.
- Fear of inducing dependence on opioid drugs.
- Lack of awareness of painless routes and methods of analgesia.
- Lack of knowledge on pain assessment tools.
- Lack of awareness on pharmacological and non-pharmacological pain reduction methods.
- Lack of knowledge about the Neonatal pain management intervention within the scope of nursing.

MATERIALS AND METHODS

The research design used was one group pre-test and post-test design. The samples of this research study are 60 staff nurses in Selected Hospitals, Puducherry. Purposive sampling technique was used to select the sample. The Study variable is the knowledge of staff nurses regarding Neonatal pain management. The instrument used for the study is the structured questionnaire to assess the level of knowledge of the respondents regarding Neonatal pain management among staff nurses.

Tool consists of two sections, section-A and section-B. Section-A consists of demographic variables like age, gender, educational qualification, total clinical experience, previous (knowledge regarding pain assessment, management) source of information. The section-B consists of questionnaires regarding the knowledge on newborn pain perception, pain assessment and various types of Managements.

A pilot study was conducted at same selected Hospitals of Puducherry. The reliability coefficient of the whole test was estimated by Spearman-Brown prophecy formula and it was found to be highly reliable at $r = 0.92$.

The sample consists of 60 staff nurses from selected hospitals Puducherry.

MAJOR FINDINGS OF THE STUDY

1. **Distribution of age:** Percentage distribution of staff nurses had shown that there were 14 (23.33%) staff nurses below 25 years, 38 (63.33%) staff nurses in the age group of 25 yrs- 30 yrs and 8 (13.34%) staff nurses in the age group of 30- 35 years. It revealed that majority of the nurses under study were below 30 years of age group.
2. **Distribution of sex:** Distribution of staff nurses according to their gender had shown that 88.33% of the staff nurses were females and 11.67% were males. It revealed that majority of the samples under study were females.

3. **Distribution of religion:** The data had shown that majority of the staff nurses under the study were under the Hindu (78.33%) religion then comes the Christians (21.67%).
4. **Distribution of marital status:** Distribution of staff nurses according to their marital status had shown that 85% of the staff nurses were married and 15% of the staff nurses were unmarried. It had shown that majority of the samples under study were married.
5. **Distribution of designation:** The data had shown that majority of the staff nurses under the study were coming under the category of staff nurses (80%), and 20% were senior staff nurses. It interprets that majority of the samples were staff nurses.
6. **Distribution of general education:** The data had shown that all the staff nurses had completed only pre-degree (Pre-university) i.e. 100%.
7. **Distribution of professional education:** Distribution of staff nurses according to their professional education had shown that 61.67% of the staff nurses were G N M, 21.67% of the staff nurses were post basic nurses and 16.67% of the staff nurses were Basic BSc degree holders. It had shown that majority of the samples were G N M holders.
8. **Distribution of experience:** The data had shown that most (78.33%) of the staff nurses had 1-5 yrs experience, whereas only 13.33% had 5yrs to 10 yrs experience and 8.33% staff nurses were having less than one year experience. It indicates that majority of the samples were having 1- 5 years of experience.
9. **Distribution of in-service education:** The data had shown that selected staff nurses had not attended any in-service educational program on Neonatal pain management.

Table 1: effectiveness of structured teaching program on knowledge of staff nurses by comparing pre-test and post-test knowledge.

S. No	Level of knowledge	Pre Test (n=60)	Post Test (n=60)
1	Poor	53.33	0
2	Average	46.67	0
3	Good	0	65
4	Very good	0	35

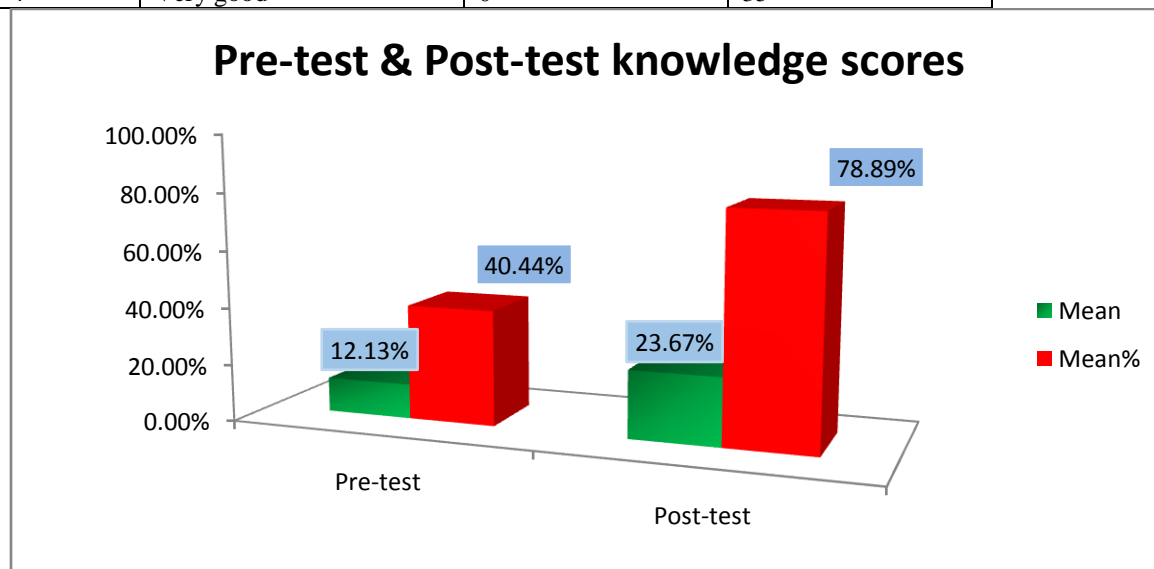


Figure: 1 Comparison of Pre-test and post-test knowledge scores.

The pre-test and Post-test knowledge scores found statistically significant 't' = 1.671, $p < 0.05$. It reveals the effectiveness of structured teaching program.

Table 2: Association between Post-test knowledge scores of staff nurses and their selected socio demographic data.

Sl. No.	Variables	No. of respondents	Chi-square value		Df
			Calculated value	Table value	
1	Age in years				
	a. Below 25 yrs	14	2.37	5.99	2
	b. 25 yrs-30 yrs	38			
	c. 30 yrs- 35yrs	8			
d. Above 35 yrs	-				
2	Sex				
	a. Male	7	0.78	3.84	1
b. Female	53				
3	Religion				
	a. Hindu	47	0.16	3.84	0.14
	b. Muslim	-			
c. Christian	13				
4	Marital status				
	a. Married	51	2.72	3.84	1
b. Unmarried	9				
5	Designation				
	a. Staff nurse	48	1.71	3.84	1
b. Senior staff nurse	12				
6	Professional education				
	A. Post basic BSc Nursing	13	1.2	5.99	2
	b. G N M	37			
c. Basic BSc Nursing	10				
7	Experience				
	a. Less than 1 yr	5	1.2	5.99	2
	b. 1- 5 yrs	47			
c. 5- 10 yrs	8				

	d. More than 5 yrs	-			
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Chi square was done to analyze the association between the post-test knowledge scores and the selected demographic variables. The study findings in the table show that, there is no association of post-test knowledge score with demographic variables. It indicates that all the samples gained equal level of knowledge from the Structured Teaching Program.

Sample characteristics were analyzed by using percentage. Paired 't' test was used to analyze the effectiveness of structured teaching program regarding neonatal pain. The study findings show that there was a significant increase in the post-test knowledge scores compared to pre-test knowledge scores. Then chi-square test was used to analyze the association of pre-test knowledge scores with selected demographic variables.

DISCUSSION:

In this present study the nurses of the paediatric unit gained adequate knowledge on Neonatal pain management irrespective of their qualification and the years of experiences. A descriptive survey of nurses' on knowledge regarding procedural pain assessment and management in neonatal intensive care units was done by Akuma AO, Jordan S,(2012) among 137 nurses. According to the participants' analgesia and comfort measures were not usually administered for most procedures: nurses were adhering to guidelines in administration of analgesia and comfort measures.

According to Cong X, Delaney C, Vazquez V (2013) The nurses were knowledgeable, and about 50% felt that they received adequate training and continuing education on pain. In controversy to the above studies, Halima (2001) conducted a study to assess the knowledge of the nurses on pain assessment and management of pain among the neonatal population. The results demonstrate that caregivers do not use their knowledge adequately in their Neonatal pain management practices. A similar deficiency in the knowledge, perception and practice of Neonatal pain management of neonates was reported among Jamaican nurses.

Even though the nurses had the knowledge on pain assessment and management they were not able to practice because of the negative attitude and other barriers. The literature findings bring the list of barriers in implement of the knowledge gained. These barriers can be identified and cleared for the best practice of the nurses.

RECOMMENDATIONS

- Formulation of written Institutional policies that are specific to the Neonatal pain management and standards of care pertaining to Neonatal pain management.
- Mentors and educators need to be available so as to use this in everyday practice.
- Adequate support from the management.
- Ongoing education on the Neonatal pain management for the health care personnel's to update their knowledge.

CONCLUSION:

The findings of this study shows that there is increase in the knowledge regarding neonatal pain. This study has proved that the staff nurses have a remarkable increase in the knowledge regarding neonatal pain when compared to their previous knowledge, prior to the implementation of the structured teaching program. The findings of the present study have great implications for nursing education, nursing practice, nursing administration, and nursing research. Further research studies are recommended to produce more reliable result.

Constant encouragement and guidance is recommended to update the nurse's knowledge in their area of practice which helps in rendering quality/ competent patient care.

Author's contributions:

Mrs. Sujatha. S wrote the first draft and was the main investigator, designed the study, collected the data, and performed analysis. Dr. Rebecca Samson helped the main investigator to collect the data and getting all the official

permission in the study setting. Dr. Sundarasan contributed to the analysis, critically evaluated the paper, and provided the final draft. All authors read and approved the final version of the manuscript.

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