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Knowledge and Clinical Experience of Nurses at Referred Hospitals in Tripura, India for Managing Post-Operative Pain in Orthopaedic Patients

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ABSTRACT

Post-operative nursing manages discomfort. Orthopaedic surgery hurts. Post-operative rehabilitation depended on orthopaedic ward nurses' pain management skills. This study examined nurses' postoperative orthopaedic pain treatment knowledge and attitudes. A descriptive, quantitative self-administered survey was used. This study included 97 orthopaedic ward nurses and professionals. Nurses and statisticians checked a standard questionnaire during pilot trials for reliability and validity. Statistics 9 processed data. Data analysis comprised descriptive and inferential statistics. Comparison of contingency tables with likelihood ratio chi-square tests. This study correlated nominal nursing categories with knowledge and practice using Pearson chi-square. This study compared clinical practice and knowledge responses to years of experience using the Mann- Whitney U test. The study limited responses to include RNs without operational managers. Experience, nursing care planning, and educational training responses were Kruskal-Wallis ANOVA ed. These factors were unrelated. Standard medical research shows that variables with p-values above 5% ($p > 0.05$) are not significantly different. A significant difference between variables is indicated by a p-value < 5% ($p \leq 0.05$). Medical research often uses 95% confidence (Attia, 2005:78-79). A research with a 95% confidence interval and $p < 0.05$ revealed significant differences among factors. Knowledge gaps, inconsistent therapy, and minimal post-operative pain management training were found. Post-operative discomfort is addressed by Agartala reference hospital orthopaedic ward. Orthopaedic patients with discomfort could benefit from most respondents' five-plus years of practice after qualification.

Key Words: Pain Control; Orthopaedic patients; Postoperative pain, Pain management; and Nursing Care.

INTRODUCTION: Pain is complex and subjective. Pain is personal and subjective, making definition difficult. Surgery causes post-operative pain that reduces with time. Effective pain treatment is a human right, not a luxury. Nurses must manage patient pain ethically and professionally. In 2005, the researcher noticed poor pain treatment in a hospital's orthopaedic

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ward [1]. The study found that individuals received great pain relief in the unit but were dissatisfied with their pain management after returning to the regular ward. Patient wait times without analgesic relief were long in the researcher's clinical practice. The nurses assessed patients' discomfort with informal queries, not pain scales. The patient's actual complaints of discomfort were occasionally overshadowed by the nurses' subjective evaluations of the patient's pain and behaviour. Surgery involving the musculoskeletal system can be either an emergency procedure or an elective procedure. A person's skeleton, muscles, ligaments, tendons, and cartilage make up their musculoskeletal system. In order to improve and speed up the recovery process, postoperative pain management is crucial. Nurses' clinical practices and knowledge regarding postoperative pain management for patients undertaking orthopaedic surgeries were evaluated through a survey administered at two referral hospitals in the West District of Tripura. Finding out how well nurses treat orthopaedic patients' pain after surgery was the primary goal of the study.

1. Assess the methods used by nurses to alleviate pain in adult orthopaedic patients following surgery.

2. Review the pain evaluation and management records that the nurses have kept.

3. Assess the effectiveness of education programs for nurses in pain management.

LITERATURE REVIEW

Research initiatives need literature reviews to evaluate and incorporate relevant theoretical and scientific material. This study's literature review covers pain, post-surgery pain, evaluation, treatment, and pain management barriers. Nursing knowledge and practice in post-surgery pain management were also investigated [3].

The findings shows insufficient post-surgery pain management. Nursing knowledge gaps and inconsistent clinical practices contribute. International and local standards ensure appropriate pain assessment and treatment. Nurses' familiarity with and ability to use Benner's paradigm for the treatment of orthopaedic pain in adults following surgery will be assessed.

CONCEPTUAL FRAMEWORK

This investigation was conducted in accordance with Patricia Benner's nursing practice model. Benner (2001:13) contends that the five levels of competence are linked to the five phases of skill development as outlined in the Dreyfus model. The five phases depicted in Figure 1 are, in order, progression from novice to competent to skilled to expert.

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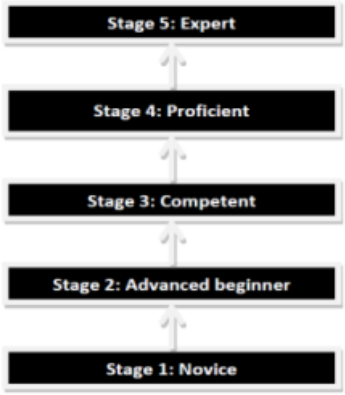

Figure 1: Diagram showing Benner's nursing competency levels [4,5]

RESEARCH METHODOLOGY

This quantitative, descriptive, self-administered survey was non-experimental. An experimental design controls the research setting, but a non-experimental design lets the researcher see events in their natural context (Brink et al., 2006:102). This study assessed nurses' knowledge and practical behaviours regarding adult orthopaedic patients' post-operative pain care. A descriptive survey conveys data about a situation in quantitative research (Burns & Grove, 2007:240). This study examined adult orthopaedic ward nurses' post-operative pain treatment knowledge and practices.

Registered nurses and enrolled nurses who worked on adult orthopaedic wards were examined by researchers in two institutions in Tripura's Agartala Sadar District. The researcher adhered to Strydom's (2005:196) recommendation and consulted with all 53 registered nurses and 44 enrolled nurses from the eight adult orthopaedic wards of two major hospitals. The total number of RPNs and ENs in the adult orthopaedic wards of the primary institutions in the Agartala Sadar District of Tripura is depicted in Figure 1.

Table 1: Distribution of Registered Practical Nurses and Enrolled Nurses in the orthopaedic wards of two central hospitals [6]

Nursing categories	Hospital 1	Hospital 2	Total N
Registered professional nurses	N = 32	N = 26	N = 58
Enrolled nurses	N = 21	N = 18	N = 39
Total	N = 53	N = 44	N = 97

The eligibility requirements for participation were as follows:

You are eligible to apply if you are an enrolled nurse (EN) or registered professional nurse (RPN) and work in an adult orthopaedic unit at one of the participating institutions.

A variety of factors were considered when selecting healthcare facilities, such as:

• Their status as a core health institution

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• The availability of dedicated adult orthopaedic wards

• Located in Tripura, India's Agartala Sadar District

The following categories of nurses were not included in the research:

Community service nurses, nursing students, and enrolled nursing assistants.

Patients in this study filled out their own questionnaires. A questionnaire is appropriate because this study employs a descriptive survey approach. Professionals in a field can voice their thoughts through questionnaires (Delport, 2005:166). In order to gather data for the study, the researcher relied on a questionnaire that was grounded in both the literature and their own clinical experience. The eleven statements in Sections C and D are derived from Margo McCaffery and Betty Ferrell's "Knowledge and Attitudes Survey Regarding Pain" (Ferrell & McCaffery, 2008:np). The researcher employed a questionnaire that was based on both their clinical experience and the literature to collect data for the study. The following sections were included in the survey: • Professional profile • Knowledge of pain treatment • Clinical practice • Nursing care planning • Demographic profile • Policies and orientation/in-service training

Respondents' demographic and occupational information was gathered through closed-ended questions in Parts A and B. Using Likert scales for both binary and multiple-response items, Sections C-F examined nursing education and training in the treatment of postoperative pain in people having orthopaedic surgery. To lessen the impact of the central tendency bias, 10 of the statements were negative.

In a pilot study, this research utilised 9 out of 9 demographic individuals. Five nurses worked at Hospital 1 and four at Hospital 2, for a total of nine nurses. Respondents anticipated that the survey would take them twenty minutes. The guidelines and questions were easy for them to understand. No new questions were proposed by the participants. Some claims were somewhat altered after looking over the survey data. The final report omitted the questionnaire data from the pilot study.

DATA ANALYSIS, INTERPRETATION AND DISCUSSION: STATISTICA 9 was implemented to analyse the data. Descriptive and inferential statistics were implemented to analyse the data. The results were analysed using chi-square tests for likelihood ratios and contingency tables. The Pearson chi-square test was employed to compare the nurses' responses to queries regarding their clinical practice and knowledge with categories of data (nominal data) in this study. The Mann-Whitney U test was employed in this study to assess the respondents' clinical practice and knowledge responses in relation to their years of experience (ordinal data).

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This investigation depended on responses from registered professional nurses and operational managers due to the limited sample size of operational managers. The Kruskal-Wallis ANOVA was employed in this study to investigate the impact of the participants' years of experience on various factors related to nursing care planning and education. These factors did not exhibit any statistically significant connections. Medical researchers typically seek a p-value greater than 0.05 (above 5%) when seeking a statistically significant difference between two variables. The p-value is less than 5% ($p \leq 0.05$) when a statistically significant difference between the variables is reported. The 95% confidence threshold is frequently implemented in medical research, as per Attia (2005). With a p-value of less than 0.05 and a confidence range of 95%, this study identified statistically significant differences in all variables.

Researchers conducted a survey of eight adult orthopaedic units at two major hospitals in the Agartala Sadar District of Tripura. There were 97 participants in the study. The pilot investigation included five participants from Hospital 1 and four participants from Hospital 2. A total of 128 individuals were involved in the investigation. Brink et al. (2006) defined the questionnaire response rate as the ratio of the total number of returned surveys to the total research population. The response rate for this study was determined to be 75% by dividing the total number of participants (N=88) by the number of returned questionnaires (n=66) (Tables 4.1). After human distribution, the response rate of a self-administered questionnaire, which was already high, was further enhanced, according to Delport (2005:168). Participants were requested to specify their gender and age during the initial phase of the survey.

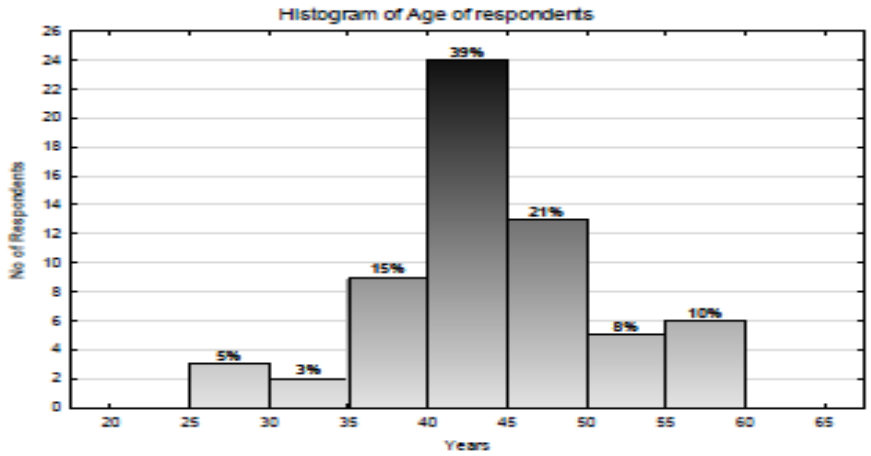

Figure 2: Demographic distribution of responders by age [7]

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In Section B of the survey, participants were requested to provide details about their nursing category, educational background, certifications beyond basic nursing, number of years of experience, duty shift, and job type.

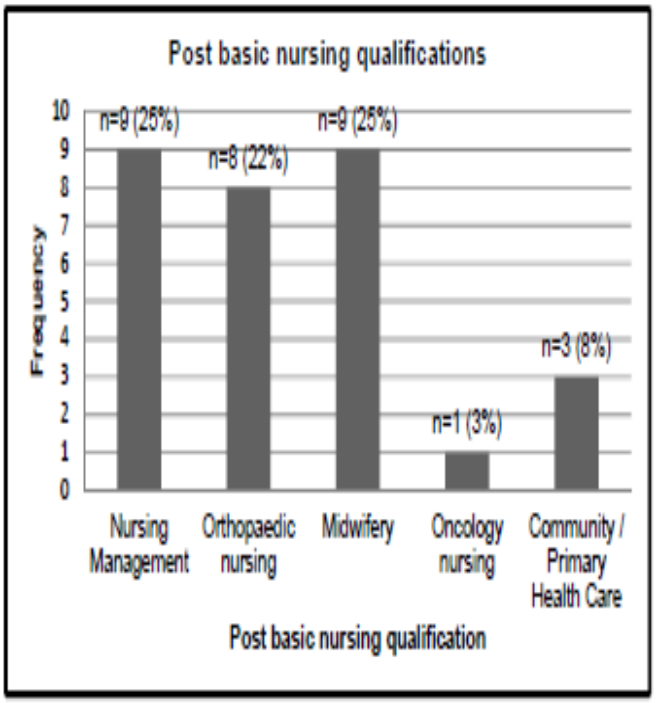

Figure 3: Qualifications in nursing beyond the basic [8]

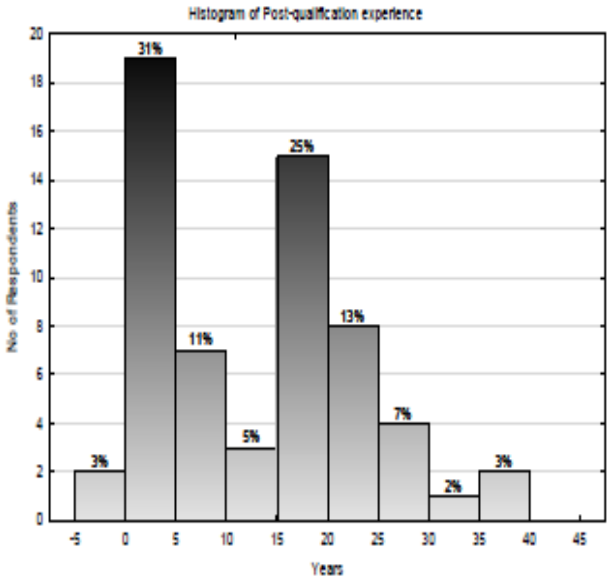

Figure 4: Years of experience after earning a basic nursing certification [9]

Section C asked participants to indicate if their understanding of pain management was "true" or "false" in response to fifteen questions. We examine variables that show where our knowledge is lacking and where it is adequate. Some responders showed signs of not

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understanding or not comprehending by not answering all the questions. The reliability of the participants' responses to these seven primary questions was the subject of additional study (Table 2).

Table 2: Informed responses for pivotal enquiries [10]

Variable	To my knowledge...	Correct answer	
		n	%
16-17	The most accurate judge of intensity of pain is the patient him/herself.	64	100
42-43	Administering sterile saline by injection (placebo) is often a useful test to determine if the pain is real.	38	61
22-23	Pain assessment is based on the patient's behaviour and physiological changes only.	35	56
34-35	Patients with a history of substance abuse should not be given opioids, e.g. morphine, for pain relief.	35	54
44-45	The most likely reason a patient with pain would request increased doses of opioid analgesia is that the patient's request may be related to addiction.	19	30
38-39	The most common side effect of morphine is respiratory depression.	6	9
24-25	Changes in vital signs and/or behaviour should be relied upon to confirm a patient's statement of pain.	0	0

In Section D of the survey, respondents were requested to indicate their level of agreement or disagreement with the clinical pain management questions.

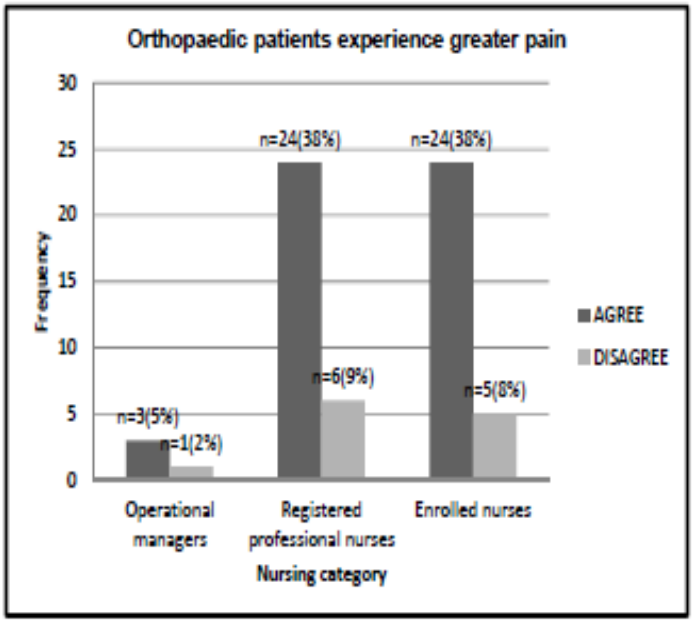

Figure 4.4: Orthopaedic patients have heightened levels of discomfort. [11]

Concerning Section E's nursing care planning questions, the replies were "yes," "sometimes," and "no.". Section F of the survey asked participants to say if they were "unsure," "yes," or "no" regarding policies, training, and orientation forward or hospital assignments.

The results showed that the respondents didn't know much about pain management. Numerous

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respondents were misinformed regarding opioid analgesia. Despite their comprehension of the importance of administering pain medication to post-operative orthopaedic patients, they failed to do so on a consistent basis. A pain rating scale, which is an essential tool for pain assessment, was seldom implemented in clinical settings. These findings underscore the necessity of postoperative pain management education and the challenges associated with effective pain treatment.

CONCLUSION AND RECOMMENDATIONS AND LIMITATION OF THE STUDY:

CONCLUSION

Based on the study's findings, the following conclusions were carefully formed.

1]. The responders do not know how to recognise pain or how to treat it. Participants in this study demonstrated mastery of the conceptual framework's knowledge criteria in pain assessment and management.

2]. Both national and international benchmarks for clinical pain management are unmet. Inadequate pain scales, organisational hurdles, laws, and standards all work against efficient pain treatment. Professional and expert levels of competence regarding patient self-reports, patient expectations for complete pain relief, and the advantages of continuous pain treatment were demonstrated by the nurses' clinical abilities in this study.

3]. After receiving analgesic medication, the participants documented their pain evaluation, management, and relief according to the standards established by the nursing profession. The responses should reflect the techniques used for ward recordkeeping, as this study analysed nursing records.

4]. Training in the treatment of postoperative pain is available at hospitals without restrictions. Assessing and managing pain is an integral part of the orthopaedic ward orientation and induction program.

RECOMMENDATIONS: The author of the study suggests these strategies to help improve pain management after orthopaedic surgery for adults:

1). More study is recommended in the future.

2) Instruction in pain management

3) Making changes to the patient's observation record

4) Localized pain relief

5) Strategies for dealing with pain

6) Suggestions for future studies

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LIMITATIONS: Only nurses working in speciality orthopaedic units inside major hospitals were included in the study. There were 97 responders in the whole sample. There was a total of 88 respondents after the nine from the pilot study were removed. According to Strydom (2005:196), the 75% response rate was considered sufficient for this research. Research was conducted at two hospitals, each of which had four adult orthopaedic wards. We selected these hospitals because they have dedicated orthopaedic units. Orthopaedic problems requiring surgery would be prevalent among the ward patients. Therefore, a specific group of patients would be receiving care from the respondents. These findings have significant implications for the nursing care of adults undergoing orthopaedic surgery, as well as for any field in which patients are entitled to and require effective pain alleviation.

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DATA AVAILABILITY: The author confirms that this research report contains the data necessary to support the study's findings.

CONFLICT OF INTERESTS: This paper is completely free of any conflicts of interest that the author may have.

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