



## A pre experimental study to evaluate the effectiveness of information booklet on knowledge regarding cancer pain management among staff nurses working in a tertiary care hospital of Kashmir

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### Abstract

**Background:** Many patients with cancer experience pain either during or after treatment. It is critical that healthcare providers, in all settings possess the knowledge and skills to assess and manage cancer related pain.

**Objectives of the Study:** 1.To assess the knowledge of staff nurses regarding cancer pain management before administration of information booklet.2.To assess the knowledge of Staff nurses after administration of information booklet.3.To determine association between posttest knowledge scores and demographic variables of staff nurses

**Material and Method:** The study was carried out in oncology wards of Sher e Kashmir Institute of Medical Sciences, Kashmir from 2nd December to 14<sup>th</sup> December 2013. 50 staff nurses working in oncology wards were selected.Their knowledge regarding cancer pain management before and after the administration of information booklet was assessed and the association between posttest knowledge scores and demographic variables of staff nurses was studied. Statistical analysis was done by 't' value test, Fisher exact test, and  $\chi^2$  test using SPSS software.

**Results:** In the pretest, out of 50 subjects, majority of them 39(78%) had inadequate knowledge, 11(22%) had adequate knowledge and none of the subject had highly adequate knowledge. In the posttest majority of them 33 (66%) had highly adequate knowledge, 17(34%) had adequate knowledge, and none of the subject had inadequate knowledge There was a significant difference in the mean pretest and posttest knowledge scores (with a t value. 24.97, which is highly significant at the level of  $p < 0.001$ ).

**Conclusion:** The study revealed that initially the nursing personnel had a low level of knowledge on cancer pain management After exposing them to information booklet, subjects' mean post-test knowledge scores was significantly higher than the mean pre-test knowledge scores. So, it is recommended that cancer pain should be managed better through adequate assessment, using appropriate pharmacological and non-pharmacological interventions, with reassessment of outcomes of intervention and accurate documentation

**Keywords:** experimental, Management, care hospital, healthcare

### Introduction

Cancer is a disease process that begins when an abnormal cell is transformed by the genetic mutation of the cellular DNA and begins to proliferate abnormally. Many patients with cancer experience pain either during or after treatment. About one-third of patients who are receiving treatment for cancer and two-thirds of those with advanced disease experience cancer related pain. It is estimated that more than 75% of patients with cancer will at some point during the course of their disease experience breakthrough pain. Again it is estimated that 90%-95% of patients with progressive cancer experience pain<sup>[1, 2]</sup>.

With the increased incidence and prevalence of persons living with cancer and cancer related pain, it is critical that healthcare providers, in all settings possess the knowledge and skills to assess and manage cancer related pain. One barrier in the management of cancer pain is the lack of knowledge on the part of healthcare providers, including staff nurses. Nurses maintain a vital role in cancer pain

management. The World Health Organization (WHO) provides a pain relief ladder containing its recommendations on pain control. It is estimated that with the use of this 3-step ladder, that 80-90% of cancer pain can be relieved.

### Objectives of the Study

1. To assess the knowledge of staff nurses working in a tertiary care hospital of Kashmir regarding cancer pain management before administration of information booklet.
2. To assess the knowledge of Staff nurses working in a tertiary care hospital of Kashmir regarding cancer pain management after administration of information booklet.
3. To determine association between posttest knowledge scores and demographic variables of staff nurses, i.e.
  - Age
  - Professional qualification
  - Working experience

- In-service training

**Material and Method**

The present study was carried out at oncology wards of SKIMS, Soura, Srinagar, Kashmir from 2nd December to 14<sup>th</sup> December 2013. 50 staff nurses working in oncology wards (Medical Oncology, Clinical Hematology, Radiation Oncology, Surgical Oncology, and Day Care wards) were selected. The subjects were selected based on the following eligibility criteria:

Staff Nurses:

- Working in oncology wards with more than one year of experience.
- Who are providing direct patient care.
- Willing to participate.
- Available during data collection period.

Formal permission to conduct the study was taken from ethical committee of SKIMS, Kashmir

The research design selected for this present study was pre experimental “one group pre-test and post-test design” as shown in figure-2. The design can be represented as:

$K_1 \dots X \dots K_2$

$K_1$ : knowledge score of staff nurses before administration of information booklet.

X: intervention (dissemination of information booklet)

$K_2$ : knowledge score of the staff nurses after administration of information booklet.

Statistical analysis was done by ‘t’ value, Fisher exact test, and  $\chi^2$  test.

**Description of the structured knowledge questionnaire**

A blue print was prepared to construct the structured knowledge questionnaire. The content details included the major areas for assessing the knowledge of subjects.

The structured knowledge questionnaire had two sections

**Section-I:** This section comprised of four questions about demographic characteristics of the sample

**Section-II (A):** This section consisted of 30 multiple choice knowledge questions regarding different aspects of cancer pain management.

**Section-II (B):** This section had true and false 20 items.

**Scoring**

Each item had a single correct answer and each correct answer was rewarded a score of one point and wrong answer as zero. The range of possible score was 0-50 for the structured knowledge questionnaire.

- A score of 39-50 was interpreted as ‘highly adequate’ knowledge (>75%).
- A score of 26-38 meant ‘adequate’ knowledge (>50-75%).
- A score 1-25 was interpreted as ‘inadequate’ knowledge ( $\leq$ 50%).

**Development and Description of the information booklet**

The information booklet was titled as, “Information Booklet on cancer pain management for Staff Nurses. Some of the important factors considered while preparing the information booklet were simplicity of language, appropriate illustration, content covering all the items in the questionnaire i.e. introduction to cancer pain, mechanisms

and causes of cancer pain, assessment, common pharmacological interventions, WHO’s 3step analgesic ladder approach, basic principles of cancer pain management, common non-pharmacological interventions, and the last section contains role of the nurse in cancer pain management.

**Results**

Demographic characteristics of the subjects is shown in table 1, 2, 3, and 4. The table 5 represent the comparison between pretest knowledge scores and post test scores of staff nurses

Data presented in Table- 6 (A), 6(B), show that mean post-test knowledge score (40.70) was higher than mean pre-test knowledge score (22.7) with a mean difference of (17.96) and standard deviation difference (5.087). The obtained ‘t’ value was 24.97, which is highly significant at the level of  $p < 0.001$ . This indicates that there was a significant difference in the mean pretest and posttest knowledge scores indicating that the information booklet on cancer pain management for staff nurses was effective in increasing the knowledge of staff nurses working in oncology wards of a tertiary care hospital of Kashmir. The table [7(A)] indicates the association between post test knowledge scores and demographic variables. However this association was insignificant ( $p \text{ value} > .05$ ). The data given in Table-7(B) shows the computed Fisher’s Exact value to establish the association between post test knowledge scores and professional qualification and in-service training of staff nurses in which p value was found to be 0.237 and 0.597 respectively which is greater than 0.05. Hence, it is not statistically significant. This shows that there was no significant association between post test knowledge scores and professional qualification and in-service/short term training of staff nurses.

**Table 1:** Age Distribution of the Study Subjects (staff nurses) n=50

Age (Years)	Frequency	Percentage
20-30	4	8%
31-40	9	18%
41-50	30	60%
> 50	7	14%
Total	50	100%

**Table 2:** Distribution of the Study Subjects (staff nurses) as per their Working Experience in Oncology Ward n=50

Working experience (Years)	Frequency	Percentage
1-5	22	44%
6-10	14	28%
11-15	8	16%
> 15	6	12%
Total	50	100%

**Table 3:** Distribution of Study Subjects according to Professional qualification n=50

Professional qualification	Frequency	Percentage
General nursing and midwifery	42	84%
B.Sc. /(P.B) B.Sc. Nursing	8	16%
Post-graduation	0	0%
Any other	0	0%
Total	50	100%

**Table 4:** In service /Short term training of Study Subjects n=50

In service /short term training	Frequency	Percentage
Yes	4	8%
No	46	92%
Total	50	100%

**Table 5:** Comparison of Pre & Post-test Knowledge scores of staff nurses n=50

Knowledge Level	Respondents			
	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Inadequate (1- 25)	39	78%	0	0%
Adequate (26- 38)	11	22%	17	34%
Highly Adequate (39- 50)	0	0%	33	66%
Total	50	100%	50	100%

**Table 6(A):** Overall comparison of Pre-test & Post-test Mean Knowledge n=50

Knowledge	Mean	S.D	Minimum	Maximum	Range	Median
Pre test	22.74	3.85	16	33	17	22
Post test	40.70	7.26	27	50	23	22

**Table 6B**

Knowledge	Mean	Mean Diff.	SD	SD of Difference	95.00% Conf. Interval		Cal.t	Df	p-Value < 0.001	S
Pre-Test	22.74	17.96	3.85	5.087	Lower Limit	Upper Limit	24.97	49		
Post-test	40.70		7.26		16.5	19.4				

S=Significant (p≤0.05) at 0.05 level of significance.

**Table 7(A):** Association between Demographic variables and Post -Test knowledge scores by chi square test n=50

Demographic variables	Category	N	Respondent Knowledge				$\chi^2$ cal. (df)	p-value	
			Adequate		Highly Adequate				
			n <sub>1</sub>	%	n <sub>2</sub>	%			
Age (Years)	20-30	4	1	25.0	3	75.0	0.397 (3)	0.961	NS
	31-40	9	3	33.3	6	66.7			
	41-50	30	10	33.3	20	66.7			
	> 50	7	3	42.8	4	57.2			
Working Experience (Years)	1-5	22	8	36.4	14	63.6	2.193 (3)	0.729	NS
	6-10	14	6	42.8	8	57.2			
	11-15	8	1	12.5	7	87.5			
	> 15	6	2	33.3	4	66.7			

**Table 7(B):** Association between Demographic variables and Post-Test knowledge level n=50

Demographic variables	Category	N	Respondent Knowledge				F value	p value	
			Adequate		Highly adequate				
			n <sub>1</sub>	%	n <sub>2</sub>	%			
Professional Qualification	General nursing and midwifery	42	16	38.1	26	61.9	1.962	0.237	NS
	B.Sc. /(P.B) B.Sc. Nursing	8	1	12.5	7	87.5			
In service /short term training	yes	4	2	50.0	2	50.0	0.496	0.597	NS
	No	46	15	32.6	31	67.4			

**Discussion**

Cancer pain is one of the most feared symptoms of cancer patients. Nurses’ knowledge and attitudes about patients in pain and pain management have been studied by many researchers. Unfortunately, pain still continues to be inadequately treated. Maximum number of subjects, i.e. 30(60%) were in the age group of 41-50 years WITH Majority 42(84%) being qualified General Nursing and Midwifery. 22(44%) of the subjects had experience of 1-5years.Majority of subjects 46 (92%) had not attended any conference Majority of the subjects (78%) had inadequate knowledge. The results of many other studies have shown inadequate knowledge of staff nurses regarding cancer pain management.

Yildirim, YK *et al* [3]. conducted a study to evaluate knowledge and attitudes of Turkish oncology nurses concerning cancer pain management. It was found that nurses have inadequate knowledge and attitudes about cancer pain management. No significant relationships were noted between the demographic characteristics of the nurses and pain knowledge. Houle N [4]. conducted a study to evaluate the level of knowledge of cancer pain management in oncology and non-oncology nurses and how they compare with each other. Test scores showed that oncology nurses scored significantly higher on the Pain Management and Knowledge Test overall between the two groups (t=2.1, p=0.04). While the oncology nurses have significantly better knowledge of cancer pain management, the overall scores

were low for both groups. Bernardi M *et al* [5]. had conducted a descriptive study to obtain information about the knowledge and attitudes of Italian hospice nurses concerning cancer pain management and to determine the predictor of nurses' pain management knowledge. Analysis of items showed that more than 30% of hospice nurses underestimated the patients' pain and they did not treat the pain in the correct way

In our study, Majority of the subjects (66%) had highly adequate knowledge scores after the intervention. The obtained mean difference (17.96) between pretest score and post test score was found to be statistically significant as evident from 't' value of 24.97, which is highly significant at 0.05 level of significance suggested the effectiveness of information booklet in enhancing the knowledge of staff nurses on cancer pain management. No other studies have attempted to evaluate effectiveness of information booklet on knowledge regarding cancer pain management but several studies had shown, educational intervention can improve the knowledge of staff nurses regarding cancer pain management.

Linkewich B *et al* [6]. had conducted a study to enhance nurses' pain management knowledge. The program included a pre-test of knowledge and attitudes; four two-hour educational sessions focusing on total pain, acute pain, chronic pain and cancer pain; and a post self-test at the end of each session. The educational sessions were evaluated through a survey to participants. Overall, the nurses expressed high satisfaction with the workshops, and the post self-tests indicated a better understanding of patients' pain management experiences. Findings are in conformity with McMillan SC *et al* [7]. In the present study the findings revealed that there was no significant association between posttest knowledge scores and demographic variables like age, professional qualification, working experience, and in service training.

Findings are in conformity with the study conducted by Yildirim, Y *et al* [3]. that no significant relationships were noted between the demographic characteristics of the nurses and pain knowledge.

To summarise, The study revealed that initially the nursing personnel had a low level of knowledge on cancer pain management as evident from mean pre-test knowledge scores (22.74). After exposing them to information booklet, subjects' mean post-test knowledge scores (40.7) was significantly higher than the mean pre-test knowledge scores. There was no association between post-test scores and demographic variables of staff nurses. It is recommended that cancer pain should be managed better through adequate assessment, using appropriate pharmacological and non-pharmacological interventions, with reassessment of outcomes of intervention and accurate documentation. In service education should be incorporated in to the staff development program for better management of oncology patients.

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