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Effectiveness of Structured Teaching Program on Knowledge Regarding Radiotherapy Induced Skin Reactions Among Patients Receiving Radiation Therapy in a Cancer Hospital, Guwahati, Assam

Upasna Joshi Sharma[1], Lily Lalhlutmawii[2]

[1]M.Sc. Nursing Department of Medical Surgical Nursing, Dr B. Borooah Cancer Institute, Guwahati, Assam India

[2]Associate Professor, Medical Surgical Nursing, Dr B. Borooah Cancer Institute, Guwahati, Assam India

Abstract:

Introduction: Radiotherapy induced skin reactions is a significant side effect of ionizing radiation delivered to the skin during cancer treatment.

OBJECTIVES OF THE STUDY

PRIMARY OBJECTIVES

1. To assess the pre-test level of knowledge regarding radiotherapy induced skin reactions among patients receiving radiation therapy
2. To evaluate the effectiveness of structured teaching programme on knowledge regarding radiotherapy induced skin reactions among patients receiving radiation therapy

SECONDARY OBJECTIVES:

To find out the association between pre- test level of knowledge with selected demographic variable regarding radiotherapy induced skin reactions among patients receiving radiation therapy

METHODS: A quasi-experimental one group pre-test post-test research design approach was used. The study sample comprises of 52 patients receiving radiation therapy at Dr B. Borooah Cancer Institute were selected through purposive sampling technique. A self-structured questionnaire was used to assess the knowledge. The data was analysed using descriptive and inferential statistics.

RESULTS

- Majority of the patients 32 (61.5%) were aged between 51 years and above, 28 (53.8%) were male, 39 (75%) are living in a nuclear family, 17 (32.7%) had high school education, 45(86.6%) were married, 34(65.4%) were in other occupation, 41 (78.8%) had reported no history of cancer in family, 29(55.8%) have other type of cancer, 30 (57.6%) have received radiation cycle between 1-10 cycles and 48 (92.4%) were diagnosed with cancer in the year 2023.
- The study results show that in the pre-test, 31(59.6%) had moderately adequate knowledge, 7(13.5%) had adequate knowledge and 14 (26.9%) had inadequate knowledge. Whereas in the post-test after the intervention, 40(76.9%) had moderately adequate knowledge, 12 (23.1%) had adequate knowledge

and none had poor knowledge. There is no association between pre-test level of knowledge with the selected demographic variables

CONCLUSION: The study's findings indicated that the structured teaching programme was effective in raising the level of awareness and knowledge among the patients receiving radiation therapy.

KEYWORDS: Knowledge, Patient, Effectiveness, Structured teaching programme, Radiotherapy induced skin reactions, Radiation therapy.

INTRODUCTION

Radiation therapy is a medical specialty that employs ionizing radiation to treat cancer and certain benign disorders. Radiation therapy aims to give the maximum quantity of radiation required to eradicate the cancer while sparing normal surrounding tissues. The radiation therapist's focus remains on the patient, delivering quality care, educating, making referrals as needed, and conducting daily assessments [1]

High dosages of radiation therapy are used in radiation therapy to destroy cancer cells. However, because radiation therapy can damage healthy cells and tissues in the vicinity of the tumour location, unfavourable side effects can happen. Despite the high precision of modern radiation technology, side effects usually appear during the first several weeks or months of treatment and linger for several weeks after treatment. Patients' adverse effects vary according to their health, age, the kind of radiation, the type of cancer, and the dosage of radiation, just like with any other disease-fighting or cancer therapy [5]

NEED OF THE STUDY

Radiation therapy has the potential to increase the rate of cure for 3.5 million people and give palliative relief for an additional 3.5 million people out of the over 14 million new instances of cancer that are diagnosed worldwide each year. Localized cancers can be cured with radiation therapy.

Radiotherapy induced skin reactions also known as radiation dermatitis is a common side effect of radiation therapy. These reactions can range from mild redness and dryness to more severe conditions like peeling, blistering and open sores.

Based on a review of the literature and the investigator's own experience in the oncology unit, it was determined that there is a need to give patients with intelligible and useful instruction to better coping and adjusting to physiological changes. There are very few studies dealing with the usefulness of structured teaching program on understanding of radiotherapy-induced skin responses among cancer patients receiving radiation therapy.

RESEARCH METHODOLOGY

RESEARCH APPROACH: Quantitative approach

RESEARCH DESIGN: Quasi Experimental Research Design (one group pre-test post-test design).

SETTING OF THE STUDY: Dr. B. Borooah Cancer Institute in Guwahati, Assam

POPULATION: P atient receiving radiation therapy

TARGET POPULATION: Cancer patients getting radiation therapy at Guwahati, Assam's cancer hospital who meet the inclusion requirements for sample selection will be the study's target population.

ACCESSIBLE POPULATION: Patients undergoing radiation therapy at Dr. B. Borooah Cancer Institute who are available on the day of data collection are included in the study's accessible population.

SAMPLE SIZE: 52

SAMPLING TECHNIQUE: Non-probability purposive sampling technique
TOOLS FOR DATA COLLECTION: Socio demographic tools, Self-Structured Knowledge Questionnaire.
DATA ANALYSIS: Descriptive and inferential statistics.
RESULT: SPSS 18 VERSION

Table 1: Description of frequency and percentage distribution of level of knowledge regarding radiotherapy induced skin reactions among patients receiving radiation therapy
PRE-TEST AND POST-TEST SCORE DISTRIBUTION IN TERMS OF FREQUENCY AND PERCENTAGE

n=52

Level of knowledge	Pre-test		Post-test	
	F	%	F	%
Inadequate knowledge	14	26.9	-	-
Moderately adequate knowledge	31	59.6	40	76.9
Adequate knowledge	7	13.5	12	23.1

The data in TABLE 1 depicts the frequency and percentage distribution of knowledge scores obtained before and after radiation treatment for cancer patients. It reveals that, in the pre-test, 31 patients (59.6%) had moderately adequate knowledge, 7 patients (13.5%) had adequate knowledge, and 14 patients (26.9%) had inadequate knowledge. On the post-intervention test,however, 12 (23.1%) and 40 (76.9%) reported having adequate knowledge and moderately adequate knowledge, respectively, on skin reactions caused by radiation.
n =52

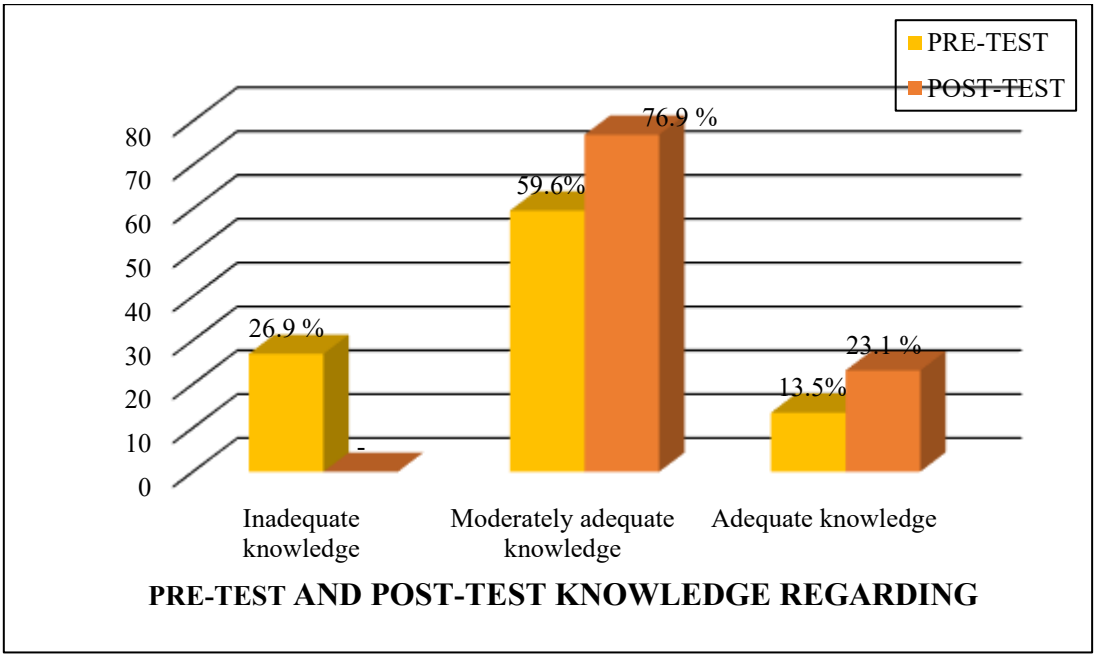

Figure 1: Clustered column diagram showing the percentage distribution of pre-test and post-test score.

Table 2: Effectiveness of structured teaching programme on knowledge regarding radiotherapy induced skin reactions among patients receiving radiation therapy

Level of Knowledge	Mean	SD	Mean Difference	df	t test value	Tab value	Remarks	P value
Pre- test	12.69	4.24	4.40	51	14.05	1.67	S*	0.001
Post -test	17.09	2.78						

Table 2 shows the efficiency of a structured teaching programme on knowledge of radiotherapy-induced skin reactions among radiation therapy patients, as measured by a paired t test. The post-test knowledge score was 17.09±2.78 higher than the pre-test score of 12.69±4.24. The calculated value (t=14.05 at df=51, p=0.001) was statistically significant as the computed 't' value was greater than the tabulated value (t=1.67). The findings revealed that a systematic teaching plan was beneficial in increasing patients' understanding of radiotherapy-induced skin reactions.

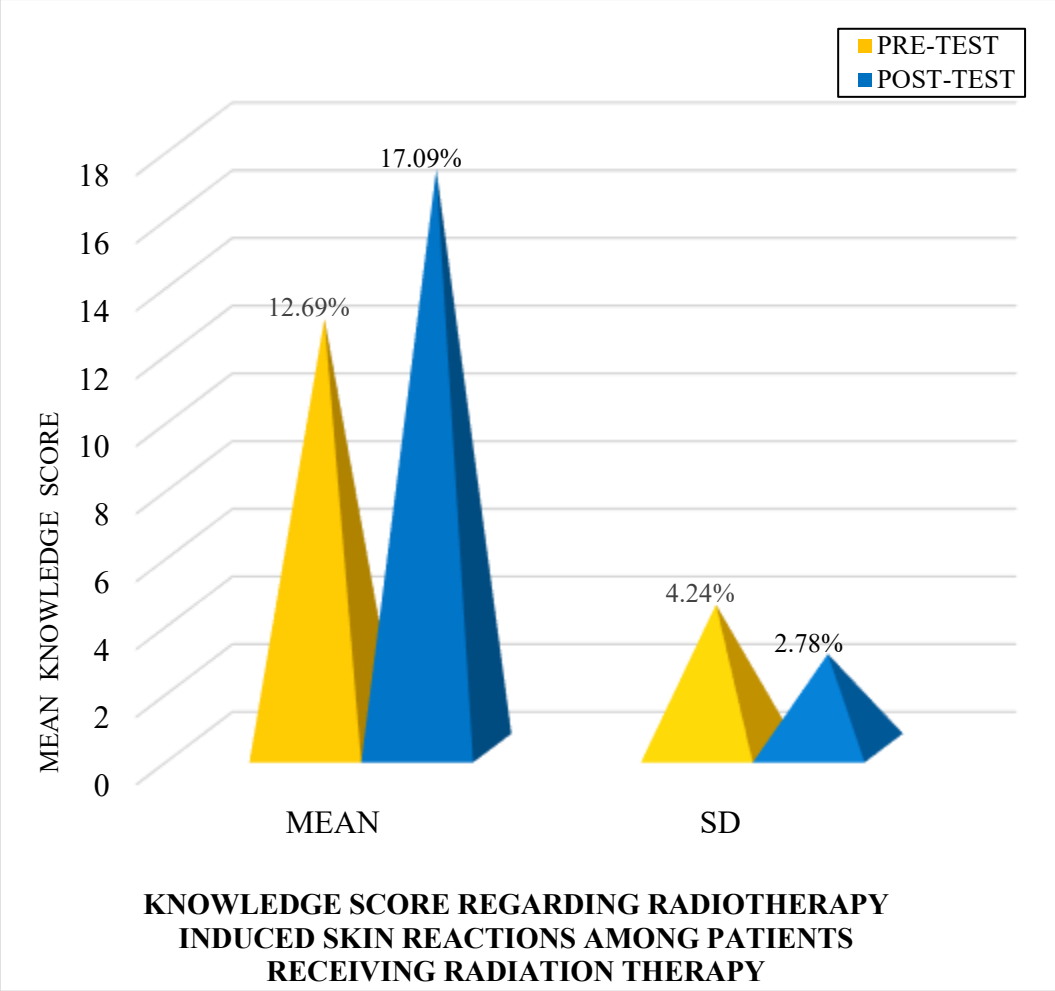

FIGURE 2

3D CLUSTERED DIAGRAM SHOWING MEAN PRE-TEST AND POST-TEST KNOWLEDGE SCORE REGARDING RADIOTHERAPY INDUCED SKIN REACTIONS AMONG THE PATIENT RECEIVING RADIATION THERAPY.

CONCLUSION:

The study states that in the pre-test, 31(59.6%) had moderately adequate knowledge, 7(13.5%) had adequate knowledge and 14 (26.9%) had inadequate knowledge regarding radiotherapy induced skin reactions among the patient receiving radiation therapy whereas in the post-test after the intervention, 40(76.9%) had moderately adequate knowledge, 12 (23.1%) had adequate knowledge regarding radiotherapy induced skin reactions among the patient receiving radiation therapy

The results of the study showed the effectiveness of a structured teaching program in raising patients' awareness of skin reactions brought on by radiation therapy. The results of the study demonstrated that there was no statistically significant association between the participants' demographic factors and their pre-test level of knowledge on skin reactions caused by radiation therapy.

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