



## RESEARCH ARTICLE

### A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE REGARDING MANAGEMENT AND PREVENTION OF BED SORE AMONG THE CARE GIVERS OF PATIENTS IN A SELECTED HOSPITAL AT WEST BENGAL

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#### ARTICLE INFO

##### Article History:

Received 24<sup>th</sup> January, 2024  
Received in revised form  
20<sup>th</sup> February, 2024  
Accepted 19<sup>th</sup> March, 2024  
Published online 17<sup>th</sup> April, 2024

##### Key words:

Bedsore Patients, Caregivers, Backcare, Preventive Measures.

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Citation: Gopa Biswas and Dr. Jasline, M. 2024. "A study to assess the effectiveness of planned teaching programme on knowledge regarding management and prevention of bed sore among the care givers of patients in a selected hospital at West Bengal." *International Journal of Current Research*, 16, (04), 27679-27688.

#### ABSTRACT

**Introduction-**Bedsore also called pressure sores or pressure ulcers are injuries to skin and underlying tissues resulting from prolonged pressure on the skin. **Objectives:** The study aimed to assess the effectiveness of planned teaching programme on knowledge regarding management and prevention of bed sore among the care givers of patients in a selected hospital at West Bengal. **Design:** The study was conducted by adopting experimental group pre-test and post-test design. **Sample:** 60 caregivers who are fulfilling the inclusion criteria. **Sampling Technique:** Non-probability sampling technique was used. **Results:** Analysis revealed that in experimental group the pre-test level of knowledge mean score was 10.35 with the standard deviation of 3.67 and the post-test level of knowledge mean score was 20 with the standard deviation of 3.31. The "t" test value was 44.91 at the level of  $P < 0.05$  which was very highly significant. Karl Pearson co-relation co-efficient, value of  $r$  0.85. Thus, it indicated that there was effectiveness of planned teaching programme regarding management and prevention of bedsore among the caregivers of patients. **Conclusion-**This study can be repeated using a larger sample in another setting with other teaching strategies.

## INTRODUCTION

A Pressure ulcer<sup>1</sup> is a localized injury to the skin or underlying tissue usually over a bony prominence, as a result of unrelieved pressure or in combination with pressure shear. Skin care is a fundamental component of basic patient care and reflects on the overall quality of care a patient receives in the hospital (Christ Jecklin Edwin, 2018). Pressure sores<sup>2</sup> are serious health concerns for elders in acute care, longterm care, and home care settings it may results in morbidity and mortality and with high cost in terms of human suffering, cost of treatment and possible litigation, prevention of Pressure sores involves skin care, diet, hygiene, lifestyle, position changes and supportive devices. (Christ Jecklin Edwin, 2018). To be healthy<sup>3</sup> means the individual should lead a socially and economically productive life. Health is adversely affected by certain disorders. Some disorders make persons confined to bed. The persons who are confined to bed are at risk for development of Pressure sores which can be life threatening. (Aparna B Raj, 2021). Nurses play<sup>7</sup> a major role in prevention of pressure ulcer as they are the ones who early recognize the

**Need of the study:** Amarjeet Singh (2015) had conducted a study on incidences of bed sore among the admitted patient in a tertiary care hospital in Chandigarh and revealed that the incidence of sore was maximum in Intensive Care Unit (9.4%) followed by Orthopedic Unit (8%), Emergency Wards (7.7%) and Neurosurgical Unit (6%). A bed sore incidence of 6% mandates and urgent need to improve the quality of patient care in various unit hospital. (Amarjeet Singh, 2015). Rosy Shrestha (2017) had conducted a study on knowledge and practices on bed sore prevention among staff nurses working in a selected hospital, Ludhiana, India and found that Staff nurses working in special unit had significantly better knowledge (72.92%) than the nurses in general ward (67.71%) as compared to their practice (53.49%) regarding bed sore prevention. Although 40% of overall staff nurses achieved an excellent level of knowledge, none of them crossed excellent level on practice. (Rosy Shrestha, 2017). A study was conducted by Nisha Shrestha to determine the knowledge of pressure ulcer management among nurses in Gandaki Medical College, Nepal and result showed that more than half of the nurses had adequate knowledge but there was still need of

education and training related to pressure ulcer management. (Nisha Shrestha, 2017)

**Problem statement:** A study to assess the effectiveness of planned teaching programme on knowledge regarding management and prevention of bed sore among the caregivers of patients in a selected hospital at West Bengal.

### Objectives

- To assess the level of knowledge regarding management and prevention of bed sore among the caregivers of patients.
- To develop planned teaching programme regarding management and prevention of bed sore among the caregivers of patients.
- To find out the effectiveness of planned teaching programme on knowledge regarding management and prevention of bedsore among the caregivers of patients.
- To find out the association between the post test knowledge scores with their selected demographic variables.

### Assumption

- The study assumes that the care givers of bed sore patients experience with Bed sore.
- Lack of knowledge in management and prevention of bed sore.
- Planned teachings programme is one of the acceptable methods in rendering knowledge.

### Variables

**Dependent Variable:** Level of knowledge among caregivers of patients.

**Independent Variable:** Planned teaching programme on management and prevention of bed sore.

### Operational definitions

- **Assess:** In the present study, assess refers to the way of finding the knowledge of employees regarding management and prevention of bed sore.
- **Knowledge:** In this study, knowledge before to the correct response from working employees regarding management and prevention bed sore as measured by post test knowledge score.
- **Effectiveness:** The term refers the extent to which the planned teaching programme has achieved the desire effect as measured by gain in knowledge score.
- **Planned teaching programme (PTP):** It refers to information providing pressure ulcer which include definition, causes, its sign and symptoms, stages, treatment, prevention, complication and nurses' responsibility.
- **Prevention:** Includes primary and secondary measures adopted to protect presents from developing pressure ulcer.
- **Pressure Ulcer:** It is localized are of tissue necrosis caused by unrelieved pressure, tissue layers sidling over other tissue layer, shearing and excessive moisture.

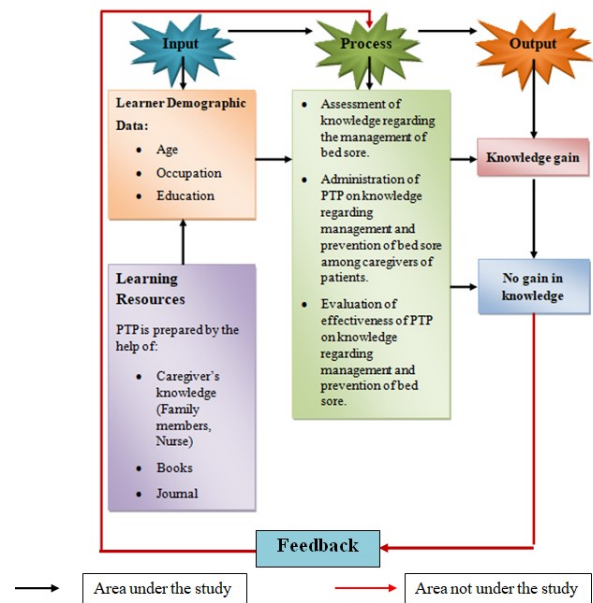
### Hypothesis

**H1:** There will be significant difference between the pre-test of post-test knowledge regarding management and prevention of bed sore.

**H2:** There will be significant association between post-test knowledge score with their selected demographic variables.

**Delimitation-** The study is delimited to care givers of bed sore patients.

### Conceptual framework



**Fig. 1. Conceptual framework of the effectiveness of planned teaching programme (PTP) to assess the knowledge regarding management and prevention of bed sore among the caregivers of patient**

Concept is defined as a complete mental formulation of an object property or an even that is derived from the individual's perception and experience.

### REVIEW OF LITERATURE

In view of present study, the related review literature has been done under following headings. Literature related to:

- Knowledge on pressure ulcer prevention.
- Knowledge on pressure ulcer management.

### Literature review related to knowledge on pressure ulcer prevention

**Jing Wu, Bangjus Wang, and Xiaoli Jia<sup>12</sup>(2014)** conducted a study on 'nurses' knowledge on pressure ulcer prevention and the tool scores on prevention knowledge among nurses and nursing students were (51.5%,95%. CI:45.8-57.2%) & (48.9%, 95% CI:42.5-55.2%), respectively as the age of the participant increased, the pooled score of pressure ulcer prevention knowledge increased significantly (P=0.028).

**Valentine Simonetti<sup>13</sup>(2015)** conducted a study on nursing student's knowledge and attitude on pressure ulcer prevention

evidenced based guidelines and the overall knowledge and attitude scores ulcer 51.1% (13.3/26) and 76.7% (39.9/52), respectively.

**Lithu et al. (2021)** conducted a cross-sectional study on intensive care nurses' knowledge, attitude and practice of pressure injury prevention in China. It was observed that Mean scores of participant's knowledge, attitude and their self report practice were 65.82 ±9.29, 76.65±8.62 & 83.35±13.55, respectively.

**Ya-Bin zhang et al. (2018)** conducted a cross sectional study in western China on knowledge, attitude and practice of nurses in ICU on preventing medical device related pressure injury. It was identified that the scores of overall KAP, knowledge, attitude and practice were 149.17±24.62, 53.83±12.23, 37.24±6.35 and 58.10±9.83 respectively.

**Pinar Arsar et al. (2013)** conducted a systematic review and meta analysis on repositioning for preventing pressure ulcers. The result of this systematic review indicates that more frequent repositioning and use of a training term reduce incidence.

**Werku Etafa Ebi, Getahun Fetensa Hirko, Diriba Ayala Mijena (2019)** conducted a cross sectional study on nurses knowledge to pressure ulcer prevention in Blic hospitals in Wollega. Analysis of the study displayed 91.5% had inadequate knowledge on pressure ulcer prevention.

**Nurhusien Nuru, Fisseha Zewdu, Senafikish Amsalu, Yohannes Mehretie<sup>20</sup>(2015)** conducted a study on knowledge and practice of nurses towards prevention of pressure ulcer and associated factors in Gondar University Hospital, Northwest Ethiopia. And revealed that nearly half (54.4%) of the nurses had good knowledge; similarly 48.4% of them had good practice on prevention of pressure ulcer.

**RosyShrestha<sup>21</sup>(2017)** conducted a study on knowledge and practices of bed sore prevention among staff nurses working in a selected hospital, Ludhiana, Punjab, India. It was identified that higher level of knowledge regarding bed sore prevention among nurses working in general ward was good (36.67%) whereas nurses working in specialized areas (53.33%) and overall (40.0%) had excellent knowledge.

**Werku Etafa, Zeleke Argaw, Endalew Gemechu and Belachew Melese (2018)** conducted a study on nurses attitude and perceived barriers to pressure ulcer prevention of the presence or absence of pressure ulcers has been generally regarded as a performance measure of quality nursing care and overall patient health. It was revealed that heavy workload and inadequate staff (lack of tie) (83.1%), shortage of resources/equipment (67.7%) and inadequate training (63.2%) were among the major barriers identified in the study.

**Jie Bai, Dan Wang, Xiaoping (2021)** conducted a study on the prevention of pressure ulcer for elder. The results of this thesis were that long-term bedridden elderly people had a high risk of developing pressure ulcers, but most pressure ulcers were preventable.

**May Stinson, Catherine Gillan, Alison Porter Armstrong (2013)** conducted a study on Weight Shift Activity, Cost of Pressure Care and Role of the Occupational Therapist.

Findings from the 24 articles included in the review, there was limited evidence evaluating the role of functional activity and weight shifts in reducing seated interface pressure. Limited evidence suggests poor concordance with weight shifts, with wheelchair users repositioning on average once every 1–2 hours.

**Sahar Dalvand et al.<sup>26</sup>(2018)** conducted a study on inadequate knowledge on pressure injury (PI) can have a detrimental effect on preventive care strategies. And revealed that in all three groups (nurses, assistant nurses and nursing students), the lowest knowledge scores were for prevention measures to reduce the amount of pressure/shear. The overall knowledge of nurses on PI prevention was lower than the recommended level (60%).

**Suellen Duarte de Oliveira Matos et al. (2023)** conducted a study on pressure injury prevention in older people construction and validation of an instrument for caregivers. This was a valid instrument in terms of content and appearance, which allows further analysis of its reliability for the measurement of the constructs for which it is intended.

**J A Ingwu et al. (2019)** conducted a study on caregivers' knowledge and practice toward pressure ulcer prevention in National Orthopedic Hospital, Enugu, Nigeria. Results revealed poor knowledge of 67.3% of caregivers on pressure ulcer prevention. Inadequate staffing 93.5%, heavy workload 92.9%, were highest perceived barriers to pressure ulcer prevention.

**Fathia A Marsal et al. (2014)** conducted a descriptive study to determine the caregivers knowledge and practice regarding preventing of immobilization complication in El. The study showed that nearly 50% of the care givers knowledge was unsatisfactory regarding pressure ulcer and in practice majority (80%) of them had poor practice in prevention of pressure sore.

**Mohammad Y N Saleh et al. (2019)** conducted a study on nurses' knowledge and practice of pressure ulcer prevention and treatment. The study addressed new factors, facilitating the provision of prevention and treatment strategies to PU development, including type of clinical institution and number of beds in clinical unit.

**Ulrika Kallman<sup>33</sup>(2015)** conducted a evaluatory study on repositioning in pressureulcer prevention in Netherlands and the study concluded that the interface pressure was significantly higher in 0 degree supine and 90 degree lateral position, compared to 30 degree supine tilt and 30 degree lateral position showed no difference. The study concluded that immobile-patients were particularly vulnerable to pressure sore, these patients needed to be re-positioned more frequently.

#### Literature review related to knowledge on pressure ulcer management

**1.Ivan Mwebaza (2014)** conducted a descriptive and cross sectional study on knowledge and practice regarding prevention and management of pressure ulcers at teaching hospitals in Uganda. The study showed that the nurses had limited knowledge (>40%) with mean low score of (13.2 out of 40) about critical parameters of pressure ulcer prevention.

**Somnath Saha et al. (2013)** conducted a qualitative analytical study on pressure ulcer treatment strategies, by comparing the effectiveness and safety of pressure ulcer treatment strategies. They found that moderate strength evidence that some interventions were associated with wound improvement, including the use of air filled beds, protein containing nutritional supplements, radiant heat dressing.

**2.Ebrahim Nasiri et al. (2021)** conducted a study on the risk of surgery related pressure ulcer in diabetes; a systematic review and meta analysis. The result showed that patients with diabetes were more likely to experience surgery related pressure ulcers than patients without diabetes.

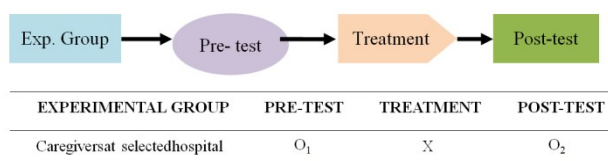
## RESEARCH METHODOLOGY

The content of this chapter includes, Research approach, Research design, Variables, Setting of the study, Population, Sample, Sample size, Sampling technique, Criteria for sample selection, Development and description of tools, Pilot study, Ethical consideration, Procedure for data collection, Plan for data analysis.

**Research approach:** Quantitative research approach.

**Research design:** Pre-experimental research design.

### One-Group Pre-test – Post-test Design



**O<sub>1</sub>:** Assessing the pre-test level of knowledge regarding management and prevention of bed sore among the caregivers of patients in a selected hospital at West Bengal.

**X:** Administering the planned teaching programme on management and prevention of bed sore to improve the level of knowledge among the caregivers of selected hospital, West Bengal.

**O<sub>2</sub>:** Assessing the post-test level of knowledge regarding management and prevention of bed sore among the caregivers of patients in a selected hospital at West Bengal.

### Variable

**Independent variable:** Planned teaching programme on management and prevention of bed sore.

**Dependent variable:** Level of knowledge among caregivers of patients.

**Demographic variable:** Demographic variables are age, occupation, educational qualification regarding bed sore.

**Setting of the study:** Durgapur Healthworld Hospitals, West Bengal

**Population:** Caregivers of patients with bed sore selected hospital..

**Sample size:** The sample sizes were 60.

**Sampling technique-** non-probability sampling technique.

### Sampling criteria

#### Inclusion criteria

- Caregivers who are available during data collection period.
- Caregivers who are willing to participate in the study.

#### Exclusion criteria

- Caregivers who are refuse to give informed consent.

#### Description of tool:

**Section A:** Section A consisted of demographic data of caregivers.

**Section B:** Structured Questionnaire and PTP to assess the effectiveness of Planned Teaching Programme on Management and prevention on bed sore. This section included 30 items of question. The entire item had 5 responses.

### Scoring Procedures

**Table 1. Representing the scoring procedure of structured questionnaire regarding level of knowledge score among the caregivers**

Level of Knowledge	Percentage of Score	Score
Very Poor	<20%	0–6
Poor	21–40%	7–12
Average	41–60%	13–18
Good	61–80%	19–24
Excellent	81%–above	25–30

### Content Validity of Tool

The tool was submitted to the experts for validation. According to the recommendations and suggestions of the experts modifications were incorporated.

**Reliability:** Split-half method was used to find out reliability. The tool was found to be highly reliable ( $r = 0.85$ ) for data collection.

**Pilot study:** No difficulty was faced by researcher.

**Ethical consideration:** Formal information was obtained from the caregivers of selected hospital.

### Procedure for data collection

- The data were collected from Health world Hospitals, Durgapur.
- Prior to data collection the investigators obtained formal written permission from selected hospitals.
- The investigator introduced with the participants.
- Informed consent was obtained from the.
- 60 participants were chosen from Healthworld Hospitals, Durgapur, West Bengal.
- Data collection was done for 30 days.

- Pre-test: Pre-test was conducted for experimental group. The time was allotted 30 minutes.
- Implementation of Planned Teaching Program: Immediately after taking pre-test the PTP on management and prevention of bed sore was shown to the caregivers of experimental group.
- Post-test: Evaluation was done after 7 days of implementation of PTP.

**Plan for data analysis:** The data collected in this study were analyzed by using inferential statistics.

## DATA ANALYSIS AND INTERPRETATION

### Objectives of the study

- To assess the level of knowledge regarding management and prevention of bed sore among the caregivers of patients.
- To develop planned teaching programme regarding management and prevention of bed sore among the caregivers of patients with bedsore.
- To find out the effectiveness of planned teaching programme on knowledge regarding management and prevention of bedsore among the caregivers of patients with bedsore.
- To find out the association between the post test knowledge scores with their selected demographic variables.

### Organization of the study

- **Section I:** Frequency and percentage wise distribution of data on demographic variables of Caregivers.
- **Section II:** Data on overall pre-test and post-test level of knowledge scores among Caregivers.
- **Section III:** Data on the knowledge scores among Caregivers by using closed ended knowledge questionnaire on selected sections related management and prevention of bed sore.
- **Section IV:** Data on effectiveness of planned teaching programme on knowledge regarding management and prevention of bed sore among the caregivers.

**Section I:** Frequency and percentage wise distribution of data on demographic variable of Caregivers.

**Table 2. Frequency and percentage wise distribution of data on demographic variables of Caregivers according to their age, sex, religion**

Demographic characteristics	Frequency	Percentage
n = 60		
Age(Years)		
25-35	16	26.6
36-45	18	30
46-55	17	28.3
56-60	9	15.0
Sex		
Male	37	61.6
Female	23	38.3
Religion		
Hindu	33	55
Muslim	25	41.6
Others	2	3.3

Table 2 revealed that 26.6% of Caregivers were in the age group of 25-35 years, 30% of Caregivers were from 36-45

years, 28.3% of Caregivers were from 46-55 years and 15% of Caregivers were from 56-60 years of age group. It is also revealed that 61.6% of caregivers were male, 38.3% of caregivers were female. It also revealed that 55% of caregivers were Hindu, 41% of caregivers were Muslim and 3% of Caregivers were from others religious belief.

**Table 3. Frequency and percentage wise distribution of Caregivers according to their education, any previous knowledge on management and prevention of bed sore**

Demographic characteristics	Frequency	Percentage
n = 60		
Education		
Matriculation	16	26.6
Illiterate	8	13.3
H.S	26	43.3
Graduation	10	16.6
Any previous knowledge		
If yes		
Books	10	16.6
Newspaper	15	25
Internet	15	25
Family member	15	25
Others	5	8.33
No	0	0

Table 3 and revealed that 26.6% of caregivers had Matriculation level of education, 13.3% of caregivers were Illiterate and 43.3% of Caregivers had passed HS and 16.6% of Caregivers had Graduate level of education. It also revealed that 100% of caregivers had the previous knowledge regarding management and prevention of bed sore. 16.6% of them got knowledge from books, 25% of caregivers got knowledge from newspaper, 25% of the caregivers got knowledge from internet, 25% of caregivers were get knowledge from family members and 8.33% of caregivers got knowledge from others.

**Section II:** Data on overall pre and post test level of knowledge score among of Caregivers regarding management and prevention of bedsore. Table 4: Overall comparison (frequency and percentage wise distribution) of level of knowledge of pre-test and post-test knowledge scores among Caregivers regarding management and prevention of bed sore. Table 4 showed that in experimental group maximum percentage (50%) of Caregivers had poor knowledge in pre-test and on the other side in post-test (31.66%) the Caregivers had average knowledge.

**Section III:** Item wise comparison of pre and post test level of knowledge score among of Caregivers regarding management and prevention of bedsore. Table 5: Itemwise comparison of pre-test and post-test knowledge scores among Caregivers regarding management and prevention of bed sore for correct response on meaning of bed sore. Table 5 showed itemwise comparison between pre-test and post-test level of knowledge scores for correct response on meaning of bed sore. It showed that during post-test the highest mean percentage (76.6%) of the caregivers responded correctly. The lowest post-test mean percentage (56.6%) of the caregivers regarding management and prevention of bedsore responded correctly. Table 6: Itemwise comparison of pre-test and post-test knowledge scores among Caregivers regarding management and prevention, causes and risk factors, signs & symptoms of bed sore for correct response on stages of bed sore. Table 6 showed itemwise comparison between pre-test and post-test level of knowledge scores for correct response on stages, risk factors & sign and symptoms of bed sore.

**Table 4. Overall comparison (frequency and percentage wise distribution) of level of knowledge of pre-test and post-test knowledge scores among Caregivers regarding management and prevention of bed sore.**

Level of knowledge	n = 60			
	Pre-test		Post-test	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Very poor	13	21.66	0	0
Poor	30	50.00	19	31.66
Average	17	28.33	36	60
Good	0	0	5	8.33
Excellent	0	0	0	0

**Table 5. Item wise comparison of pre-test and post-test knowledge scores among Caregivers regarding management and prevention of bed sore for correct response on meaning of bed sore**

Sl No	Item	n = 60				Effectiveness of PTP E=(Y-X) %
		Pretest		Posttest		
		Total no of correct responses	Mean(x%)	Total no of correct responses	Mean(Y%)	
1	What is bed sore	22	36.6	35	58	21.6
2	Which age group is more prone to bedsore	21	35	34	56	21.6
3	What is the most common site of bedsore	26	43.3	44	73	30
4	What is another name of bed sore	22	36.6	46	76.6	40
5	In prone position, which are the more common site	30	50	45	75	25
6	In sideline position, which are the more affected site	24	40	45	75	35

**Table 6. Itemwise comparison of pre-test and post-test knowledge scores among Caregivers regarding management and prevention, causes and risk factors, signs & symptoms of bed sore for correct response on stages of bed sore**

Sl No	Item	n = 60				Effectiveness of PTP E=(Y-X) %
		Pretest		Posttest		
		Total no of correct responses	Mean (x%)	Total no of correct responses	Mean(Y%)	
7	How many stages are present in bed sore	17	28.3	45	75	44.6
8	What is the change occur in first stage	20	33.3	37	61	28.3
9	In which stage Pus formation & foul smell occur	17	28.3	38	63	35
10	What is the cause of bed sore	18	30	34	56.6	26.6
11	Why friction occur with bed material	26	43.3	38	63.3	20
12	What is commonest risk factor of bed sore	18	30	39	65	35
13	What are the warning signs of bed sore	12	20	41	68.3	48.3
14	What will be the colour and appearance of skin in the bed sore	20	33.3	36	60	26.7
15	Which of the following factors can cause pain when a patient or resident has a pressure ulcer	19	31.6	43	71.6	40

**Table 7: Item wise comparison of pre-test and post-test knowledge scores among Caregivers regarding management and prevention of bed sore for correct response on Management and Prevention of bed sore**

Sl No	Item	n = 60				Effectiveness of PTP E=(Y-X) %
		Pretest		Posttest		
		Total no of correct responses	Mean(x%)	Total no of correct responses	Mean(Y%)	
16	Primary assessment of bed sore	24	40	32	53.3	13.3
17	What type of exercise should be effective for bed sore prevention	22	36.6	37	61.6	25
18	Inspection of skin & Bony prominence for bed sore	23	38.3	37	61.6	23.3
19	Which comfort devices, we should use to reduce pressure	19	31.6	36	60	28.3
20	Which care is implemented for prevent bed sore	17	28.3	38	63.3	35
21	What type of bed should be provided to prevent bed sore	17	28.3	45	75	46.7
22	Most Relevant preventive measure of bed sore	26	43.3	49	81.6	38.3
23	How many times position should be changed	19	31.6	43	71.6	40
24	Most effective & less costly dressing for bed sore	22	36.6	43	71.6	35
25	To facilitate debridement, which therapy is useful	17	28.3	39	65	36.7

**Table 8. Item wise comparison of pre-test and post-test knowledge scores among Caregivers regarding management and prevention of bed sore for correct response on Management and Prevention of bed sore**

Sl. No.	Item	Pre-test		Post-test		Effectiveness of PTP E = (y - x)%
		Total no. of correct response	Mean (x%)	Total no. of correct response	Mean (y%)	
26	At which stage the surgical procedure may require	22	36.66	40	66.66	30.00
27	Which surgical procedure is done in Stage- IV	16	26.66	40	66.66	40.00
28	In acute care, reassessment for pressure ulcer should occur how often	16	26.66	39	65.00	38.34
29	What is the Main complication of bed sore	22	36.66	45	75.00	38.34
30	Longterm non-healing, should may cause	18	30.00	43	71.66	41.66

n = 60

**Table 9. Comparison of mean, SD and mean(%) percentage of pre and post test level of knowledge score on management and prevention of bed sore**

Area	Pre-test		Post-test			Difference in mean% (y - x)	
	Mean	SD	Mean (x%)	Mean	SD		
Meaning of bed sore	2.51	2.71	41.83	4.1	4.21	68.33	26.5
Stages of bed sore	0.9	1.06	30.00	2.0	2.10	66.66	36.6
Causes and risk factor of bed sore	1.03	1.16	34.33	1.83	1.93	66.11	31.78
Sign and symptom of bed sore	0.85	0.95	28.33	2.03	2.13	67.77	39.44
Management and prevention of bed sore site	4.68	2.14	31.20	10.06	2.0	67.06	35.86
Overall	9.97	8.02	165.69	20.02	12.37	335.93	170.24

**Table 11. Association between post-test knowledge scores of caregivers regarding management and prevention of bed sore with demographic variables**

Demographic variables	Chi-square value	df	Table value	Level of significance
Age in Year	6.17	1	3.84	Significant
Sex	9.02	1	3.84	Significant
Religion	2.71	1	3.84	Not Significant
Education Qualification	4.58	1	3.84	Significant
Sources of information regarding bed sore	0.31	1	3.84	Not Significant

(P≤0.05)

It showed that during post-test the highest mean percentage (75.6%) of the caregivers responded correctly. The lowest post-test mean percentage (61.6%) of the caregivers regarding management and prevention of bedsore responded correctly. It also showed that during post-test the highest mean percentage (65%) of the caregivers responded correctly. The lowest post-test mean percentage (56.6%) of the caregivers regarding management and prevention of bedsore responded correctly. It also showed that during post-test the highest mean percentage (71.6%) of the caregivers responded correctly. The lowest post-test mean percentage (60%) of the caregivers regarding management and prevention of bedsore responded correctly.

Table 7 showed itemwise comparison between pre-test and post-test level of knowledge scores for correct response on Management and Prevention of bed sore. It showed that during post-test the highest mean percentage (81.6%) of the caregivers responded. The lowest post-test mean percentage (53.3%) of the caregivers regarding management and prevention of bedsore responded correctly. Table 8: Item wise comparison of pre-test and post-test knowledge scores among Caregivers regarding management and prevention of bed sore for correct response on Management and Prevention of bed sore.

Table 8 showed item wise comparison between pre-test and post-test level of knowledge scores for correct response on Management and Prevention of bed sore. It showed that during post-test the highest mean percentage (75%) of the caregivers responded correctly. The lowest post-test mean percentage (65%) of the caregivers regarding management and prevention of bedsore responded correctly. Areawise comparison of mean, SD and mean percentage of pre and post-test knowledge scores of caregivers regarding management and prevention of bed sore revealed that the highest pre-test mean score was 4.68 with mean percentage 31.20% for the area "management and prevention of bed sore site". The lowest pre-test mean score was 0.85 with mean percentage 28.33% for the area of "Sign and symptom of bed sore", 28.33% in management and prevention of bed sore. The post-test mean for the area "Meaning of bed sore, Stages of bed sore, Causes and risk factor of bed sore, Sign and symptom of bed sore, Management and prevention of bed sore site" was 4.1, 2, 1.83, 2.03, 10.06 with mean percentage 68.33%, 66.66%, 66.11%, 67.77%, and 67.06% and the mean difference percentage was 26.50%, 36.66%, 31.78%, 39.44% and 35.86% respectively which shows the effectiveness of Planned Teaching programme.

**Section IV:** Data on effectiveness of PTP on management and prevention of bed sore Hypotheses Testing. To assess the effectiveness of PTP regarding management and prevention of bed sore, hypothesis was tested by using paired 't' test and 'Chi-Square' test.

**H<sub>1</sub>:** There is significant difference between pre-test and post test knowledge of caregivers regarding management and prevention of bed sore.

**H<sub>2</sub>:** There will be significant association between pre-test knowledge scores with selected demographic variable.

Table 10 reveals that mean SD and paired 't' test value of knowledge score regarding management and prevention of bed sore in pre-test and post test. The obtained post test mean value 20 was higher the pre-test value 10.35 the mean difference between the pre- test and post test was 9.65 and the paired 't' value is 44.91 at 0.05 level of significant was highly significant the mean value of post test was significantly higher. Thus the null hypothesis is rejected and a statistical hypothesis was accepted. Chi square was calculated to find out the association between post-test knowledge scores of the care givers with their demographic variables. It was found that there was significant association between knowledge scores among caregivers regarding management and prevention of bed sore in post-test when compared to Age in Year, Sex, Religion, Education Qualification and Sources of information was not significance regarding bed sore.

## DISCUSSION AND CONCLUSION

### IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter presents the major findings of the study, discussion in relation with findings of the other studies, conclusion drawn, and implications of the study in nursing practice, nursing education, nursing administration and nursing research.

#### Major findings of the study

##### Findings related to sample characteristics of the caregivers of the bed sore patients

- A large number of samples (30%) were in between the age group of 36-45 years.
- Majority of samples (43.33%) had higher secondary level of education.
- Most of the samples (55%) were Hindu.
- Most of the samples (61.66%) were male.
- All the samples (100%) had previous experience and knowledge of bed sore.

##### Findings related to knowledge score of the caregivers of the bed sore patients

- The mean post-test knowledge score (20) of the caregivers of the bed sore patients was higher than the mean pre-test knowledge score (10.35).
- Median of the post-test knowledge score (22.5) was higher than median of the pre-test knowledge score (5.5).

- The pre-test knowledge score was dispersed with a standard deviation of 3.67 than post-test knowledge score (SD-3.31).

#### Findings related to the effectiveness of planned teaching programme regarding management and prevention of bed sore among the caregivers of patients

In order to find out the significant difference, paired t-test was applied between pre-test knowledge score and post-test knowledge score means. The mean difference (9.65) was found to be statistically highly significant as evident from 't' value (44.91,  $p < 0.05$ ). Hence null hypothesis was rejected and research hypothesis was accepted inferring that PTP was effective in improving the knowledge of the caregivers of the bed sore patients.

**Findings related to association between post test knowledge score of the caregivers of the bed sore patients and selected variables:** Statistically significant association was found between post-test knowledge of the caregivers of the bed sore patients with selected demographic variables like age, sex, educational qualification. No statistically significant association was found between post-test knowledge score of the caregivers of the bed sore patients with the demographic variable like sources, religion.

**Discussion in relation to other studies:** A discussion on the basis of the findings of the present study in relation to other studies is presented below:

Findings of the present study showed that the mean post-test knowledge score in all areas was significantly higher than the mean pre-test knowledge scores. The findings areas that using modified gain suggested that the post-test scores in all areas were higher than the pre-test scores. The analysis of the data using paired 't' test depicted that the caregivers of the bed sore patients gained knowledge on "management and prevention of bed sore" after administering planned teaching programme. So, it was proved that planned teaching programme on management and prevention of bed sore was effective in improving the knowledge of the caregivers of bed sore patients.

## CONCLUSION

From the study findings, it can be concluded, that the planned teaching programme on management and prevention among the caregivers of the bed sore patients were effective for increasing the knowledge on management and prevention techniques as the computed 't' value was significant at 0.05 level of significance. The chi-square tests were carried out to examine significant association between post-test knowledge of the caregivers of the bed sore patients and selected demographic variables. In most of the cases, significant associations were found except post-test knowledge of sources and religion of the caregivers. So it can be concluded from the study findings that the group was homogeneous as per their demographic characteristics. The statistically significant differences observed between pre-test and post-test knowledge were due to intervention under taken by the researchers.

#### Implications

The findings of the present study can be applicable in various areas of nursing practice, nursing education, nursing administration and nursing research.



## Limitations

### The study findings could not be generalized because of the following reasons

- The study did not use a control group hence exposing the findings to possible biasness
- No attempt was made to do the follow up to measure the practice in respondent's home situations
- No attempt was made to follow up the conditions of the patients

## Recommendations

On the basis of the findings of the study following recommendations were made farther research:

- A similar study could be replicated by using a larger sample with different demographic characteristics.
- Follow up study could be conducted to determine the effectiveness of planned teaching programme in terms of change in home practice.
- A similar study can be conducted on management and prevention techniques in forms of knowledge among the caregivers of bedsores patient.

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