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Original Research Article

A pre-experimental study to assess the effectiveness of structured teaching programme on knowledge regarding prevention of pressure ulcer among GNM internship student of era hospital, Lucknow

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ABSTRACT

Statement: A pre-experimental study to assess the effectiveness of structured teaching program on knowledge regarding prevention of pressure ulcer among GNM internship student of Era College of Nursing, Lucknow”.

Introduction: Maintaining the skin integrity is an important function of nursing. Nurses must use consistent planned observation and skin care measures to prevent abrasions and subsequent tissue breakdown. Impaired skin integrity is not normally a problem in healthy people but it is a threat to the elderly clients who have restricted mobility or chronic illness.¹

Objectives: (1) To assess the pretest knowledge regarding prevention of pressure ulcer among GNM internship students.(2) To assess the effectiveness of structured teaching programme regarding the prevention of pressure ulcer among GNM Internship students.(3) To compare the pre-test and post-test knowledge regarding the prevention of pressure ulcer among GNM Internship students.

Research Methodology: Approach: Quantitative Research Approach,

Design: Pre-experimental one group pre-test post-test design,

Setting: The study was conducted at Era College of nursing, Lucknow.

Population: GNM internship student-50 student.

Pre-assessment: The tool was developed by preparation of structured knowledge questionnaires content validity of the tool was established by giving to professional experts.

Intervention: Personal data was assessed by using demographic questionnaire, structured knowledge questionnaire was administered on 50 GNM internship students. Structured teaching program was administered on the same day to them.

Post-assessment: Structured knowledge questionnaire was administered after 7 days of administration of structured teaching programmed to assess its effectiveness.

Major Findings: The result of major findings indicated that students had inadequate knowledge in various aspects of pressure ulcer and its prevention STP was found to be very effective method of providing information regarding pressure ulcer and its prevention. The mean Post-test level of knowledge is significantly higher than score the mean pre-test knowledge scores “t”=P<0.02.

Interpretation & Conclusion: The study concluded the STP on pressure ulcer and its prevention was an effective method for providing moderate and adequate knowledge and help the students to enhance their knowledge to provide effective nursing care to clients and implication for clinical practices.

Implication for Clinical Practices: On the basis of findings, it is recommended that a similar study may be replicated issuing a large number of respondent. It is also recommended that other methods of teaching with frequents reinforcement be implemented for improving the knowledge of pressure ulcer and its prevention.

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1. Introduction

The important functions of the skin are to protect the underlying tissue and serve as a surface barrier to the external environment, barrier against invasion of bacteria and viruses and excessive water loss, fat insulates the body and provides protection from trauma, sensory perception for external stimuli, heat regulation, homeostasis by fluid and electrolyte balance, synthesis of vitamin D.^{1,2} The pressure level that closes capillaries in healthy people is 25–32 mm of Hg. When pressure applied to the skin is greater than this pressure in the capillary bed, it can impair cellular metabolism. It decreases blood supply to the tissue and eventually causes tissue ischemia, this reduction in blood flow causes blanching of the skin. The longer the pressure lasts, the greater is the risk of skin breakdown and development of pressure ulcer.^{3,4}

2. Need of The Study

“Constant attention by a good nurse may be just as important as major operation by a surgeon”⁵

Pressure ulcer affect the quality of life of patients and their care givers. Because the recurrence of pressure ulcer is common, the knowledge level of both nursing personnel and the patient in prevention techniques is extremely important. The nurse needs to know the etiology of pressure ulcer, prevention techniques, early signs, nutritional supports, and care techniques for actual pressure ulcer. It is suggested that a minority of hospital residents with stage 2 or higher pressure ulcer received wound care in accordance with the clinical practice guidelines.⁵

2.1. Statement

“ A pre-experimental study to assess the effectiveness of structured teaching program on knowledge regarding prevention of pressure ulcer among GNM Internship student of Era hospital, Lucknow.”

3. Aim of Study

The aim of the study is to provide knowledge regarding prevention of pressure ulcer among the GNM Internship students.

3.1. Objectives

1. To assess the pretest knowledge regarding prevention of pressure ulcer among GNM internship students.
2. To assess the effectiveness of structured teaching programme regarding the prevention of pressure ulcer among GNM Internship students.
3. To compare the pre-test and post-test knowledge regarding the prevention of pressure ulcer among GNM

Internship students.

3.2. Operational definition

1. *Assess* - To evaluate or estimate or to make a judgment about something. In this study, it is to evaluate the effectiveness of structured teaching programme on knowledge regarding prevention of pressure ulcer.
2. *Effectiveness*- Effectiveness is the capability of producing a desired result or the ability to produce desired output. In this study it is the degree to which structured teaching program in producing a desired result.
3. *Structured Teaching Programme*- It refers to organized teaching activity performed by the investigator or researcher with validated lesson plan to impart knowledge regarding the prevention of pressure ulcer which includes definition ,purpose ,etiology of pressure ulcer, prevention technique ,early signs ,nutritional support and care techniques
4. *Knowledge*- Knowledge is information and understanding about a subject which a person has. In this study it is specific information about prevention of pressure ulcer that is perceived, discovered or learned through structured teaching program.
5. *Prevention*-It includes primary and secondary measures adopted to protect patients from developing pressure ulcer.
6. *Pressure Ulcer*-It is localized area of tissue necrosis caused by unrelieved pressure, tissue layer sliding over the tissue layer shearing and excessive moisture.

3.3. Hypothesis

1. H_1 - There will be a significant difference between pre-test post-test result.
2. H_2 - There will be a significant effect of structured teaching programme on knowledge regarding prevention of pressure ulcer among GNM internship students working in Era hospital.
3. H_0 - There will be no significant effect of structured teaching programme on knowledge regarding prevention of pressure ulcer among GNM internship students.

3.4. Ethical consideration

1. Written permission will be obtained from concerned authority of the nursing college for conducting the study.
2. Written permission will be obtained from concerned authority of the hospital.
3. Consent will be taken from the sample and confidentiality of the sample will be maintained by giving code to them and not mentioning their name anywhere in the study.

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3.5. Conceptual framework

In this study the conceptual framework used will be based on Donabedian's theory.

According to this model, the information about the quality of care can be drawn from three categories:

1. Structure
2. Process
3. Outcome

3.5.1. Structure

1. Demographic variables like age, gender, working area of students (General or critical ward) and other additional educational exposure.
2. Preparation of structure teaching questionnaire regarding prevention of pressure ulcer.
3. To assess the existing knowledge regarding prevention of pressure ulcer.

3.5.2. Process

1. Preparation of structure teaching program.
2. Administration of structure teaching program regarding prevention of pressure ulcer.

3.5.3. Outcome

1. Assessment of post- test knowledge.
2. Comparison of result of pretest and post-test knowledge.

3.6. Research methodology

3.6.1. Research approach

Quantitative research approach

3.6.2. Research design

One group pre-test post-test pre-experimental research design.

3.6.3. Setting of the study

The study will be conducted in Era college of nursing, Lucknow.

3.7. Variables

3.7.1. Independent variables

- Structure teaching programme.

3.7.2. Dependent Variables

- Knowledge regarding prevention of bed sore.

3.7.3. Demographic Variables

1. Age
2. Gender
3. Other certified courses

4. Working area- General ward or critical ward.

3.7.4. Population

In this study the population will nursing students.

3.7.5. Sample

In this present study the sample will be GNM In internship students.

3.7.6. Sample size

In this study the sample size will be 50.

3.7.7. Setting

Era hospital

3.8. Criteria for sample selection

3.8.1. Inclusion Criteria

1. All the male and female students of GNM Internship
2. Students working in morning and evening shift
3. Students willing to participate in the research.

3.8.2. Exclusion criteria

1. Student working in night shift
2. Student who are not willing to participate

3.8.3. Sampling technique

Sampling technique will be Non probability convenient sampling.

3.8.4. Data collection tool

Structured knowledge questionnaire will be prepared to asses the knowledge regarding the prevention of bed sore.

The questionnaires will consist two sections

1. *Section 1:* Demographic variable
2. *Section 2:* Structured knowledge questionnaire regarding prevention of bed sore.

3.9. Research analysis and interpretation

This chapter deals with the analysis of the data obtained from the responses of the sample of 50 students of Era College of Nursing Lucknow.⁶⁻¹² This study was done with the objective to assess the pretest knowledge regarding prevention of pressure ulcer among GNM Internship students, to assess the effectiveness of Structured Teaching Program regarding prevention of pressure ulcer, to compare the pre-test and post test knowledge regarding prevention of pressure ulcer among GNM Internship students.

- *Section-1:* Findings on Demographic Characteristics of the Subjects

The section describes the characteristics of the subjects under study. The data obtained describes the sample

characteristics pertaining to their age group, gender, present area of working, additional educational exposure and previous knowledge of pressure ulcer. Frequency and percentage distribution of the sample by these characteristics are presented in table and pie diagrams.

Table 1: Frequency and percentage distribution of demographic characteristics of the subjects N=50

Sr. No.	Demographic Variables	Frequency Distribution(n)	Frequency Percentage (n %)
1	Age in years		
2	18-21	28	56
3	22-25	19	38
4	26-29	02	04
5	≥30	01	02
6	Gender		
7	Male	01	02
8	Female	49	98
9	Present area of working		
10	General wards	24	48
11	Triage & Emergency	08	16
12	Critical wards	18	36
13	Additional educational exposure		
14	Yes	15	30
15	No	35	70
16	Previous knowledge of the prevention ulcer		
17	Yes	42	84
18	No	08	16

3.9.1. Table 1 Revealed

- 56% of GNM internship students were aged between 18-21 years, 38% were aged between 22-25 years, 4% were aged between 26-29 years and remaining 2% ≥30 years.
- 98% Of subjects were female and remaining 2% of subjects were male.
- Majority 48% of the subjects had present area of working in general wards, 36% of the subjects had present area of working in critical wards and remaining 16% of the subjects had present area of working in triage and emergency.
- Majority 70% of subjects had additional educational exposure and remaining 30% of subjects had no additional educational exposure.
- Majority 84% of subjects had previous knowledge of pressure ulcer and remaining 16% of the subjects had no previous knowledge of pressure ulcer.

- Section-2:** Pre-test knowledge regarding prevention of pressure ulcer among GNM internship students.

a) Frequency, percentage and mean distribution of Pre-test knowledge about prevention of pressure ulcer among GNM internship students. N=50

Table 2:

Sr. No	Knowledge level	Frequency (n)	Percentage (%)	Mean	Standard Deviation
1.	Poor (0-11)	05	10%	19.32	4.83
2.	Average (12-22)	29	58%		
3.	Good (23-33)	16	32%		

Maximum score: 33

Minimum score: 0

3.9.2. Table 2 Revealed

- Frequency, percentage, mean and standard deviation of the knowledge regarding prevention of pressure ulcer among GNM Internship students.
- Majority 58% of GNM internship student had average knowledge.
- 32% of GNM internship student had good knowledge and remaining 10% student had poor knowledge before structured teaching program.

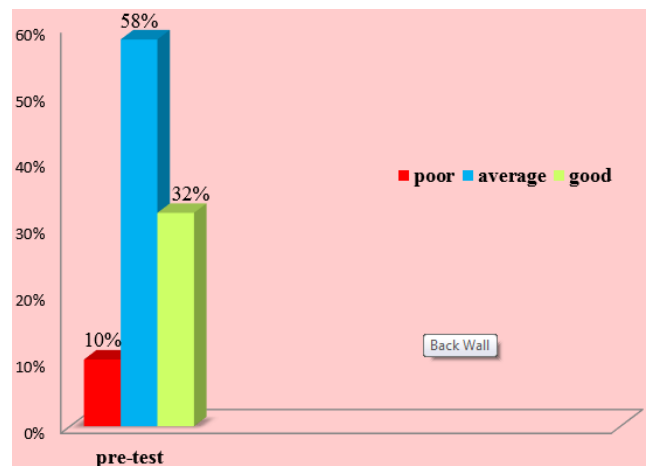


Fig. 1: Chart showing pre-test knowledge

- Section-3:** Post-test knowledge regarding prevention of pressure ulcer among GNM internship students.

a) Frequency, percentage and mean distribution of Post -test knowledge about prevention of pressure ulcer among GNM internship students

Table 3:

S. No	Knowledge level	Frequency (n)	Percentage (%)	Mean	Standard deviation (SD)
1.	Poor (0-11)	00	00%	23.94	4.63
2.	Average (12-22)	18	36%		
3.	Good (23-33)	32	64%		

Minimum Score- 00
Maximum Score -33

3.9.3. Table 3 Revealed

1. Frequency, percentage and mean distribution of the knowledge regarding prevention of pressure ulcer among GNM internship students.
2. The majority 64% of GNM internship students had good knowledge.
3. 36% of GNM internship students had average knowledge and none of the student had poor knowledge after structure teaching program.

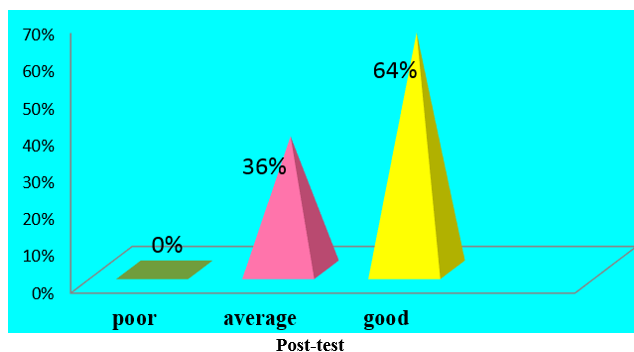


Fig. 2: Chart showing post-test knowledge

- *Section No.4:* Comparison between pre-test and post-test knowledge regarding prevention of pressure ulcer among GNM internship student.

Comparison between pre-test and post test knowledge among GNM internship students.

Table 4:

S. No.	Knowledge level	Mean	Standard Deviation (SD)	Degree of Freedom (df)	t value
1.	Pre-test	19.32	4.83	49	10.627*
2.	Post-test	23.94	4.63		

*= Significant at P > 0.02

Minimum score: 00
Maximum score: 33

Table 4 Revealed that the pre-test mean was 19.32 which was increased to 23.94 in post test. Pair t-test performed

to find them, difference between pre-test and post-test knowledge score. Calculated 't' value 10.62 was greater than that of table value, $p < 0.02$ and $df = 49$.

Thus, it could be inferred that gain of knowledge was not by chance but because of intervention.

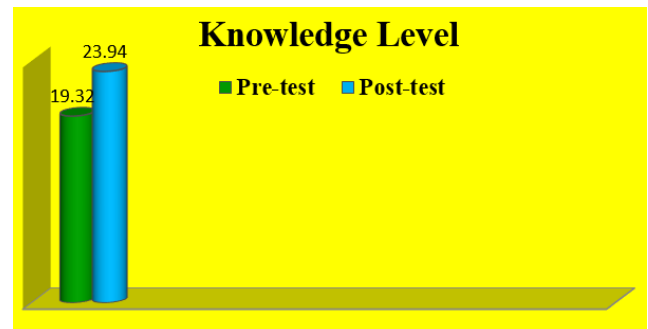


Fig. 3: Pretest post test knowledge level among GNM internship students

4. Discussion

Objective 1: To assess the effectiveness of structured teaching program regarding the prevention of pressure ulcer among GNM Internship students. Frequency, percentage and mean distribution of the knowledge regarding prevention of pressure ulcer among GNM internship students. The majority 64% of GNM internship students had good knowledge. 36% of GNM internship students had average knowledge and none of the student had poor knowledge after structure teaching program.

Objective 2: To compare the pre-test and post-test knowledge regarding the prevention of pressure ulcer among GNM Internship students. Findings of the study revealed that the pre-test mean was 19.32 which was increased to 32.93 in post test. Pair t-test performed to find them, difference between pre-test and post-test knowledge score. Calculated 't' value 10.62 was greater than that of table value, $p < 0.02$ and $df = 49$. Thus, it could be inferred that gain of knowledge was not by chance but because of intervention.

5. Summary

The present study was conducted to assess the knowledge regarding prevention of pressure ulcer among GNM internship students. A quantitative research design was adopted to conduct the present study. The study was conducted at Era college of nursing, Lucknow.¹³⁻¹⁸ By using Probability Simple Random technique 50 GNM Internship students of Era College of nursing, Lucknow was selected. To collect personal information of subjects socio demographic profile was used and to assess knowledge on prevention of pressure ulcer, self structured knowledge questionnaire were used.

5.1. Major findings of the study

Major findings of the study were-Sociodemographic variables of the study participants shows

1. 56% of GNM internship students were aged between 18-21 years, 38% were aged between 22-25 years, and 4% were aged between 26-29 years and remaining 2% \geq 30 years.
2. 98% Of subjects were female and remaining 2% of subjects were male.
3. Majority 48% of the subjects had present area of working in general wards, 36% of the subjects had present area of working in critical wards and remaining 16% of the subjects had present area of working in triage and emergency.
4. Majority 70% of subjects had additional educational exposure and remaining 30% of subjects had no additional educational exposure.
5. Majority 84% of subjects had previous knowledge of pressure ulcer and remaining 16% of the subjects had no previous knowledge of pressure ulcer.

5.2. Effectiveness of structure teaching program

Paired 't' test was computed to examine the mean difference in pre-test and post-test knowledge scores. Findings of the study showed there was increase in post test mean (23.94) as compared to pre-test mean (19.32). The calculated 't' value was 10.62. The obtained p value was >0.02 which was statistically significant at >0.02 level. The knowledge score was not obtained by chance but because of intervention.

5.3. Limitation

The study was limited to:

1. 50 GNM Internship students
2. The study was limited to GNM Internship students who were present at the time of data collection.
3. Those who were willing to participate in the study.

6. Conclusion

The present study revealed that there is proper identification problem related to knowledge of pressure ulcer among staff nurses that should be focussed. Structured teaching program was effective in increasing the knowledge about prevention of pressure ulcer among GNM Internship student. The mean post-test knowledge score (23.94) of GNM Internship students on knowledge regarding prevention of pressure ulcer was significantly higher than their pre-test knowledge (19.32) scores. Thus gain in knowledge was because of intervention.

7. Recommendation

Keeping in view of the present research study findings, the following recommendations have been made:

1. This study can be replicated by using convenient sampling in selection of a large sample.
2. A study can be conducted in terms of knowledge regarding prevention on pressure ulcer.
3. A study can be conducted to evaluate individual teaching program on knowledge regarding prevention of pressure ulcer.
4. A survey can be conducted to find out the prevalence of pressure ulcer.
5. Present study can be done on staff nurses working in critical wards.

8. Source of Funding

None.

9. Conflict of Interest

None.

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