



E-ISSN: 2663-2268
P-ISSN: 2663-225X
IJARMSN 2022; 4(2): xx-xx
Received: 23-11-2022
Accepted: 26-12-2022

Valmiki Pattannavar
Research Scholar, Shri Jagdish
Prasad Jhabarmal Tibrewala
University, Vidyanagari,
Jhunjhunu, Rajasthan, India

Dr. Meenaxi R Devangmat
Shri Jagdish Prasad
Jhabarmal Tibrewala
University, Vidyanagari,
Jhunjhunu, Rajasthan, India

International Journal of Advance Research in Medical Surgical Nursing

A study to evaluate the effectiveness of educational intervention on knowledge regarding pressure sore among basic BSc nursing students at nursing college, BIMS, Belagavi

Valmiki Pattannavar and Dr. Meenaxi R Devangmat

DOI: <https://doi.org/10.33545/surgicalnursing.2023.v5.i1a.115>

Abstract

Background of the study: A study, titled “A study to evaluate the effectiveness of educational intervention on knowledge regarding pressure sore among Basic BSc nursing students at nursing college, BIMS, Belagavi”, The poor blood flow to parts of body leads to ulcer at that areas. Immobility, unconscious, or unable to sense pain are the main reasons and has an effect on individual functions restricted to bed. It can lead to constant pressure. Pressure sores, an injury to the skin and underlying tissues occur as a result of direct unrelieved pressure of soft tissue against bones. It happens on areas of the skin that are under pressure from lying in bed, sitting in a wheelchair or wearing a cast for a prolonged time. A bedsore can become deep. It can extend into the muscle and bone. Once a bedsore develops, it is often very slow to heal. Depending on the severity of the bedsore, the person's physical condition, and the presence of other diseases (such as diabetes), bedsores can take days, months, or even years to heal. They may need surgery to help the healing process. Hence students play an important role in preventing pressure sores during clinical posting.

Results: The results of major findings indicated that, in pretest Basic BSc nursing students had inadequate knowledge in various aspects of pressure sore and its prevention. Educational intervention was found to be a very effective method of providing information regarding pressure sore and its prevention. The mean post-test level of knowledge is significantly higher than the mean pre test knowledge scores “t”=P<0.01. There was no significant association between the findings and the selected demographic variables.

In post-test knowledge score ranged from 40–46, whereas the pre-test knowledge scores ranged from 10-25. The mean post-test knowledge scores ($\chi^2 = 45.00$) was apparently higher than the mean pre-test knowledge score ($\chi^2 = 17.04$). The median of post-test knowledge score ($M_2 = 45.00$) was higher than the median of pre-test knowledge score ($M_1 = 17$). Calculated ‘t’ value (‘t’= 58.11, $p < 0.001$) is greater than table value, which represents the significant gain in knowledge, through the Educational intervention. Hence the hypothesis H_1 was accepted. Thus it suggests that the educational intervention has been effective in increasing the knowledge of Basic BSc nursing students about pressure sore and its prevention. The association of the knowledge scores of Basic BSc nursing students with their selected socio-demographic variables shows that, there is a no statistical significant relationship between gain in knowledge and personal characteristics like age, gender, professional education, experience, area of work. Hence the hypothesis (H_2) rejected.

Interpretation and Conclusion: The study concluded that the educational intervention on pressure sore and its prevention was an effective method for providing moderate to adequate knowledge and help students to enhance their knowledge to provide effective nursing care to clients.

Implications for clinical practices: On the basis of findings, it is recommended that a similar study may be replicated issuing a large number of respondents. It is also recommended that the other methods of teaching with frequent reinforcement be implemented for improving the knowledge of pressure sore and its prevention.

Keywords: Knowledge, evaluate, effectiveness, skin, pressure sore, friction, immobility, incontinence, contractures, hygiene, educational intervention

Introduction

The skin is the largest organ of the body. The skin and its derivatives (hair, nails, sweat and oil glands) make up the integumentary system. It protects the body from external factors such as bacteria, chemicals, and temperature.

Corresponding Author:
Valmiki Pattannavar
Research Scholar, Shri Jagdish
Prasad Jhabarmal Tibrewala
University, Vidyanagari,
Jhunjhunu, Rajasthan, India

The Maintenance of a glowing, healthy skin needs good personal hygiene, unpolluted environment, avoiding contact with chemicals, good eating habits and proper rest and sleep and peace and happiness. The skin has variety of functions as

- **Acts as a protective barrier:** The epidermis keeps bacteria and germs from entering your body and bloodstream and causing infections. It also protects against rain, sun and other elements.
- **Makes new skin:** The epidermis continually makes new skin cells. These new cells replace the approximately 40,000 old skin cells that your body sheds every day. You have new skin every 30 days.
- **Protects your body:** Langerhans cells in the epidermis are part of the body's immune system. They help fight off germs and infections.
- **Provides skin color:** The epidermis contains melanin, the pigment that gives skin its color. The amount of melanin you have determines the color of your skin, hair and eyes. People who make more melanin have darker skin and may tan more quickly [7].

An estimated 1.7 million patients develop pressure sores annually. Both prevention and treatment of pressure ulcers are costly in term of health care dollars and quality of life for patients at risk because the cost in term of pain and suffering for a person with pressure ulcer can't be quantified, the old saying "an ounce of prevention is worth a pound of cure" is particularly applicable to pressure ulcers [1].

Pressure sores and Pressure sores are health problems which has impact on health of Nation. In UK the treatment of pressure sore imposes a large financial and manpower burden [1].

Globally, PUs are recognized as one of the five most frequent causes of harm to clients. With millions affected globally, the national pooled prevalence of pressure ulcers in Ethiopia remains unknown. Hence, this review and meta-analysis aimed to determine the prevalence of pressure ulcers among hospitalized clients in Ethiopia. Nearly 29,000 hospital deaths happened. The pressure sore prevalence was 14.8% [2].

Bedsore can be a serious problem among frail older adults. In India Prevalence of pressure ulcer is reported to be 4.9% in a study conducted at university hospital. They can be related to the quality of care the person receives. If an immobile or bedridden person is not turned, positioned correctly, and given good nutrition and skin care, bedsore can develop. People with diabetes, circulation problems are at higher risk [1].

The most of the Bedsore often happen on the

- Buttocks area (on the tailbone or hips)
- Heels of the feet
- Shoulder blades
- Back of the head
- Backs and sides of the knees

Pressure sore is physiologically defined as a lesion on the skin surface that results in blistered, broken or necrotic skin. It has been reported that 1 out of 10 hospitalized patients and 25% of all nursing home patients have pressure sore in varying stages [3].

The bed sores. How serious they are depends on the amount

of damage to skin and tissue. A pressure sore (or Bed-sore) is an injury to the skin and tissue under it, and caused usually by unrelieved pressure. The constant pressure against the skin which reduces the blood supplies to that area and the affected tissue will be necrosed. A pressure ulcer starts as reddened skin but gets progressively worse, forming a blister, then an open sore and finally a crater [3].

Daideri G, Berthier F, Brocker P, had a survey to determine the prevalence of pressure sore or pressure sore in university hospital and to assess the risk of developing pressure sore. The Braden scale was used to measure the patients risk for the development of pressure ulcers. The total prevalence was 16.6%, 95% critically ill, the Braden scale score less than or equal to 15 was found in 29.1% of hospitalized patients [4].

Students use nursing process in order to plan and carry out nursing intervention. During the phase of planning, nurses prioritize needs giving importance to immediate and life threatening needs; patient safety needs patient's priority needs and lastly to nurse's priorities. Therefore as part of patient safety we are liable to protect the patient from complications resulting from neglected skin [5].

Jean G (2013) [5] mentioned in their studies that pressure sores are present in 6-13% of all the patients in acute care setting and up to 24% in residential nursing care. A prevalence of 40% has been reported in adult intensive care unit. Two-third of pressure ulcers occurs in patients over the age of 70. Pressure ulcer may complicate the individual at any age [5].

The prolonged low pressure is a greater risk than short term high pressure. Bereck (1978) cited five conditions that contribute to pressure sore. They are poor nutrition, aging process, motor paralysis, superficial sensory loss with absence of subjective awareness of pain and pressure.²

According to the Braden Scale for predicting pressure sore risk, the individuals scored according to the sensory perception, degree of moisture activity, immobility, rotation and friction [3].

Pressure sore or ulcer not only cost money but also cause other problems like add the length of stay at hospital. Initially, recovery and rehabilitation of patients who develop pressure ulcer is delayed secondly, feeling of failure, disappointment and guilt. When a pressure sore develops it often of neglect and mismanagement in the nursing care of patients. Thirdly untreated pressure sore will lead to systemic complications and nosocomial infection.

So the present study is an attempt to use the concept of preventive care, by giving educational intervention on pressure sore in hospitalized patients among BSc nursing students.

Objectives

1. To assess the knowledge regarding pressure sore among Basic BSc nursing students in nursing college, BIMS, Belagavi
2. To evaluate the effectiveness of Educational intervention regarding pressure sore among Basic BSc nursing students in nursing college, BIMS, Belagavi
3. To find the association between the knowledge regarding pressure sore among Basic BSc nursing students in nursing college, BIMS, Belagavi with selected socio demographic variables.

Hypothesis

H₁: There will be significant difference between pretest and post-test knowledge scores of subjects exposed to educational intervention on pressure sore

H₂: There will be significant association between post-test knowledge scores regarding pressure sore and selected demographic variables.

Methodology

Research Approach: Evaluative approach

Research Design: Quasi experimental design

Sampling technique: Probability; Simple Random

Sample size: 50

Setting of study: Nursing College, BIMS, Belagavi

Tool used for data collection: Following tools used for the data collection.

Part-I

Personal data consisting of 5 items which includes age, gender, other degree, monthly income, attended any in-service education programme, seminars, etc.,

Part-II

It consists of 40 items to assess the knowledge of BSc nursing students regarding pressure sore. It has four sections as mentioned below.

Section A: Consist of 6 items on general information regarding pressure sore.

Section B: Consist of 12 items on knowledge of Basic BSc nursing students regarding incidence of pressure sore.

Section C: Consist of 10 items on knowledge of Basic BSc nursing students regarding causes, diagnosis of pressure sore.

Section D: Consist of 12 items on knowledge of Basic BSc nursing students regarding pressure sore its prevention and management.

Procedure of data collection

Data was collected after obtaining administrative permission from Nursing college, BIMS, Belagavi. The investigator personally explained the participants the need and assured them of the confidentiality of their responses. Data was collected through knowledge questionnaires. The test was conducted based on their availability and convenience. Soon after the test, the learning intervention was administered.

Results

The findings related to socio-demographic variables of

participants

Part I: Frequency and percentage distribution of socio-demographic variables of participants

N=50

The Percentage wise distribution of sample according their age depicts that, Most of the subjects i.e. 48 (96%) were in the age group of 21-25 years; only two(4%) were above 26 years old.

Percentage wise distribution of Sample according to their other educational qualification that, majority subjects (92%) had no other qualification & (8%) had other than BSc Nursing qualification.

The Percentage wise distribution of sample according to their work experience reveals that, majority of subjects (46%) had ortho ward experience, (32%) of them were had 2 -6 year of surgery ward experience & (22%) had pediatric and other ward experience.

The Percentage wise distribution of sample according to their type of family reveals that, in rural area most of (80%) the subjects were Joint family and 20% of them were Nuclear.

The Percentage wise distribution of sample according to their source of information depicts that, in rural area most of (5%) the subjects getting from friends, 43% of them were getting information from mass media, 6% from others and 46% Basic BSc nursing students getting information from medical professionals.

Part II: Assessment of levels of knowledge regarding pressure sore among Basic BSc nursing students

Table 1: Range, mean, median & standard deviation of pre & post-test knowledge scores of Basic BSc nursing students on pressure sore and its prevention. N = 50

Test	Range	Mean	Median	Standard deviation
Pre-test	10 – 25	17.04	17	2.71
Post-test	40 – 46	45.00	45	1.13

Table-1 reveals that the Data in table – 3 represents that the post-test knowledge score ranged from 40 –46, whereas the pre-test knowledge scores ranged from 10-25. The mean post-test knowledge scores ($\chi^2 = 45.00$) was apparently higher than the mean pre-test knowledge score ($\chi^2 = 17.04$). The median of post-test knowledge score ($M_2 = 45.00$) was higher than the median of pre-test knowledge score ($M_1 = 17$).

Table 2: Mean, difference of mean, Standard Deviation and ‘t’ value of pre and post-test knowledge scores of staff nurses. N = 50

Group	Mean		Difference of mean	Standard deviation		‘t’ value paired	P value
	Pre-test	Post-test		Pre-test	Post-test		
BSc Nursing Students	17.04	45.00	27.96	2.71	1.13	58.11	$p < 0.001$

Table-2 reveals shows that computed ‘t’ value (‘t’= 58.11, $p < 0.001$) is greater than table value, which represents the significant gain in knowledge, through the Educational intervention. Hence the hypothesis H₁ was accepted. Thus it suggests that the educational intervention has been effective in increasing the knowledge of Basic BSc nursing students about pressure sore and its prevention

Table 3: Comparison of mean percentage and SD between pre-test and post-test in various aspects of prevention of pressure sore N=50

Sl No.	Area	Pre Test		Post Test			
		Mean	SD	Mean	SD	“t” value	P value
1	Knowledge	9.33	1.05	23.76	0.56	47.61	$p < 0.001$
2	Understanding	4.74	2.04	1.93	0.66	55.63	$p < 0.001$
3	Application	1.91	1.23	4.56	0.47	17.38	$p < 0.001$

Z = 5.81 (Table value = 1.96)

The data presented in the Table 3 depicts the shows that the mean knowledge scores of the pre-test were maximum in the area of knowledge (9.33) & minimum in the area of application (1.91). The mean knowledge scores of post-test were maximum in the area of knowledge (23.76) and

minimum in the area of application (4.56).

Mean difference between possible gain and actual gain is calculated and found to be least in the area of understanding. Knowledge (23.76) indicates that the gain in knowledge in this area was maximum comparing to other areas

Table 4: Relationship between post-test knowledge level and demographic variable on pressure sore and it's prevention.

Sl. No	Personal characteristics	Below median score	Above median score	χ^2	Level of Significance
	Age: 21-25	20	29	1.40	NS
	> 26	1	0	d.f. =1	
				p = 0.23	
	Gender				
	Male	12	11	1.80	NS
	Female	09	18	d.f. =1	
				p = 0.17	
	Type of family			1.23	NS
	Joint	16	11	d.f. =1	
	Nuclear	10	13	p = 0.26	
	Area of work			0.08	NS
	Medical	10	15	d.f.=1	
	Ortho pediatric Surgical	11	14	p=0.77	
	Previous	14	12	0.32	NS
	Information	11	13	d.f. =1	
				p = 0.57	

df: Degrees of Freedom NS: Not Significant

Table-4 reveals that the association of the knowledge scores of Basic BSc nursing students with their selected socio-demographic variables shows that, there is a no statistical significant relationship between gain in knowledge and personal characteristics like age, gender, other education qualification, type of family, area of work.& previous source of information. Hence the hypothesis (H_2) rejected.

Conclusion

On the basis of the findings of the study, the following conclusions are drawn:

- The findings showed that few of the subjects had Inadequate knowledge in the pre-test whereas all the subjects had adequate knowledge in post-test. The mean Post-test percentage scores and the modified gain scores in all areas were found to be high, the maximum gain was in the area of knowledge and minimum in the area of application.
- The 't' test, which was computed between pre-test and post-test knowledge scores, indicated a true gain in the knowledge. Hence it was concluded that educational intervention was effective as a method to improve knowledge among BSc nursing students.
- The association of the knowledge scores of Basic BSc nursing students with their selected socio-demographic variables shows that, there is a no statistical significant relationship between gain in knowledge and personal characteristics like like age, gender, other education qualification, type of family, area of work. & previous source of information. Hence the hypothesis (H_2) rejected.

Conflict of Interest

Not available

Financial Support

Not available

References

1. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/bedsores>
2. Wondimeneh Shibabaw Shiferaw, BMC dermatology; c2020.
3. Stein CJ, Colditz G. A Modifiable risk factors for cancer" British; c2004.
4. Dandona R, Mathur MR, Kumar GA, Dandona L. Improving Utility of Data on Cancer Mortality Risk Associated with Smokeless Tobacco: Recommendations for Future Research. Asian Pac J Cancer Prev; c2019. p. 581-588.
5. Jean G. pressure ulcer incidence in a palliative care; c2013. p. 31-42.
6. Daideri G¹, Berthier FP, Brocker M, *et al.*, Prevalence of pressure sores in a university hospital; c2003. p. 517-527.
7. Cleveland Clinic medical professional on 10/13/2021. Pages 14-19

How to Cite This Article

Valmiki P, Meenaxi RD. A study to evaluate the effectiveness of educational intervention on knowledge regarding pressure sore among basic BSc nursing students at nursing college, BIMS, Belagavi. International Journal of Advance Research in Medical Surgical Nursing. 2023;5(1):36-39.

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.