

A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED EDUCATIONAL PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING BRADEN SCALE FOR ASSESSING PRESSURE ULCER AMONG STAFF NURSES OF SELECTED HOSPITALS AT LUCKNOW, U.P.

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ABSTRACT

Introduction: Pressure ulcers are localized damage to the skin and underlying tissue that usually occur over a bony prominence as a result of pressure or pressure in combination with shear and friction. The most common sites are the skin overlying the sacrum, coccyx, heels or the hip, but other sites such as the elbows, knees, ankles, back of shoulders, or the back of the cranium can be affected. Pressure ulcer can be prevented by assessing the risk factors like poor blood circulation, immobility, poor nutrition, rubbing or friction. As a staff nurses, we have a great role in preventing pressure ulcer when the patient is bed ridden by position changing, maintaining their nutritional pattern, maintain good skin integrity and assessing the pressure points for early diagnosis of pressure ulcer. The use of Braden scale by staff nurses for predicting pressure ulcer risk was developed to foster early identification of patients at risk for forming pressure ulcers. The scale is composed of six subscales that reflect sensory perception, skin moisture, activity, mobility, friction and shear and nutritional status. **Objectives:** 1. To evaluate the Effectiveness of Structured Educational Programme on Knowledge regarding Braden Scale for assessing Pressure Ulcer among Staff Nurses. 2. To evaluate the Effectiveness of Structured Educational Programme on Practice regarding Braden Scale for assessing Pressure Ulcer among Staff Nurses. 3. To find the association between the level of knowledge and practice regarding Braden Scale for assessing Pressure Ulcer among Staff Nurses with their selected demographic variables. **Material and methods:** A pre-experimental, one group pretest post test research design was used for the study. Using the purposive sampling technique, 30 staff nurses were selected and the data was collected by administering the structured knowledge questionnaire and observational checklist on Braden scale for assessing pressure ulcer. After collecting data, the Structured Educational Programme was administered to the subjects on the same day and on 7th day; a post test was conducted using the same tools. The collected data was analyzed using the

descriptive and inferential statistics. **Result:** The findings of the present study showed that in the pre test, highest percentage i.e. 50% of staff nurses had average knowledge, 46.6% of staff nurses had poor knowledge whereas only one staff nurse i.e. 3.33% had good knowledge. In the post test, all staff nurses i.e. 100% had good knowledge. In pre test, highest percentage i.e. 86.6% of the staff nurses had average level of practice in performing Braden scale for assessing pressure ulcer, 10% of staff nurses had poor level of practice whereas only one staff nurse i.e. 3.33% had good level of practice of performing Braden scale for assessing pressure ulcer. In the post test, all staff nurses i.e. 100% had good level of practice and none had poor level of practice in performing Braden scale for assessing pressure ulcer. **Conclusion:** The study concluded that the Structured Educational Programme on Braden scale for assessing Pressure ulcer was effective for improving the knowledge and practice of the staff nurses.

Keywords: Effectiveness, Structured Educational Programme, Braden Scale for assessing Pressure ulcer and Staff nurses.

INTRODUCTION:

“Education is the most powerful weapon to improve clinical practice and patient outcomes.”

-Nelson Mandela

Nurses are the primary concerns in wound care. Patient should be assessed for pressure ulcer risk initially on admission and at periodic intervals based on the patient's condition and care setting. According to Bergstrom N., Braden B. J., & Holman V, the Braden Scale for predicting pressure ulcer risk was developed to foster early identification of patients at risk for forming pressure ulcers. The scale is composed of six subscales that reflect sensory perception, skin moisture, activity, mobility, friction and shear, and nutritional status. Reliability ranged from $r = 0.83$ to $r = 0.94$ for nurses' aides and licensed practical nurses; when used by registered nurses, the reliability increased to $r = 0.99$. This instrument has highly satisfactory reliability when used by registered.

Pressure ulcer also known as pressure sores, decubitus ulcers and bedsores and are now referred to as pressure injuries, pressure ulcers are localized damage to the skin and underlying tissue that usually occur over a bony prominence as a result of pressure or pressure in combination with shear and friction. The most common sites are the skin overlying the sacrum, coccyx, heels, or the hip, but other sites such as the elbows, knees, ankles, back of shoulders, or the back of the cranium can be affected. Pressure ulcer can be prevented by assessing the risk factors like poor blood circulation, immobility, poor nutrition, rubbing or friction. As a staff nurses, we have a great role in preventing pressure ulcer when the patient is bed ridden by position changing, maintaining their nutritional pattern, maintain good skin integrity and assessing the pressure points for early diagnosis of pressure ulcer. The use of Braden Scale by staff nurses for predicting pressure ulcer risk was developed to foster early identification of patients at risk for forming pressure ulcers. The scale is composed of six subscales that reflect sensory perception, skin moisture, activity, mobility, friction and shear, and nutritional status.

Around 1.7 million patients all over world develop pressure ulcer annually. There is variable incidence in occurrence of pressure ulcers amongst developed and developing countries, with an estimated incidence rate of 8.3% to 25.1% in developed countries and 2.1% to 31.3% in developing countries. There are multiple risk factors for the development of pressure ulcers/injuries which include advanced age, immobility, incontinence,

inadequate nutrition and hydration, neuro-sensory deficiency, medical device-induced skin pressure, multiple co-morbidities and circulatory abnormalities. The basic mechanism of the development of the pressure ulcers is increased pressure in the local capillaries which leads to the rupture of basic skin barrier. Depending on patient's severity of illness which results in significant immobility, even mild pressure may be sufficient to obstruct capillary blood flow and this can result in decreased oxygen delivery to the tissues and resultantly pressure ulcer can develop in a short span of 2 to 6 hours. We need to identify the patients who are at increased risk of pressure ulcer and deploy effective physical and medical measures to prevent its occurrence.

In India, the incidence rate of bed sores ranges from 0.4% to 38% and the prevalence rate of bed sores ranges from 3.5% to 69% in the inpatient departments. Preventing pressure ulcers has been a nursing concern for many years. In fact, Florence Nightingale in 1859 wrote, "If he has a bedsore, its generally not the fault of the disease, but of the nursing". Others view pressure ulcers as a "visible mark of caregiver sin" associated with poor or non-existent nursing care. The Braden Scale is one of the most commonly used tools to assess pressure ulcer risk in hospitalized and nursing home patients.

Data specific only to Uttar Pradesh is limited, but studies in Indian hospitals, including those in North India, show a significant pressure ulcer (PU) burden. The prevalence of pressure ulcers in hospitalised patients is high (4.94%). A study in Indian Intensive Care Units (ICUs) revealed a 5.3% incidence rate, with the sacral region being the most common site. Specific incidence rates for pressure ulcers (bedsores) in Gonda, Uttar Pradesh, are not available in public national health databases. However, regional studies in India indicate that the incidence of pressure ulcers in intensive care units (ICUs) is approximately 5.3% to 15%.

Need for the study

A pressure ulcer is defined as a localised injury to the skin and or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with sheer. Pressure ulcer also called as decubitus ulcers. The word decubitus comes from Latin which means to lie-down. Pressure ulcer develops when soft issue (skin, subcutaneous tissue and muscle) are compressed between a bony prominence and a firm surface for a prolonged period of time. If patients who are at risk of pressure ulcer are identified, effective measures will be taken to prevent its occurrence.

Pressure ulcer has been a significant problem because it is occurred in every healthcare setting such as hospitals, nursing homes, and hospice and even at homes. More than one million individuals develop pressure ulcers each year. It is estimated that 11% of residents in skilled-care and nursing homes facilities suffer from Pressure ulcers, 10% in acute care, and 4.4% in home care. In hospitals, the incidence of Pressure ulcers ranges from 2.7% to 29.5%. According to the journal, Pressure ulcers negatively affect a patient's quality of life and are associated with an increased incidence of medical complications, infection, and death. Every year an estimated 60,000 people die from complications related to Pressure ulcers. The Braden scale is a widely used pressure risk assessment tool with highly satisfactory reliability 0.99 when used by registered nurses. Present study focused on assessment of the knowledge level of staff nurses on prevention of pressure ulcer by using Braden scale. The purpose of the scale is to help health professionals, especially nurses, assess a patient's risk of developing a pressure ulcer. Many studies have shown positive correlation on identification and management of pressure ulcers by trained nursing staff. Nurses are the primary concerns in wound care. Patient should be assessed for pressure ulcer risk initially on admission and at periodic intervals based on the patient's condition and care setting.

However, there are few scattered studies in Uttar Pradesh that assessed Staff Nurses' knowledge and practice regarding Braden scale for assessing Pressure ulcer. This study will contribute to better understanding of the Staff Nurses' knowledge and practice regarding Braden scale for assessing Pressure ulcer and it will help in developing a plan of action to correct misconception toward knowledge and practice regarding Braden scale for assessing Pressure ulcer. So the researcher selected this study to improve the knowledge and practice regarding Braden scale for assessing Pressure ulcer among Staff Nurses.

STATEMENT OF THE PROBLEM

A study to assess the Effectiveness of Structured Educational Programme on Knowledge and Practice regarding Braden Scale for assessing Pressure Ulcer among Staff Nurses of selected hospitals at Lucknow, U.P.

OBJECTIVES OF THE STUDY

1. To evaluate the Effectiveness of Structured Educational Programme on Knowledge regarding Braden Scale for assessing Pressure Ulcer among Staff Nurses.
2. To evaluate the Effectiveness of Structured Educational Programme on Practice regarding Braden Scale for assessing Pressure Ulcer among Staff Nurses.
3. To find the association between the level of knowledge and practice regarding Braden Scale for assessing Pressure Ulcer among Staff Nurses with their selected demographic variables.

RESEARCH METHODOLOGY

Research Approach:

A quantitative approach was adopted to determine the research study.

Research Design:

Pre-experimental one group pre test post test design was used for the study.

Setting of the Study:

The setting of the study was Dr. Ram Manohar Lohia Hospital, Lucknow.

Target Population:

The target population for this present study includes Staff Nurses working in Dr. Ram Manohar Lohia Hospital, Lucknow.

Accessible Population:

The accessible population for the present study includes Staff Nurses working in the intensive care unit in Dr. Ram Manohar Lohia Hospital, Lucknow.

Sample Size:

The sample size of the present study was 30 staff nurses.

Sampling Technique:

Non probability purposive sampling technique was adopted for this study.

Inclusion criteria:

- Staff nurses who were working in the intensive care units.
- Staff nurses who were available during the period of data collection.
- Staff nurses who had at least 6 months of clinical experience.
- Staff nurses who were directly involved in patient care.

Exclusion criteria:

- Staff nurses who were not willing to participate in this study.
- Staff nurses who have already attended a similar educational programme on the Braden scale recently.

Variables of the Study:

I. INDEPENDENT VARIABLE

Structured Educational Programme regarding Braden Scale for assessing Pressure Ulcer.

II. DEPENDENT VARIABLE

Knowledge and practice of the staff nurses regarding Braden Scale for assessing Pressure Ulcer.

III. DEMOGRAPHICAL VARIABLES: Age, Gender, Professional qualification, Years of Clinical Experience and Previous knowledge on Braden scale for assessing Pressure ulcer.

Description of the Tool:

The tools used for the study consisted of three sections:

Part A- Demographic variable- Age, Gender, Professional qualification, Years of Clinical Experience and Previous knowledge on Braden scale for assessing Pressure ulcer.

Part B –Structured knowledge questionnaire to assess the knowledge of staff nurses regarding Braden Scale for assessing Pressure Ulcer.

Part C- Observational Checklist on Braden scale for assessing pressure ulcer.

RESULTS

Section A: Description of knowledge of staff nurses regarding Braden scale for assessing pressure ulcer:

The knowledge scores were assessed with a structured knowledge questionnaire and are presented in the form of tables and figures.

Table 1: Frequency and percentage distribution of knowledge of staff nurses regarding Braden scale for assessing pressure ulcer

N=30

Level of Knowledge	Range of Score	Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor	0-10	14	46.66	-	-
Average	11-20	15	50.00	-	-
Good	21-30	1	3.33	30	100.00

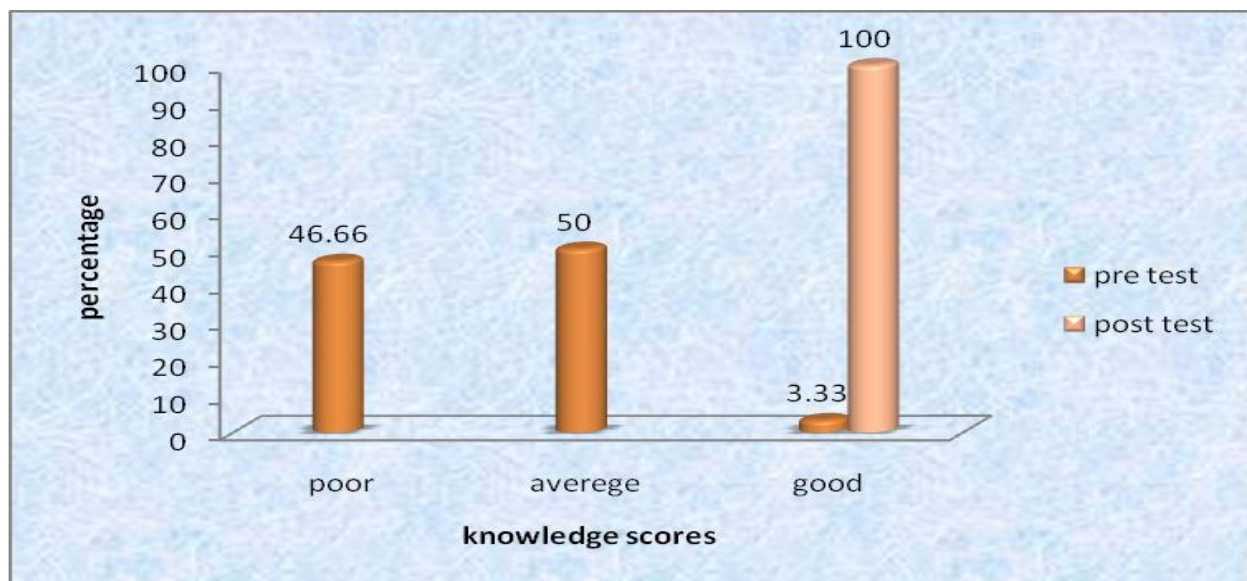


Figure 1: Cylindrical diagram represents the percentage distribution of staff nurses according to their pre-test and post-test knowledge scores

Data presented in the Table 1 and Figure 1 represents that, in pre-test, highest percentage (50%) of staff nurses had average knowledge, 46.66% of staff nurses had poor knowledge whereas only one staff nurse (3.33%) had good knowledge. In the post-test, all staff nurses, i.e., 100% had good knowledge.

Table 2: Range, mean, median and standard deviation of pre-test and post-test knowledge scores of staff nurses:

N=30

	Range	Mean	Median	SD	Mean Percentage
Pre-test	7-22	13.23	12.5	4.302	60.13
Post-test	25-30	28.50	29.0	1.140	95.10

Data in the Table 2 shows that the post-test knowledge range (25-30) was significantly higher than pre-test knowledge range (7-22). The data also depicts that the mean post-test knowledge score (28.5 ± 1.14) was higher than mean pre-test knowledge score (13.23 ± 4.302). The median value of post-test knowledge score (29) was higher than median value of pre-test knowledge scores (12.5).

SECTION B: Description of practice of staff nurses regarding Braden scale for assessing pressure ulcer

The practice scores were assessed with a observational checklist and are presented in the form of tables and figures

Table 3: Frequency and percentage distribution of practice of staff nurses regarding Braden scale for assessing pressure ulcer

N=30

Level of Knowledge	Range of Score	Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor	0-7	3	10.00	-	-
Average	8-15	26	86.66	-	-
Good	16-22	1	3.33	30	100.00

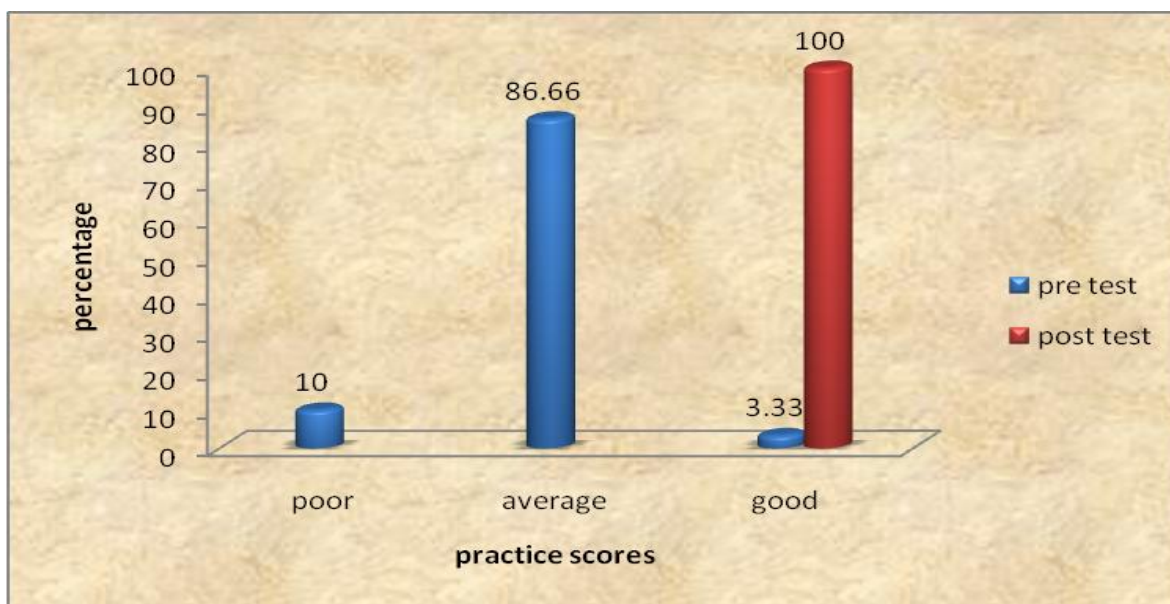


Figure 2: Cylindrical diagram represents the percentage distribution of staff nurses according to their pre-test and post-test practice scores

Data presented in the Table 3 and Figure 2 represents that, in pre-test, highest percentage (86.66%) of staff nurses had average level of practice in performing Braden scale for assessing pressure ulcer, 10% of staff nurses had poor level of practice whereas only one staff nurse (3.33%) had good level of practice of performing Braden scale for assessing pressure ulcer. In the post-test, all staff nurses, i.e., 100% had good level of practice and none had poor level of practice in performing Braden scale for assessing pressure ulcer.

Table 4: Range, mean, median and standard deviation of pre-test and post-test practice scores of staff nurses

N=30

	Range	Mean	Median	SD	Mean Percentage
Pre-test	7-17	11.63	11.5	2.40	68.41
Post-test	21-24	22.73	23.0	1.09	94.70

Data in the Table 4 shows that the post-test practice range (21-24) was significantly higher than pre-test practice range (7-17). The data also depicts that the mean post-test practice score (22.73 ± 1.09) was higher than mean pre-test knowledge score (11.63 ± 2.40). The median value of post-test knowledge scores (23) was higher than median value of pre-test knowledge scores (11.5).

Section C: Effectiveness of Structured Educational Programme regarding Braden scale for assessing pressure ulcer :

Comparison of pre-test and post-test knowledge scores of staff nurses regarding Braden scale for assessing pressure ulcer

To find out the significant difference between the pre-test and post-test knowledge score, paired 't' test was used. In order to test the statistical significance of difference between the mean pre-test and post-test score, the following null hypothesis was formulated:

H₀₁: The mean post-test knowledge scores of staff nurses regarding Braden scale for assessing pressure ulcer will not be significantly higher than that of the mean pre-test knowledge score at 0.05 level of significance.

Table 5: Mean, mean difference, standard deviation and ‘t’ values of pre-test and post-test knowledge scores

N=30

Parameters	Mean	SD	Mean Difference	‘t’ value	P value
Pre-test	13.23	4.302	15.3	18.804*	0.001
Post-test	28.53	1.14			

Table value: $t_{29}=2.048$, $p<0.05$

* Significant

The data in the Table 5 shows that the mean post-test knowledge score (28.53) was higher than the mean pre-test knowledge score (13.23). The calculated ‘t’ value (18.804) was higher than the table value ($t_{29}=2.048$) at 0.05 level of significance. Hence the null hypothesis H₀₁ was rejected and research hypothesis H₁ was accepted.

Comparison of pre-test and post-test practice scores of staff nurses regarding Braden scale for assessing pressure ulcer

To find out the significant difference between the pre-test and post-test practice scores, paired ‘t’ test was used. In order to test the statistical significance between the mean pre-test and post-test score, the following hypothesis was formulated:

H₀₂: The mean post-test practice scores of staff nurses on Braden scale for assessing pressure ulcer will not be significantly higher than that of the mean pre-test practice scores at 0.05 level of significance.

Table 6: Mean, mean difference, standard deviation and ‘t’ value of pre-test and post-test practice scores:

N=30

Parameters	Mean	SD	Mean Difference	‘t’ value	P value
Pre-test	11.63	2.40	11.1	16.71*	0.001
Post-test	22.73	1.09			

Table value: $t_{29}=2.048$, $p<0.05$ * Significant

The data in the Table 6 show that the mean post-test practice score (22.73) was higher than the mean pre-test practice score (11.63). The calculated ‘t’ value (16.71) was higher than the table value ($t_{29}=2.048$) at 0.05 level of significance. Hence the null hypothesis H₀₂ was rejected and research hypothesis H₂ was accepted.

RECOMMENDATIONS FOR FUTURE RESEARCH:

Based on the findings of the present study, the following recommendations are made:

1. Similar studies can be conducted with a larger sample size to improve the generalization of the findings.
2. The study can be replicated in different hospitals and healthcare settings such as ICU, medical wards, and surgical wards.
3. A true experimental study with a control group can be conducted to obtain more reliable results.
4. Long-term follow-up studies can be carried out to assess the retention of knowledge and practice after the structured educational programme.
5. Comparative studies can be done to evaluate the effectiveness of different teaching methods such as lecture, demonstration, and video-assisted teaching.
6. Regular in-service education programmes should be organized for staff nurses regarding pressure ulcer prevention and Braden Scale assessment.

CONCLUSION:

This study was conducted with the objective to evaluate the effectiveness of the structured educational programme regarding Braden scale for assessing pressure ulcer among staff nurses.

The following conclusions were drawn on the basis of the findings of the study.

- The pre-test findings showed that the highest percentage (50%) of the staff nurses had average knowledge and the highest percentage (86.66%) of staff nurses had average level of practice in performing Braden scale for assessing pressure ulcer.
- The Structured educational programme was effective in improving the knowledge and practice of staff nurses regarding Braden scale for assessing pressure ulcer.
- There was significant association of knowledge score with selected demographic variable and knowledge score ($\chi^2=7.1$, $p\leq 0.05$) and practice score ($\chi^2=8.45$, $p\leq 0.05$).

SOURCE OF FUNDING: NIL

CONFLICTS OF INTEREST: There are no conflicts of Interest.

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