

# A Study to Evaluate the Effectiveness of Structured Teaching Programme on Use of Braden Scale among Nurses at Tertiary Care Hospital, Karad

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**Abstract:** ***Introduction:** Pressure ulcers are a potential problem in intensive care patients, and their prevention is a major issue in nursing care. Pressure ulcers are the third most expensive disorder after cancer and cardiovascular diseases. **Objective:** To assess the existing level of knowledge and to determine the effectiveness of structured teaching programme on use of Braden scale among the nurses. **Methodology:** Evaluative approach with Quasi experimental one group pre test –post test design was used .50 sample was selected with simple random sampling technique, who are working in ICU of Tertiary Care Hospital, Karad. A pre-test related to use of Braden scale was followed by an planned health education for the duration of 45 minutes. Post-tests using the same questionnaire were conducted after 7 days. **Result:** The study results showed that , the structured teaching programme was effective in increasing the knowledge at the level of  $P<0.03$ . **Conclusion:** The study findings revealed significant difference after imparting structured teaching programme More than 50% of the nurses were found to have adequate knowledge regarding pressure ulcer prevention. The present study also recommended that there are obvious needs for educational programme to increase nurse's awareness of Braden Scale as predictive risk assessment of pressure ulcer.*

**Keywords:** Braden scale, Pressure ulcer, structured teaching programme, Nurses

## 1. Introduction

Pressure ulcers are common in acute and long-term care. However, critically ill patients usually have multiple risk factors for pressure ulcers.<sup>1</sup>

Pressure ulcers are a potential problem in intensive care patients, and their prevention is a major issue in nursing care.<sup>2</sup> They cause great pain and are a source of serious systemic disease in some and seriously impair health in other systems. They cause extra work for nursing staff and are also the cause of feelings of guilt and distress. They delay other patients care by a long stay in hospital, sometimes 10-12 weeks for a grade four pressure sore.<sup>3</sup>

The bedridden patients face various problems which include depression, nervousness poor hygiene and pressure ulcer. If there is a scenario that the nurse has to take care of more than five bedridden patients then the burden over the nurse's increase and she may miss some needs of all patients. Like wife in the care of care giver at home; if they have to take care of the patient as well as house hold works then there are chances to miss some needs of the patients due to lack of proper knowledge .The family care givers knowledge and practice regarding management of immobilized patients will enhance the quality of life of patients.<sup>4</sup>

Pressure ulcers or pressure sores not only cause suffering to the patients but also increases the workload on health care professionals. Pressure ulcers have been described as one of the most costly and physically debilitating complications in

the 20th century. Pressure ulcers are the third most expensive disorder after cancer and cardiovascular diseases. In addition, about 57–60% of all pressure ulcers occur within hospitals. Up to 13% of patients develop pressure sores while being treated in an intensive care units.<sup>5</sup>

Nursing research has remained in the fore front in building the knowledge base related to pressure ulcer prevention. The first step in pressure ulcer prevention is identifying those patients at risk for pressure ulcer development. The development of pressure ulcer prediction tools have made a significant difference in identifying those vulnerable adults at risk for pressure ulcer development.<sup>6</sup>

A pilot study conducted for nurses and care givers role in management and prevention of pressure ulcer on 2004. This study included 48 patients, their care givers and 40 staff nurses. Out of 48 patients a patients had pressure ulcer to reduce the pressure ulcers in hospitalized and home bedridden patients, nurses and care giver should know to assess the pressure area for ulcer and what step. They took to prevent 1 to 67.5% of nurses and care givers reported that they assess the area for any redness 10% of them reported to inspect the area for any discoloration; swelling, Itching 20% of nurses and care gives had no knowledge to assess the pressure ulcer area. The step taken the nurses and care givers to reduce pressure ulcer is change the position frequently remove the wrinkles of bed sheet use of air cosine, airings back care, cleanliness and massaging. Care of pressure points is a fundamental activity that many are unable to adapt preventive measures due to lack of fine and priority given to prevention of pressure ulcer.<sup>7</sup>

Volume 7 Issue 6, June 2018

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The above stated facts indicate the need for study primary nursing responsibility of identification of patients at risk for development of Pressure ulcer and implementing pressure ulcer prevention strategies for those identified at risk. The personal experience of the researcher during the clinical experience and above stated literatures lack of risk assessment performed by the staff nurses has inspired the investigator to do this study. So the investigator interested to assess the knowledge on Braden scale among students staff nurses working at tertiary care Hospital Karad. By placing the emphasis routine use and regular revision on use of Braden scale with regard to the implementation of pressure ulcer preventive measures should be recognized and addressed to achieve a change in practice as this type of studies can help staff nurses to update their knowledge and skills. Ultimately, it will improve the quality of services provided in the hospital<sup>(8)</sup>

## 2. Literature Survey

1. **S. A. A. Qalawa , A. B. A. El – Ata (2016)** : : A quasi-experimental research design was used. Convenience samplings were selected from available nurses worked in the selected setting as following and met selected criteria. It included 99 nurses in Port Said city at governmental hospitals from ICU and CCU, orthopedics, and medical units at port said general hospital, Elzohour, Port-fouad hospitals. Data were collected through using one tool contains 3 main parts developed by the researchers based on literature review & modified tool from *Registered Nurses' Association of Ontario (2006) and Ayello, 2004* as follows: *Part I*: includes Socio demographic data of nurses; *Part II*: includes nurse's knowledge regarding Braden scale and *Part III*: contains Observational checklist in using Braden scale. The study revealed a highly statistically significant difference were found between pre educational programme phase and post educational programme phase in relation to nurse's total scores of knowledge and practice of Braden scale as a predictive risk assessment of pressure ulcer.

2. **Nurhusien N., Fisseha Z., Senafikish A., Yohannes M (2015)** )<sup>†</sup> An institution-based cross-sectional survey was conducted from March 15 - April 10, 2014 among 248 nurses in Gondar University hospital North-west Ethiopia.. A pretested and structured self-administered questionnaire was used for data collection. Nearly half (54.4 %) of the nurses had good knowledge; similarly 48.4 % of them had good practice on prevention of pressure ulcer. Educational status [Adjusted Odds Ratio (AOR)=2.4, 95 % CI (1.39-4.15)], work experience [AOR=4.8, 95 % CI (1.31-10.62)] and having formal training [AOR=4.1, 95 % CI (1.29-9.92)] were significantly associated with knowledge on prevention of pressure ulcer. While, satisfaction with nursing leadership [AOR=1.9, 95 % CI (1.04-3.82)], staff shortage [AOR=0.07, 95 % CI (0.03-0.13)] and inadequate facilities and equipment [AOR=0.4, 95 % CI (0.19-0.83)] were found to be significantly associated with the practice on prevention of pressure ulcer.

3. **Pakhide V (2013)**: The sample for the study comprised of 30 staff nurses in selected hospital of Bhopal who met the inclusive criteria. Assessed pre-test knowledge level with

structured questionnaire, all the respondents had poor practice of pressure ulcer risk assessment and its prevention. Administered structured teaching program and post assessment was done. Results shows that the obtained 't' value is 22.06 showing the effectiveness of structured teaching program at 0.05 level and 0.01 levels of significance.

## 3. Research Methodology

**Research approach and design:** Evaluative approach with Quasi experimental one group pre-test-post-test design was used

**Study setting:** The study has been conducted in the intensive care unit of tertiary care hospital Karad.

**Sample and sampling technique:** 50 samples were selected with simple random sampling technique

### Inclusion Criteria

- 1) All the nurses working in ICU in tertiary care Hospital, Karad.
- 2) Nurses who are willing to participate in study.

### Exclusion criteria

- 1) Who those were absent during data collection

## 4. Development of Tool

In the study tool socio-demographic data and a structured knowledge questionnaire prepared. A planned health teaching plan was prepared on the topic of pressure ulcer risk and use of Braden scale. In the questionnaires demographic data consist of 5 items which were regarding participants age, Gender, Religion, Education and Experience. The structured knowledge questionnaire had 15 objective items that covered the content areas on Braden scale, objectives of Braden scale, categories, and scoring. Each item was awarded score 1' for the correct response and 0' for the wrong response.

To carry out the study, the necessary official approval was obtained from ethical committee of Krishna institute of medical sciences deemed to be university. Written informed consents were secured from each subject to participate after explaining the purpose, method and benefits of the study. The researcher emphasized that participation in the study is entirely voluntary, and confidentiality and privacy were assured through coding the data. The present study was conducted to find out the effectiveness of structured teaching programme on use of Braden Scale among Nurses

Questionnaires were validated and modified as per expert's suggestion. Pre-test was conducted on all nurses followed by structured teaching programme for 45 minutes and also clarified their doubts. After 7 days post-test was given with same questionnaires and data analyzed

## 5. Stastic Analysis

All collected data were entered in Microsoft excel sheet with demographical data and answers given by each participant to each item. The data obtained was analyzed in terms of the objective of the study using descriptive statistics. Descriptive inferential statistics was used to describe the study population in relation to relevant variables.

## 6. Result

### Section 1: Socio Demographic Variables of Participants (N=50)

**Table 1: Sociodemographic data of participants**

Demographic Variables	N	%
<b>Age</b>		
21-25	30	60
ABOVE 26	20	40
<b>Gender</b>		
F	36	72
M	14	28
<b>Religion</b>		
HINDU	34	68
OTHER	16	32
<b>Education</b>		
GNM	27	54
BSC/P.BSC	23	46
<b>Experience</b>		
< 1Y	13	26
2Y-4Y	29	58
>5Y	8	16

From the table it is revealed that ,out of 50 participants majority 30 (60%) had age ranged between 21-25 , 36 (72%) were female , 34 (68%) of them were Hindu in religion , 27 (54%) were having educational qualification of GNM and Most of participants were had 2-4 years of experience and all of them 50(100%) were working in ICU.

### Section II: Comparison of Pre-Test and Post-Test Level of Nurses' Knowledge on Use of Braden Scale

**Table 2: pretest posttest scores of staff nurses**

Description / Scores	Pre test		Post test		P value
	Frequency	Percentage	Frequency	Percentage	
Good (≥13 )	7	14%	18	36%	0.03
Average (12)	25	50%	16	32%	
Poor (≤11)	18	36%	16	32%	

Chi-square test was used to check the knowledge of staff nurses regarding on the use of Braden scale. For the 50 staff nurses who answered the questionnaire, the mean score was 12.1 (SD 1.13), with the highest score being ≥13 and the lowest score being ≤11. From the table 2 it can be observed that in Pretest, majority of participants 25 (50%) have average range of knowledge, followed by 18(36%) have poor range and minority 7(14%) have good knowledge about on use of Braden scale.

It is also revealed that, in Post test, majority of participants 18 (36%) scored in the range of good, followed by equal distribution of 16(32%) scored in the range of average and poor knowledge regarding on use of Braden scale. The t'

value was which showed t =6.93 and is significant at P<0.03 level. The analysis revealed that, the post test level of knowledge is higher than the pretest level of knowledge.

### Section III: Association of Pre-Test Score with Socio Demographic Variables

**Table 3: Pre-test score with socio demographic variables**

Demographic Variables	Pre Test Scores			chi-square	p value		
	Good	Average	Poor				
<b>Age</b>							
21-25	5	16	9	1.29	0.53		
Above 26	2	9	9				
<b>Gender</b>							
F	6	21	9				
M	1	4	9				
<b>Religion</b>							
Hindu	4	14	16				
Other	3	11	2				
<b>Education</b>							
Gnm	5	9	13				
Bsc/P.Bsc	2	16	5				
<b>Experience</b>							
< 1Y	2	7	4				
2Y-4Y	4	13	12				
>5Y	1	5	2				

Chi square test was used to compare categorical variables. the analysis revealed that in the present study ,significant association was found only with educational qualification (p< 0.05) and no significant association between other demographic variables such as age , gender , religion and year of experience (p>0.05) .Hence we conclude that there is no significant association between the pre test knowledge scores of nurses with socio demographic data.

## 7. Discussion

Although pressure ulcer development is now generally considered as an indicator for quality of nursing care, questions and concerns about situations in which they are unavoidable remain. Awareness about the significance of the problem, positive attitude towards prevention, and an adequate level of knowledge are cornerstones to effectively prevent pressure ulcers. <sup>(11)</sup> A findings of the study shows that there is significant improvement in knowledge on use of Braden scale after imparting structured teaching programme The t' value was which showed t =6.93and is significant at P<0.03 level.

In present study finding shows that there is significant improvement in knowledge on use of Braden scale after imparting structured *teaching programme*. Out of 50, in pretest 7 (14%) participants scored in the range of good (≥13), 25 (50%) in the range of average and 18 (36%) scored in range of poor after the structured teaching programme majority 18(36%) scored in the range of good and equitable distribution 16 (32%) in the range of average and poor. This was contrary to the findings from S. A. A. Qalawa (2016) <sup>(8)</sup> the study revealed highly statistically significant difference were found between pre educational programme phase and post educational programme phase in relation to nurse's total scores of knowledge and practice of Braden scale as a predictive risk assessment of pressure ulcer.

Similar findings was also reported by Pakhide V (2013) that significant relation found between structured teaching programs and knowledge level on prevention of pressure ulcer by using Braden scale. This type of studies can help staff nurses to update their knowledge and skills. Ultimately, it will improve the quality of services provided in the hospital.<sup>(10)</sup>

Further it was observed that ,on the basis of association of pretest score with educational background the analysis revealed that in the present study ,significant association was found with educational qualification ( $p < 0.05$ ). These findings contradict previous reports of R. E . Ilesanmic (2012). comparable scores between nurse auxiliaries and BSN nurses on knowledge on pressure ulcer risk where there is some difference between educational level and knowledge of use of braden scale but the differences were not statistically significant, suggesting that educational level in Nigerian nurses does not predict knowledge of PU preventive interventions. Therefore, a focused educational Program is needed in this area of care<sup>(13)</sup> .These studies suggesting that structured educational approach is needed to enable nurses to provide evidence-based Pressure ulcer prevention interventions such as use of Braden scale .

In the present study nurses working in ICU are included and analysis revealed that there is a statistically significant difference was found between pretest and post test in relation to nurse's total scores of practice of Braden scale as predictive risk assessment of pressure ulcer Observation in our study is comparable with a study done by S. A. A. Qalawa<sup>(8)</sup> Furthermore, almost all nurses working in the ICU of Trauma unit and / or Neurology Department of Assiut University Hospital are in great need to develop and maintain their knowledge and skills in relation to the care for immobilized patients as regards the identification, prevention and management of bed sores. Based on their results of the implementation phase, it has been observed that nurses' age mostly ranged from 20 to 25 years with a mean duration of experience of  $25.4 \pm 11.6$  months. Results of the analysis before program implementation (pretest) showed very low level of knowledge and practices as regards the identification, prevention and management of bed sores. This might be related to the lack of scientific preparation of nurses.(Mohamed et al, 2003)

In the present study after imparting structured teaching programme the t' value was which showed  $t = 6.93$  and is significant at  $P < 0.03$  level similar findings found in study conducted by V Pakhide (2013)<sup>(10)</sup>, the obtained 't' value is 22.06 showing the effectiveness of structured teaching program at 0.05 level and 0.01 levels of significance.

In addition, there was no statistical significant difference in mean knowledge score between age groups, gender, and significance relation to patients among caregivers in pre test and post test. While there was a statistical significant difference in mean knowledge score regarding educational level of caregivers in pre test and post test. Same findings was found in study conducted by K.F Alhosis (2012)<sup>(12)</sup>

## 8. Conclusion

The main aim of the study is to evaluate the effectiveness of structured teaching program on prevention of pressure ulcer by using Braden scale among nurses at tertiary care Hospital, Karad. The study findings revealed significant difference after imparting structured teaching programme More than 50% of the nurses were found to have adequate knowledge regarding pressure ulcer prevention. Thus study found that implementation of educational program is highly effective in improving knowledge and practice of nurses in critical units. The present study also concluded that there are obvious needs for educational programme to increase nurse's awareness of Braden Scale as predictive risk assessment of pressure ulcer.<sup>(14)</sup>

## 9. Recommendations

On the basis of the findings of the study, it is recommended that the following study can be undertaken to strengthen quality of nursing care;

- Similar study can be replicated on a large sample.
- A comparative study can be conducted among the staff of different wards with same setting.
- Similar study should be conducted randomly on the regular basis.

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**Volume 7 Issue 6, June 2018**

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