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A Study to Assess the Effectiveness of Structured Teaching Programme Regarding Use of Braden Scale In Prevention of Pressure Sores in Terms of Knowledge among Staff Nurses at Selected Hospital, District Hisar (Haryana)

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Abstract: ***Introduction: 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. Objectives: To evaluate the effectiveness of structured teaching program on knowledge regarding use of Braden scale in prevention of pressure sores among staff nurses. Methodology: A Pre-experimental study was conducted among 60 staff nurses in selected hospital of district Hisar, Haryana. Self-structured knowledge questionnaire was used to collect the data. Result: The result shows that in the pre-test 44 (73.3%) of staff nurses had good knowledge scores and 16 (26.7%) of the staff nurses had fair knowledge scores. None of the staff nurses had poor and very good knowledge score. In the post-test 58 (96.7%) of staff nurses had very good knowledge scores and 02 (3.3%) of the staff nurses had good knowledge scores. The result reveals that the structured teaching programme was effective in increasing the knowledge of staff nurses regarding use of Braden Scale in prevention of pressure sores. There is significance association between the pre-test knowledge score level and Age of staff nurses. Conclusion: The study findings provide the statistical evidence which clearly indicate that Structured Teaching Programme has significant effect on the level of knowledge in Staff nurses.***

Keywords: Pressure sore, knowledge, structured teaching, Braden Scale, staff nurses

1. Introduction

Pressure ulcers are the third most expensive disorder after cancer and cardiovascular diseases.[1] An estimated 1.7 million patients develop pressure ulcers 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. (Brunner and suddarth 2004).[2]

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 (NPUAP, EPUAP 2014).[3]

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.[4]If patients who are at risk of pressure ulcer are identified, effective measures will be taken to prevent its occurrence.[5]Nurses' knowledge and attitude are also viewed as extrinsic factors for pressure ulcer formation.[6]

In April 2016, the National Pressure Ulcer Advisory Panel (NPUAP) replaced the term "pressure ulcer" with "pressure injury" in the National Pressure Ulcer Advisory Panel Injury Staging System to reflect injuries to both intact and ulcerated skin. In the previous staging system, Stage 1 and "deep tissue injury" described injured intact skin, while the other stages described open ulcers. This led to confusion, because the definitions for each of the stages referred to the injuries as "pressure ulcers."[8]

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.[9] Preventing pressure ulcers has been a nursing concern for many years. In fact, Florence Nightingale in 1859 wrote, "If he has a bedsore, it's 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.[10]

The Braden Scale is one of the most commonly used tools to assess pressure ulcer risk in hospitalized and nursing home patients.[11]

The Braden Scale was developed by Bergstrom et al, in 1987, as a means to optimize prevention strategies and reduce the incidence of pressure ulcer. The Braden scale used for predicting pressure ulcer risk is composed of six subscales intended to measure the clinical determinants of either intense and prolonged pressure (Activity, Mobility, Sensory perception) or tissue tolerance to pressure (nutrition, moisture, friction and shear). Each subscale includes a title, and each subscale and each level has a key concept descriptor and a one-or-two phrase sentence descriptor of qualifying attributes. Five of the subscales are rated from 1 (least favourable) to 4 (most favourable). The friction and shear subscale is rated from 1 to 3. A total of 23 points is possible. A lower numerical score means the patient is at higher risk for developing pressure ulcer. The purpose of the scale is to help health professionals,

especially nurses, assess a patient's risk of developing a pressure ulcer.[12]

Despite great advance in 21st century medicine the problem of Bedsore is an important as a couple of dozen years ago. Knowledge of Bedsores, causes, mechanism of development, risk factor evaluation, and prevention measures necessary to treat effectively them.[13]

Literature Survey

Pritha Sarkar. (2018) conducted a research aimed at finding the effectiveness of structured teaching programme related to Braden scale assessment on knowledge among staff nurses. The study findings conclude that an exposure to a good structured teaching programme on Braden Scale Assessment could improve the knowledge of the staff nurses to score Braden Scale correctly, in spite it was implemented in Nursing Assessment chart.[14]

Satish B Nadagaddi. et. al. (2016) conducted a pre experimental study to assess the effectiveness of individual structured teaching programme on use of Braden scale for predicting pressure sore risk for bed fast patients among staff nurses at selected hospital of bijapur. The study concluded that majority of staff nurses had Inadequate level of knowledge & practice towards use of Braden scale for predicting Pressure sore risk for bed fast patient, so there is a greater need to educate the staff nurses through mass education programme, seminar, workshop and in-service education programme.[15]

Mohini Jagtap, Sunita Tata, Simi Elsa Philip. et. al. (2016) conducted a study to assess the existing level of knowledge and to determine the effectiveness of structured teaching programme on use of Braden scale among the nurses.The present study also recommended that there are obvious needs for educational programme toincrease nurse's awareness of Braden Scale as predictive risk assessment of pressure ulcer.[16]

Vandana Pakhide (2013) conducted an evaluative study to evaluate the effectiveness of structured teaching program on prevention of pressure ulcer by using Braden scale among staff nurses working in selected hospital of Bhopal. The study concluded that there was 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.[17]

2. Materials and Methods

This was a pre-experimental study (one group pre-test post-test design) conducted among 60 staff nurses in selected hospital of district Hisar, Haryana. Self-structured knowledge questionnaire was used to assess knowledge level.

Statistical analysis

The collected data was statistically analysed by using SPSS 23 vs. programme. Frequencies, percentage, mean, median, standard deviation was used to assess the knowledge regarding use of Braden scale. Paired t test was used to evaluate the effectiveness of planned teaching programme and chi square was used to find the association between variables.

3. Result

The collected data were analysed, tabulated and presented under the following sections:

Section A: Description of demographic variables of the sample

Table 1: Frequency and Percentage distribution of Sample Characteristic

Variables	*Option*	*percentage*	*Frequency*
Age	21-31 years	83.3%	50
	31-41 years	13.3%	8
	41-51 years	1.7%	1
	More than 51 years	1.7%	1
Professional Education	Diploma in Nursing	51.7%	31
	Bachelor of Nursing	41.7%	25
	Master of Nursing	6.7%	4
Area of Practice	Medical/ Neuro-medicine	25.0%	15
	Surgical/ Neuro-surgery	23.3%	14
	Orthopaedics	16.7%	10
	ICU/CCU	35.0%	21
Clinical Experience	Less than 1 year	6.7%	4
	1-5 years	53.3%	32
	6-10 years	35.0%	21
	More than 10 years	5.0%	3
Formal Training	Yes	43.3%	26
	No	56.7%	34
Previous use of Braden Scale	Yes	38.3%	23
	No	61.7%	37
In Service Educational Programme Attended	Yes	26.7%	16
	No	73.3%	44

Section B- Assessing the pre-test level of knowledge among staff nurses regarding use of Braden scale in prevention of pressure sores.

Table 2: Frequency and Percentage distribution of pre-test knowledge score of staff nurses, N=60

Level of knowledge	*Range of Scores*	*Pre- test*	
		Frequency	*%*
Poor	0-7	00	00
Fair	8-14	16	26.7
Good	15-21	44	73.3
Very Good	22-28	00	00

Section C- Assessing the post-test level of knowledge among staff nurses regarding use of Braden scale in prevention of pressure sores.

Table 3: Frequency and Percentage distribution of post-test knowledge score of staff nurses

Level of knowledge	*Range of Scores*	*Post- test*	
		Frequency	*%*
Poor	0-7	00	00
Fair	8-14	00	00

Good	15-21	02	3.3
Very Good	22-28	58	96.7

Section D- Evaluating the effectiveness of structured teaching programme among staff nurses regarding use of Braden scale in prevention of pressure sores.

Part-I: Comparison of frequency distribution of pre-test and post-test knowledge scores
N=60

Level of knowledge	*Range of Scores*	*Pre - test*		*Post- test*	
		Freq.	*%*	*Freq.*	*%*
Poor	0-7	00	00	00	00
Fair	8-14	16	26.7	00	00
Good	15-21	44	73.3	02	3.3
Very good	22-28	00	00	58	96.7

Table -4 shows that 96.7% of the sample had very good knowledge and 3.3% had good knowledge regarding use of Braden Scale in prevention of pressure sores in the post test. Whereas in the pre-test 73.3% had good knowledge and 26.7% had Fair knowledge.

Part-II: Comparison of descriptive Statistics of pre and post- test knowledge scores

Paired T- test	*Pre- test*	*Post- test*
Mean ± S.D.	16.32±2.63	26.58±1.441
Median score	17	27
Mean%	58.30	94.90
Range	11-21	21-28
Mean Diff.	10.260	
Paired T Test	41.88*Significant	
P value	<0.001	
Table Value at 0.05	2.00	

** Significance Level 0.05
Maximum=28 Minimum=0

Table -5 shows that the overall post-test mean (26.58) was higher than pre –test mean (16.32), the post-test SD (1.441) was lower than pre-test SD (2.63), post-test median score (27) was higher than pre –test median score (17) and post-test mean % (94.90) was higher than pre –test mean % (58.30) with mean difference of 10.260. 't' value was computed to find the level of significance between the means and it was greater than table value at 0.05 level of significance, which shows that there is significant difference between pre-test and post-test level of knowledge scores regarding use of Braden Scale in prevention of pressure sores among staff nurses.

Section E- Association of pre-test knowledge score of staff nurses with their selected demographic variables.

Variables	*Options*	*Very good*	*Good*	*Fair*	*Poor*	*Chi Test / P Value*	*Table value*
Age	21-31 years		36	14	0	**8.455/**	**7.815***
	31-41 years		8	0	0		
	41-51 years		0	1	0	***P Value:*** 0.037	
	More than 51 years		0	1	0		
Professional Education	Diploma in Nursing		24	7	0	1.401/	5.991
	Bachelor of Nursing		18	7	0		
	Master of Nursing		2	2	0	***P Value:*** 0.496	
Area of Practice	Medical/ Neuro-medicine		11	4	0	5.942/ ***P Value:*** 0.114	7.815
	Surgical/ Neuro-surgery		8	6	0		
	Orthopaedics		6	4	0		
	ICU/CCU		19	2	0		
Clinical Experience	Less than 1 year		3	1	0	1.619 / ***P Value:*** 0.655	7.815
	1-5 years		24	8	0		
	6-10 years		14	7	0		
	More than 10 years		3	0	0		
Formal Training	Yes		19	7	0	0.002/ ***P Value:*** 0.969	3.841
	No		25	9	0		
Previous use of Braden Scale	Yes		17	6	0	0.006/ ***P Value:*** 0.936	3.841
	No		27	10	0		
In Service Educational Programme Attended	Yes		11	5	0	0.234/ ***P Value:*** 0.628	3.841
	No		33	11	0		

* Significant at 0.05 level

Table- 6shows that the association between the pre-test knowledge score and selected socio demographic variable. Chi-square test was used to associate the level of knowledge scores and selected demographic variables. The calculated Chi-square value (8.45) was greater than table value (7.815) which shows that there is significance association between the pre-test knowledge score level and Age of staff nurses.

4. Discussion

After the analysis the present study findings shows that the structured teaching programme was found to be effective in increasing the knowledge of staff nurses regarding use of Braden scale in prevention of pressure sores. Out of 60 in the pre-test 44 (73.3%) of staff nurses had good knowledge scores and 16 (26.7%) of the staff nurses had fair knowledge scores. None of the staff nurses had poor and very good knowledge score.

In the post-test 58 (96.7%) of staff nurses had very good knowledge scores and 02 (3.3%) of the staff nurses had good knowledge scores. None of the staff nurses had poor and fair knowledge score.

The overall post-test mean (26.58) was higher than pre –test mean (16.32) and the post-test SD (1.441) was lower than pre-test SD (2.63) with mean difference of 10.260 and overall mean percentage of post- test knowledge score (94.90) was higher than overall mean percentage of pre- test knowledge score (58.30). 't' value wascomputed to find the level of significance between the means and it was observed significant ('t'=41.588) at p< 0.05. This result reveals that the structured teaching programme was effective in increasing the knowledge of staff nurses regarding use of Braden Scale in prevention of pressure sores.

The calculated Chi-square value (8.45) was greater than table value (7.815) which shows that there is significance association between the pre-test knowledge score level and Age of staff nurses.

This was supported by a study of Vandana **Pakhide (2013)** conducted an evaluative study to evaluate the effectiveness of structured teaching program on prevention of pressure ulcer by using Braden scale among staff nurses working in selected hospital of Bhopal. The researcher used the sample for present study comprised of 30 staff nurses who met the inclusive criteria. The research design selected for the present study was one group pre-test and post-test design. Administered structured teaching program and post assessment was done. The obtained 't' value is 22.06 showing the effectiveness of structured teaching program at 0.05 level and 0.01 levels of significance. The study concluded that there was significant relation found between structured teaching programs and knowledge level on prevention of pressure ulcer by using Braden scale. [17]

5. Conclusion

The study findings provide the statistical evidence which clearly indicate that Structured Teaching Programme has significant effect on the level of knowledge in Staff nurses.

6. Limitations of the Study

- The study was conducted to only one group of 60 staff nurses in a selected hospital in Agroha, Hisar; hence generalization is limited to the population under study.
- The study did not use a control group and there is a threat to internal validity as the investigator had no control over the took place between the pre-test and post-test.
- Extraneous variables such as exposure to mass media were beyond researcher's control.

7. 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.
- A similar study can be replicated with experimental and control group.
- A study can be conducted in assessing knowledge and practice of prevention of pressure sores by using Braden scale.

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