Pressure Ulcer Prevention In Bedridden Patients: Evaluation Of Nursing Professional's Knowledge And Practice

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Abstract

Background: A pressure ulcer is one of the major tasks for the health care professionals as well as in the hospitals, especially among bedridden patients, which is one of the vital aspects of patient safety and also it is one of the causes of prolonged hospital stays which contributes to the disability and death among the most of the patients in the tertiary care hospitals. The condition of skin or mucous membrane breakdown with necrosis and loss of epithelial tissue is called Pressure Ulcer. Nurses play the main role in the identification of the risk factors and prevention of pressure ulcers in hospitalized bedridden patients.

Objectives: The study was conducted to assess the knowledge and practice among nurses regarding the prevention of pressure ulcers in bedridden patients and its relationship with socio-demographic variables of nurses. Assessed the correlation between Knowledge and Practice among nurses regarding the prevention of pressure ulcers in bedridden patients.

Materials And Methods: The Quantitative approach and descriptive correlational design were adopted to conduct this study. A total of sixty-five staff nurses were chosen by a non-probability convenient sampling technique. Bloom's Taxonomy theory and Health Belief Model-based conceptual framework model were implemented for the study. The knowledge and practice of nurses were checked by using a self-structured knowledge questionnaire and practice checklist on the prevention of pressure ulcers in bedridden patients.

Result: Study findings discovered that nurses had a very low level of knowledge (M= 57.79%, SD = 9.20), and a moderate level of practice (M= 72.27%, SD = 14.49) about the prevention of pressure ulcers There was a significant association between formal training and the education level of nurses with knowledge regarding the prevention of pressure ulcers. There was a positive correlation between knowledge and practice of nurses regarding pressure ulcer prevention ($r = 0.459$, $p > .000121$).

Conclusion: As per the study and researcher experience nurses working in tertiary care hospitals have knowledge but are not up to the mark, also their practice is at a moderate level of satisfaction. It also concluded that practice is always affected by the level of knowledge among the nurses. Hence as per the findings, nurses are essential to raising their knowledge of pressure ulcer prevention in the direction to expand nursing practice as well as the patient care of bedridden patients.

Keywords: Pressure Ulcers, Bedridden, Nurse, Knowledge, Practice.

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Introduction

Bedridden is a state of immobility in which the person is unable to move or even sit up. It's not the same as bed rest, which is a non-invasive treatment used to help people recover or limit their activities.[1] People become bedridden for a variety of causes, with 30 to 50 percent of all cases being caused by brain disease. It's followed by old age-related frailty (20%) and a broken bone (10%). [1]

A pressure injury is a kind of skin and/or underlying soft tissue injury that occurs over a bony eminence or as a result of medical or other devices.[1] A break in the skin or mucous layer with loss of surface tissue, breakdown and necrosis of epithelial cells, and often purulent ooze is referred to as an ulcer.[2]

Pressure injuries, which can manifest as intact skin or an open ulcer, can be uncomfortable. Strong, ongoing, or persistent pressure, or

pressure mixed with shear, is what causes the damage. Soft tissue conditions, co-morbidities, perfusion, nutrition, and microclimate can all affect how well they can withstand pressure and shear. [3] The bad odours associated with many chronic, nonhealing wounds can affect a patient's quality of life, contribute to isolation, and limit interaction with family, significant others, and caregivers.[2]

Pressure injuries are most common in elderly patients, and those with limited range of motion (admitted patients, nursing home residents, those with neurologic problems, and people with severe illnesses/disease conditions).[4]

The occurrence of pressure injuries has decreased as a result of more people being aware of them. The total frequency of pressure injuries at all institutions decreased from 13.5% (2006) to 9.3% (2015), according to a large sample size research that collected data from 2006 to 2015. Between 0.31 to 0.7% of adults 65 and older who get basic medical care each year develop pressure ulcers.[5]

Materials And Methods:

The Quantitative approach and descriptive correlational design were adopted to conduct this study. A total of sixty-five staff nurses were chosen by a non-probability convenient sampling technique from a tertiary level teaching hospital, Gujrat, India. Bloom's Taxonomy theory and Health Belief Model-based conceptual framework model were implemented for the study. The knowledge and practice of nurses were checked by using a self-structured knowledge questionnaire and practice checklist on the prevention of pressure ulcers in bedridden patients. Investigator selected fifteen units/wards from a hospital where immobile patients who are at major risk for pressure ulcer development are admitted which includes four medical wards, five surgical wards, four orthopaedics, and two Intensive care unit.

Inclusion criteria

Employed as a permanent staff nurse at fifteen wards under four units, having roles and responsibilities connected through direct patient care, and having the educational grade of at least three years diploma in nursing.

Exclusive Criteria

Student Nurses, ANM Nurses, OPD Staff Nurses, OT Nurses.

Data Collection

The researcher's instrument has been separated into three components. The researcher employed three questionnaires in the study: 1) Demographic Questionnaire, 2) Nurse's Knowledge About Pressure Ulcer Prevention Questionnaire, and 3) Nurse's Practice About Pressure Ulcer Prevention Questionnaire. The researcher described the goal of the study to the subjects and asked for their assistance. The questionnaire covers knowledge and practice areas such as pressure ulcer formation, risk assessment, skin care, diet to maintain healthy skin, mechanical load management, and an educational program for patients, family, and staff.

Data Analysis

Data input, cleaning, and analysis were carried out using SPSS version 25 (Statistical Package for the Social Sciences). To analyse the data, descriptive and inferential statistics were used. Descriptive statistics were used to present demographic characteristics. The frequency, percentage, mean, standard deviation, and range were used to indicate the degree of knowledge and practice. Inferential statistics were used for presenting a chi-square test was used to examine the association between Knowledge and Socio-demographic variables of nurses and the Pearson product-moment correlation coefficient (r) was used to examine the relationships between the level of nurses' knowledge and practice regarding the prevention of pressure ulcers.

Result:

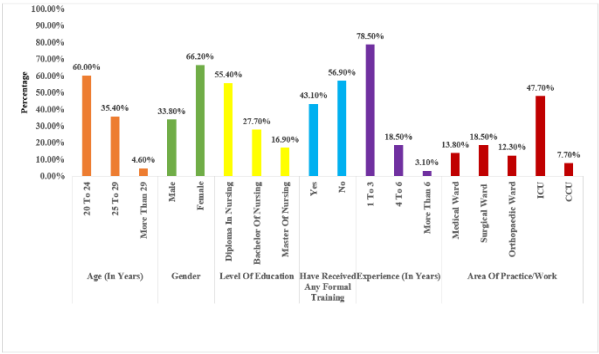

Figure 1: Bar Graph showing the Percentage of Demographic Variables

Data presented in Bar Graph illustrates the percentage of demographic variables. With regard to age, 60% of subjects belonging to the 20-24 years of age group. 66.20% of the total population were females. According to a level of education, 55.40 % of staff nurses have pursued a Diploma in Nursing. 56.90% of staff did not receive any formal training. With regard to experience, 78.50% of staff were having 1-3 years of work experience. According to an area of practice, 47.70% of staff members were belongs to the ICU area.

Table 2: Frequency and Percentage of Nurses' Level score of Knowledge and Practice Level of Pressure Ulcer Prevention (n=65)

Sr. No.	Level Score	Knowledge		Practice	
		Frequency	Percentage	Frequency	Percentage
1	Very Low (<60%)	39	66.0%	18	27.7%
2	Low (60-69.99%)	10	15.4%	8	12.3%
3	Moderate (70-79.99%)	3	4.6%	14	21.5%
4	High (80-89.99%)	13	20.0%	20	30.8%
5	Very High (90-100%)	0	00%	5	7.7%

Table 2 depicts the frequency and percentage of nurses' knowledge and practice level of pressure ulcer prevention. It was found a very low (66.0%) to low (15.4%) level of knowledge of pressure ulcer prevention. Regarding the prevention of pressure ulcers, very few nurses (4.6%) scored at the moderate level, few nurses (20%) scored at the high level, and no nurses scored at the very high level. It was shown that 30.8% of nurses had high levels of practice preventing pressure ulcers, whereas 21.5% of nurses scored at a moderate level.

Table 3: Mean Percentage, Standard Deviation, and Level of Nurses' Knowledge and Practice Regarding Pressure Ulcer Prevention Separated by each Dimension and Total Score (n=65)

Sr. No.	Dimension of Tool	Knowledge			Practice		
		M (%)	SD	Level	M (%)	SD	Level
1	Factors related to pressure ulcer development	61.54	30.64	**Low**	74.81	19.20	**Moderate**
2	Risk assessment	65.77	25.32	**Low**	74.92	18.63	**Moderate**
3	Skincare	45.85	19.28	**Very low**	65.69	19.52	**Low**
4	Nutrition to maintain healthy skin	48.21	35.86	**Very low**	73.33	19.28	**Moderate**
5	Management of mechanical loads	41.54	30.64	**Very low**	78.72	21.15	**Moderate**
6	Educational activity for patients, family, and staff	45.38	35.04	**Very low**	65.77	29.17	**Low**
	Total score	54.46	20.08	**Very low**	72.27	14.49	**Moderate**

Four of the six pressure ulcer prevention knowledge dimensions were at extremely low levels, and two of the six dimensions were at low levels. Although nurses gave a somewhat greater rating of their expertise on the risk assessment component, it was still at a low level (M = 65.77%, SD = 25.32). When taking into account each dimension, it was found that four of the six practice aspects related to the prevention of pressure ulcers were at moderate levels, with the control of mechanical loads being somewhat higher but still at a moderate level (M=78.72%, SD=21.15), as seen in Table 3's depiction of each knowledge dimension.

Chi-square analysis revealed that there was a significant association between nurses' knowledge regarding the prevention of pressure ulcers and socio-demographic variables (level of education and have received any formal training). There was no significant association between nurses' knowledge regarding the prevention of pressure ulcers with socio-demographic variables like age, gender, experience, and area of work and there was no significant association between nurses' practice regarding the prevention of pressure ulcers with socio-demographic variables.

Table 4: Correlation Between Nurses' Knowledge, and Practice Regarding Pressure Ulcer Prevention (n= 65)

Correlation between	Mean score Mean ± SD	correlation coefficient	Interpretation
Knowledge	13.62 ± 5.02	r = 0.459 p<0.000121	• Moderately Significant • Positive Correlation • It means when knowledge increases their Practice also increases moderately.
Practice	31.80 ± 6.38		

Pearson correlation coefficient is denoted by "r"
"r" always lies between -1 to +1
-1 to 0 is a Negative correlation
0 to +1 is a Positive correlation

Table 4 revealed that Correlational analysis revealed that there was a moderately positive relationship between nurses' knowledge and practice (r = 0.459, p > .000121) regarding pressure ulcer prevention (Figure 2).

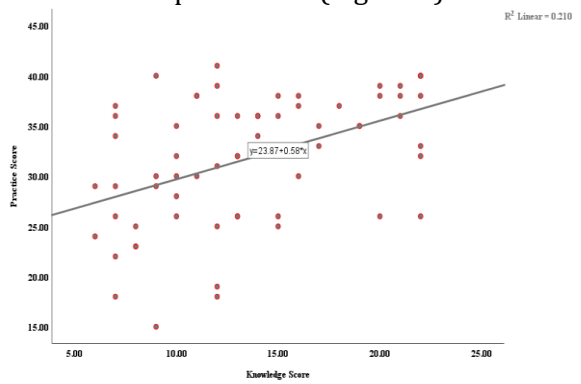

Figure 2: Scattered graph showing Positive correlation (r=0.459) of respondent's Knowledge with Practice regarding prevention of pressure ulcers among staff nurse

Discussion:

The current study findings showed that the nurses who participated in this study had a very low level of overall knowledge regarding the prevention of pressure ulcers and also showed that four out of the six dimensions of knowledge except factors related to pressure ulcer development and risk assessment were at very low levels. The extremely low degree of general knowledge of this collection of subjects can be explained by two different factors. The first reason for this extremely low level of knowledge may be connected to their formal educational background and training experience. Second, the lack of learning resources for nurses to update their knowledge would be another reason for the very low level of knowledge.

Study results were supported by a study conducted in the Rajshahi Medical College Hospital in Bangladesh from November 2009 to January 2010, and Sajida Nasreen conducted (2017) 'Nurses Knowledge and Practices Toward Pressure Ulcer Prevention in General Hospital Lahore'. Where the level of nurses' knowledge was very low-level (poor) regarding pressure ulcer prevention care and it was supported by the current study. [6,7]

It was found that the nurses' practice regarding pressure ulcer prevention was at a moderate level and also showed that four out of the six dimensions of practice except for skincare and educational activity for the patients, family members, and staff were at moderate levels. Certain circumstances might be one explanation for this moderate amount of practice. First, an organizational aspect associated with the moderate level of practice may be a scarcity of nursing personnel and restricted working time available for direct patient care in preventing pressure ulcers. Second, education and training, administrative assistance, and equipment supplies are very important for nurses in preventing the development of pressure ulcers. Supportive findings are reported by a previous study conducted in the Rajshahi Medical College Hospital in Bangladesh from November 2009 to January 2010. Where the level of nurses' Practice was at a moderate level regarding pressure ulcer prevention care and it was supported by the current study.[6]

The further result revealed that there is a significant relationship between knowledge and practice regarding pressure ulcer prevention among nurses. Supportive study findings reported by a study named Factors related to knowledge, attitude, and practice of nurses in intensive care unit in the area of pressure ulcer prevention: A multicentre study conducted by Khojastehfar, S. et.al found that Knowledge, Attitude and Practice among nurses about pressure ulcer prevention are correlated with each other which shows with an increase in knowledge leads to improvement in Practice of pressure ulcer prevention.[8]

Conclusion

As per the study and researcher experience, nurses working in tertiary care hospitals have knowledge but are not up to the mark, also their practice is at a moderate level of satisfaction. It also concluded that practice is always affected by the level of knowledge among the nurses. Hence as per the findings, nurses need to increase their knowledge of pressure ulcer prevention to improve nursing practice as well as the patient care of bedridden patients.

Ethical Clearance

The Ethical permission was obtained from the Institutional Ethical Committee (PU-IECHR), the clearance number is PUIECHR/PIMSR/00/081734/4103 and Permission was obtained from the Medical Superintendent of tertiary Health Care Hospital for the data collection.

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