

Nurses Knowledge and Practice with Their Perceived Barrier Regarding Pressure Ulcer Prevention at Tertiary Level Hospital in Bangladesh

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Abstract:

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Introduction: Pressure ulcers are localized cellular damages to the skin and underlying tissues caused by pressure, shear and frictional forces that typically prolong disease, delay restoration, may lead to infirmity and even death. The purpose of this study was to assess the nurse's knowledge and practices with their perceived barrier regarding pressure ulcer prevention at Sylhet MAG Osmani Medical College Hospital Bangladesh. **Materials and Methods:** The present study employed a cross-sectional descriptive observational design with a sample size of 100 participants, who were purposively selected. Data collection involved the use of a pre-tested, self-administered, semi-structured questionnaire. Subsequently, the gathered data were analyzed using the Statistical Package for Social Science (SPSS) software version 22.0. **Results:** The observational study with 100 participants revealed that 61.0% of nurses had poor knowledge, 30.0% had good knowledge, and 9.0% had fair knowledge concerning pressure ulcer prevention. Regarding practice, 80.0% demonstrated poor, 8.0% fair, and 12.0% good preventive practices. Primary barriers to practice included staff shortage and workload (96.0%) and poor job satisfaction (85.0%). These findings shed light on the need to address knowledge gaps and overcome barriers to enhance pressure ulcer prevention efforts among nurses. **Conclusion:** The study those nurses' knowledge and practice of pressure ulcer prevention are inadequate. Ongoing education and action by government and hospital authorities are necessary to address barriers in the work environment and improve prevention efforts.

Key Words: Nurses, Knowledge, Practice, Perceived barriers, Pressure ulcer prevention.

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INTRODUCTION

Pressure ulcers are "localized injury to the skin and underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and friction."¹ Muscle and subcutaneous tissues are more vulnerable. Common bed sore locations include sacrum, buttocks, ears, scapula, shoulder, elbow, iliac crest, coccyx, heel, and toes.²

Pressure ulcers were graded from grade1 to grade 4. While there are many factors affecting on developing pressure ulcers such as reduced mobility, sensory Impairment, level of consciousness, extremes of age, vascular disease, chronic illness and malnutrition.³ About 57%-60% of ulcers occur in the hospital and the incidence differs by care area. The prevalence of pressure ulcers ranges from 1%-11% in the medicine ward, 4.7% -66% in surgical ward and 14%-42% in the ICU. ¹ In the US, 1 million people develop pressure ulcers annually and approximately 60,000 acute care patients die from related complications. The Institute for Healthcare Improvement estimated a total national cost of \$11 billion per year to treat pressure ulcers which increased from 21.4% to 74.6% in between 2006 and 2008.⁴

However, a study conducted among paralyzed patients in Bangladesh and found that 94 out of 247 patients (38%) developed pressure ulcers.⁵ Similarly, the study surveyed over 14,000 patients from 45 healthcare institutions in Canada reported the prevalence of pressure ulcers in acute care hospital 25.1%, non-acute facilities 29.9%, mixed health care facilities 22.1% and community care 15.1%. Despite advances in medical technology and clinical practice guidelines, the prevalence of pressure ulcers during hospitalization continues to increase by 80%. Among all hospitalized patients, prevalence rates of acquired pressure ulcers are the highest in patients in the ICU from 14%-42%. Studies noted mortality rates as high as 60% for older persons with pressure ulcers within one year of hospital discharge.

According to the American Nurses Association, pressure ulcer prevention is primarily a nursing responsibility. Studies have suggested that pressure ulcer development can be directly affected by the number of nurses and time spent beside them. Several studies revealed that a shortage of supplies was the most cited barrier to carrying out appropriate pressure ulcer management.¹

Even after so many studies, there are still some gap on nurse's knowledge and practice with their perceived barrier to prevent pressure ulcer in hospitalized patient in Bangladesh. So, it is necessary to collect more information for pressure ulcer control strategy. In this perspective this study had done to assess the nurse's knowledge and practice with their perceived barrier towards pressure ulcer prevention in Sylhet MAG Osmani Medical College Hospital Bangladesh.

OBJECTIVES

General Objectives

- To assess the level of nurse's knowledge and practices regarding pressure ulcer prevention at Sylhet MAG Osmani Medical College Hospital Bangladesh.

Specific objectives

- To assess the level of nurses knowledge regarding pressure ulcer prevention.
- To determine the level of nurses practice towards pressure ulcer prevention.
- To identify the perceived barrier among nurses to practice for prevention of pressure ulcer.

METHODOLOGY

This study was a hospital-based cross sectional descriptive observational study. It was conducted at Sylhet MAG Osmani Medical College Hospital Bangladesh. The study took place from September to January 2017 and included registered nurses from Medicine, Surgery, Orthopedic Ward, ICU and HDU. The sample size for this study was 100, selected purposively. The study ensured confidentiality and privacy for the participants. The study was to assess the level of nurse's knowledge and practice regarding pressure ulcer prevention, as well as their perceived barriers.

Selection criteria

Inclusion criteria:

Participants who meet the following criteria were included in this study.

- Those who agree to participate in this study in Sylhet MAG Osmani Medical College Hospital Bangladesh.
- Those who are currently working in Sylhet MAG Osmani Medical College Hospital Bangladesh.
- Registered Nurses.

Exclusion criteria:

Participants excluded from the study

- Those who disagree to participate in this study.
- Student nurses and midwife.

Data Collection

Data were collected through a self-administered, semi-structured questionnaire completed by registered nurses at Sylhet MAG Osmani Medical College Hospital, Bangladesh. Verbal consent was obtained, and confidentiality was maintained. The questionnaire ensured consistency in data collection and allowed for direct interaction with participants, ensuring privacy and cooperation throughout the study.

RESULTS

A total of 100 professional nurses were participated in this study and the response rate was 97.6%. The mean ages of the participants were 40.3 years (SD = 5.75) with the minimum age being 30 and maximum 54 years. The majority of the respondents (85.0%) were females. This study found that nurses were divided into three educational qualification group and they were B.Sc. in Nursing 15 Nurses (15%), Diploma in Nursing 82 nurses (82%), and Masters 3 Nurses (3%). About 96 respondents (96.0%) worked as a senior staff nurse and rest of 4 respondents (4.0%) worked as a staff nurse. Study found that, most of the nurses (40.0%) working experience was about 11 – 20 years, 37.0% nurses experience was 1 – 10 years and only 23.0% nurses working experience was 21 – 30 years with a standard deviation of 7.95. (Table-01)

Table 1: Frequencies and Percentage of Nurse's Demographic Characteristics (n = 100)

Demographic Data			n	%
Age (Years)	(M = 40.3, SD = 5.75, Min = 30, Max = 54)			
	25-34		55	55.0
	35-44		43	43.0
	45-55		2	2.0
Gender				
	Male		15	15.0
	Female		85	85.0

Demographic Data			n	%
Age (Years) (M = 40.3, SD = 5.75, Min = 30, Max = 54)				
25-34			55	55.0
35-44			43	43.0
45-55			2	2.0
Educational Qualification				
B.Sc in Nursing			15	15.0
Diploma in Nursing			82	82.0
Masters/others			03	3.0
Designation				
Senior Staff Nurse			96	96.0
Staff Nurse			4	4.0
Services Experience (M = 12.9, SD = 7.95, Min = 1, Max = 30)				
1-10			37	37.0
11-20			40	40.0
21-30			23	23.0

Table 2: Nurses knowledge regarding pressure ulcer (n = 100)

Statement		Know	Don't know	Averagely know
Definition of pressure ulcer	n	20	75	5
	%	20.0	75.0	5.0
What are the Sign symptoms of PU	n	24	66	10
	%	24.0	66.0	10.0
How pressure ulcer causes	n	24	67	8
	%	24.0	67.0	8.0
What are the Complications of PU	n	21	64	15
	%	21.0	64.0	15.0
How to prevention measure pressure ulcer	n	36	55	9
	%	36.0	55.0	9.0
Do you know the process of wound healing	n	10	85	5
	%	10.0	85.0	5.0
Importance to message over bony prominence	n	30	65	5
	%	30.0	65.0	5.0
Importance of patients skin clean and dry	n	40	45	15
	%	40.0	45.0	15.0
Importance of vitamin C & E to maintain skin integrity	n	34	60	6
	%	34.0	60.0	6.0
Educational program to reduce pressure ulcer	n	62	28	10
	%	62.0	28.0	10.0

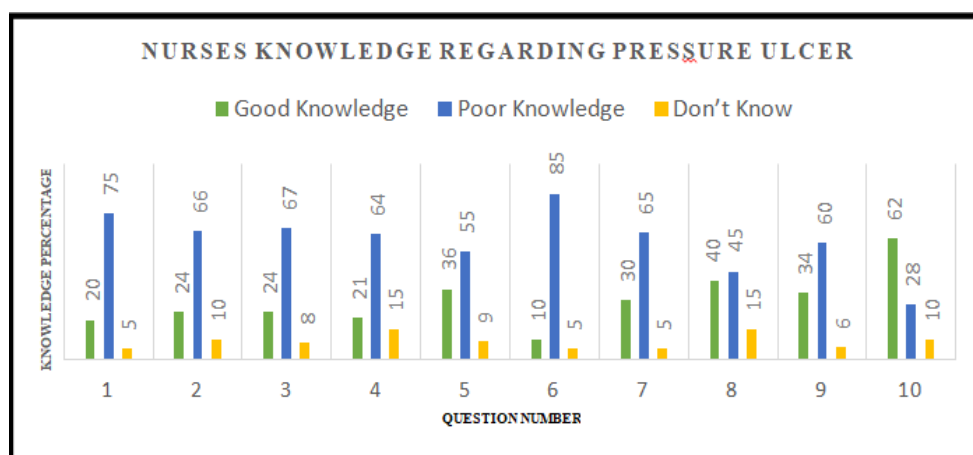


Fig 1: Nurses Knowledge Score

Table 3: Nurses practice towards pressure ulcer prevention (n = 100)

Statement		Always Do	Never Do	Sometimes Do
Practice of positioning angel to prevent pressure ulcer	n	13	81	6
	%	13.0	81.0	6.0
Practice to change of position to prevent PU	n	10	75	15
	%	10.0	75.0	15.0
Practice to provide treatment plan	n	7	83	10
	%	7.0	83.0	10.0
Maintain skin integrity practice	n	15	80	5
	%	15.0	80.0	5.0
Skin assessment according to standard nursing care	n	5	90	5
	%	5.0	90.0	5.0
Perform skin care as routine work	n	5	80	15
	%	5.0	80.0	15.0
Turn the position every 2 hourly	n	20	65	15
	%	20.0	65.0	15.0
More attention to pressure ulcer point	n	25	70	5
	%	25.0	70.0	5.0
Use special mattress for pressure ulcer patient	n	5	93	2
	%	5.0	93.0	2.0
Give advice to the patient regarding PU during discharge	n	10	87	3
	%	10.0	87.0	3.0

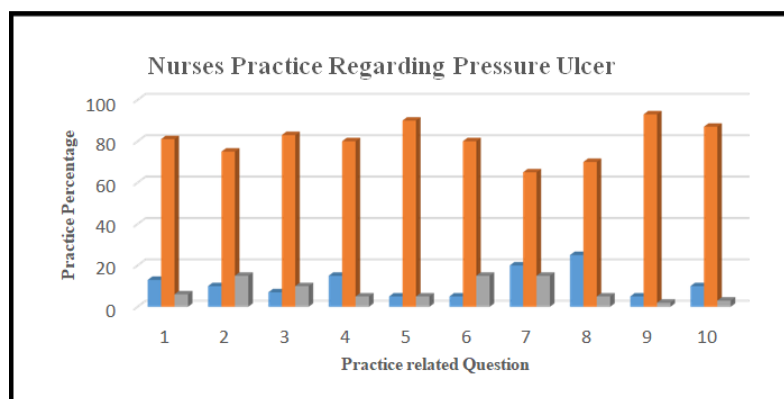


Fig 2: Nurses Practice Score

Table 4: Knowledge and Practice Score frequency Distribution (Average)(n = 100)

Variable		Poor	Fair	Good
Knowledge	n	61	9	30
	%	61.0	9.0	30.0
Practice	n	80	8	12
	%	80.0	8.0	12.0

Barriers to Pressure Ulcer Prevention

Nurses were asked to agree to the presence of a specific barrier in the workplace. Shortage of staff and workload was the most frequently (96.0%) identified barrier to pressure ulcer prevention measures followed by 85.0% lack of job satisfaction, 70.0% less prioritize due to other workload and 54.0% shortage of resources. (Table 5)

Table 5: Frequency distribution of nurses' perceived barriers to prevent pressure ulcer (n = 100) (Multiple response)

List of Perceived barrier	n	Frequency(%)
Workload is more than the number of staff	96	96.0
Lack of job satisfaction in nursing profession	85	85.0
Inadequate knowledge about pressure ulcer	17	17.0
Shortage of resources. e.g.- equipments	54	54.0
Lack of training coverage related to pressure ulcer prevention	42	42.0
Uncooperative patients	10	10.0
Less prioritize due to another workload	70	70.0

DISCUSSION

The study was carried out to assess the Nurses knowledge and practice about pressure ulcer prevention in M A G Osmani Medical College Hospital. It was a descriptive type of cross-sectional study, conducted among 100 nurses. The significant finding study in the areas of Nurses knowledge and practice about pressure ulcer prevention were discussed according to analysis. In this study results showed that the major finding of the demographic information indicates that maximum (55.0%, n = 55/100) nurses were in 25 – 34 years age group and the minimum (2.0%, n = 2/100) nurses were in 45 -55 years age group as well as 85.0% female nurse and 15.0% male nurse. In another study at Rajshahi Medical College Hospital, Bangladesh finding that 56.0% nurses were between the age of 30 – 40 years, followed by 40.7% of them who were between the ages of 41 – 50 years and only 3.3% of them were 51 - 60 years as well as 86.6% were female nurse and 13.4% were male nurse.

In this study, educational qualification of nurse's states that B.Sc. in Nursing was 15%, Diploma in Nursing 82%, Masters & others were 3%. It was quite similar to Rajshahi Medical College Hospital, Bangladesh whereas 22.0% was Bachelor in nursing, 78% was diploma in nursing.⁷ We found that 63.0% were married, 30.0% were unmarried and 7.0% were divorced/widowed similarly 34.4% were married, 65.6% were unmarried in Lahore General hospital. In our study we found that, about 65.0% nurse were Muslim, 31.0% were Hindu and 4.0% were Christian. We also found that, most of the nurses (96.0%) were posted as a senior staff nurse and 4.0% were posted as staff nurse. The service experience we found that, 40% was 11 – 20 years, 37.0% was 1 – 10 years and 23.0% was 21 – 30 years. In contrary, 49.5% were 1 – 10 years, 29.6% were 11 – 20 years and 20.9% were 21 - 30 years in Rajshahi medical college hospital in Bangladesh.

In this study major area of knowledge about pressure ulcer among nurses study finding that, about 100% nurses listen the word pressure ulcer but knowledge about definition of pressure ulcer did not know 75% nurse. About 66% nurse did not know the signs and symptoms of pressure ulcer, 67% did not know the causes, 64% did not know the complications, 55% did not know the preventive measures and 85% did not know the healing process of pressure ulcer.

About 45% did not know importance of message over bony prominence, 60% did not know Importance of vitamin C & E to maintain skin integrity, 45% did not know importance of patient's skin clean and dry and only 28% did not attended educational program to reduce pressure ulcer. It is quite similar to General hospital Lahore. We found that, 81% never practice positioning angel to prevent pressure ulcer, 75% never practice to change of position to prevent PU, 83% never practice to provide treatment plan, 80% never practice to Maintain skin integrity practice, 90% did not practice Skin assessment according to standard nursing care, 80% did not practice skin care as routine work, 65% did not Turn the position every 2 hourly, 70% never pay More attention to pressure ulcer point, 93% did not use special mattress for pressure ulcer patient and 87% did not Give advice to the patient regarding PU during discharge. Our practice finding was overall similar to General Hospital, Lahore.⁶

In our study, found that, most of the nurses (61.0%, n = 61/100) did not have sufficient knowledge about pressure ulcer as well as a significant number of nurse (80.0%, n = 80/100) did not practice standardization to prevent pressure ulcer of patients. We found that, Shortage of staff and workload was the most frequently (96.0%) identified barrier to pressure ulcer prevention measures followed by 85.0% lack of job satisfaction, 70.0% less prioritize due to other workload and 54.0% shortage of resources. On other hand, study of Public Hospitals in Addis Ababa, Ethiopia, shortage of staff was the utmost frequently cited barrier to carrying out PU-prevention measures (83.1%), followed by limited resources (67.7%) and lack of guidelines (policies) about PU prevention (59.8%).¹

Study also found that nurse's knowledge (61.0% poor, 30.0% good and 9.0% fair) and practice (80.0% poor, 8.0% fair and 12.0% good) on pressure ulcer prevention was near to the knowledge (57.79% poor) and practice (77.55% poor) of nurses in Rajshahi medical college Hospital, Rajshahi, Bangladesh.⁷ Education can bring a change in individual behavior so change in knowledge can influence the practices. So nurses need to get continuing education and training about pressure ulcer prevention that will enhance their knowledge and practices can be improved. Further researches about pressure ulcer prevention are needed.

CONCLUSIONS

The study indicated that nurses' knowledge and practice levels regarding pressure ulcer prevention were inadequate. The primary perceived barriers were workload, staff shortage, and job satisfaction. Education plays a crucial role in changing individual behavior, and increasing knowledge can positively influence practices. Therefore, continuous education and training are essential to improve nurses' ability to provide proper care for pressure ulcer prevention. So, nurses need to get continuing education and training similarly enhance their job satisfaction and staff to provide proper care on pressure ulcer prevention. Further researches about pressure ulcer prevention is needed.

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