

Knowledge And Practice on Prevention of Pressure Ulcer Among Nurses; A Tertiary level hospital in Bangladesh

Md. Abu Rayhan¹, Jannatun Nesa², Sanzid Sadaf Sumaia³, Nurunnahar Akter⁴, Lieutenant Jabarun Begum⁵, Muhammed Kamrul Islam Sumon⁶

¹Senior Staff Nurse, Upazila Health Complex, Akhaura, Brahmanbaria, Chittagong

²Senior Staff Nurse, 250 Bed District Hospital, Chapainawabganj

³Senior Staff Nurse, Department of Burn and Plastic Surgery Unit, Dhaka Medical College Hospital, Dhaka

⁴Senior Staff Nurse, Sir Solimollah Medical College and Hospital, Dhaka

⁵Armed Forces Nursing Services (AFNS), Bangladesh Military Academy Bhatary, Chittagong

⁶Senior Staff Nurse, Khadimpara 31 Bed Hospital, Sylhet

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***Corresponding Author:**
Md. Abu Rayhan

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Abstract: Introduction: A pressure ulcer is a localized injury to the skin and /or underlying tissue, usually over a bony prominence, as a result of pressure or pressure in combination with shear and or friction. **Materials and Methods:** A hospital-based descriptive cross-sectional study assessed the knowledge and practice of pressure ulcer prevention among nurses in SOMCH. The study was conducted at M.A.G Osmani Medical College Hospital, Sylhet from December to January 2017 by interviewing 100 nurses in SOMCH using a semi-structured questionnaire. **Result:** The study found nurses were B.Sc. in Nursing (15%), Diploma in Nursing (82%), and Masters (3%). From this result, it was found that 27% of nurses defined pressure ulcers correctly and knew the simple signs & symptoms of pressure ulcers, 76% average, 13% good, 9% Poor & 2% had No idea knowledge. The result of the study shows that the practice on prevention of pressure ulcers in the ward was 55% Poor, 25% Average and 20% Good. The overall result of the study indicates that the knowledge of pressure ulcers among nurses was average, and the practice was poor. **Conclusion:** Educational health programs and training of nurses about applicable prevention and assessments of pressure ulcers and other dangerous complications should be promoted to ensure better transfer practice. After completing the study, finding out the level of knowledge and practice, recommend the authority arrange an educational program to improve nurses' knowledge about pressure ulcer.

Key Words: Knowledge; Pressure Ulcer; Practice.

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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 Pressure ulcers are also known as 'pressure sores, bed sores and decubitus ulcers. Muscle and subcutaneous tissues are more susceptible to pressure-induced injury than the skin; pressure ulcers are often worse than their initial appearance. ² The most common bed sore location was the sacrum (a triangular bone at the base of the spine); Buttocks, Ears; Scapula; Shoulder; Elbow; Iliac Crest; Coccyx; Heel; and Toes. Pressure ulcers were graded from 1 to 4: grade I, non-blanch-able erythema with intact skin surface; grade II, epithelial damage, abrasion or blister; grade III, damage to the full thickness of the skin without a deep cavity and grade IV, damage to the full thickness of the skin with a deep cavity. While there are many factors affecting on developing pressure ulcers, such as intrinsic risk factors such as reduced mobility; sensory Impairment; acute illness; level of consciousness; extremes of age; vascular disease; severe chronic or terminal illness; previous history of pressure damage; malnutrition and dehydration.³

Pressure ulcers occur across all healthcare settings, with the highest incidence in the hospital, which is estimated to be 57%-60% of ulcers occur in the hospital, usually within the first two weeks of admission. The incidence differs by care area, with patients in orthopaedics and intensive care and the greatest risk. The prevalence of pressure ulcers ranges from 1% to 11% in the medical ward, 4.7% to 66% and in the intensive care unit (I.C.U.) from 14% to 42%. ¹ In the United States, 1 million people develop pressure ulcers annually, and approximately 60,000 acute care patients die from related complications. The Institute for Healthcare Improvement (I.H.I.) estimated a total national cost of \$11 billion per year to treat pressure ulcers and the cost of treating a single full-thickness pressure ulcer to be as high as \$70,000 per ulcer, which increased from 21.4% to 74.6% in between 2006 and 2008.

In Bangladesh, the incidence and prevalence data regarding pressure ulcers were not available. There were no sufficient records of pressure ulcers in the hospitals of Bangladesh. However, Hoque ⁴ conducted a study among

paralyzed patients in Bangladesh and found that 94 out of 247 patients (38%) developed pressure ulcers. Until recently, there was no known guideline for the prevention of pressure ulcers in Bangladesh. Reed's study was considered an important landmark in the pressure ulcer prevention issue.⁵

The majority of ulcers were on the sacrum, hips and Ischia tuberosities, with 33% on the foot area. 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(Long term care, Nursing Homes, etc.) 29.9%, Mixed Health Care Facilities(acute and non-acute) 22.1%, Community Care 15.1%.⁶ Development of pressure ulcers is complex and multifactorial. Despite advances in medical technology and the use of formalized prevention programs based on 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 intensive care unit (I.C.U.), from 14% to 42%. Mortality is also associated with pressure ulcers. Several studies noted mortality rates as high as 60 percent for older persons with pressure ulcers within one year of hospital discharge.⁶ According to the American Nurses Association (ANA), Pressure ulcer prevention is primarily a nursing responsibility though evidence finds that it is a multidisciplinary activity.⁷ Pressure ulcers can lead to ischemia, cell death, and tissue necrosis, as capillaries are compressed, and the blood flow is restricted. Even though preventing pressure ulcers can be nursing intensive, studies have suggested that pressure ulcer development can be directly affected by the number of nurses and time spent beside them.¹ Several studies revealed that a shortage of supplies for pressure ulcer management and prevention and a shortage of human resources for health, particularly nurses, was the most cited barrier to carrying out appropriate pressure ulcer management. However, there is a dearth of evidence concerning nurses' knowledge and practice towards pressure ulcer prevention and perceived barrier to preventing pressure ulcers.¹

General Objective

- To assess the level of knowledge and practice on pressure ulcer prevention among nurses in SOMCH.

Specific Objective:

- To assess the level of knowledge on pressure ulcer prevention among nurses in SOMCH.
- To explore the practice of pressure ulcer prevention among nurses in SOMCH.
- To find out the affecting factors to prevent pressure ulcers.
- To assess the socio-demographic characteristics among the nurses in SOMCH.

METHODOLOGY

This study was conducted to identify the nurse's level of knowledge of pressure ulcers. The study was carried out with the following methodology: research design, setting population and sample size, sampling technique, instrument, data collection procedure, ethical considerations and data analysis.

Study design: Hospital-based descriptive cross-sectional study.

Study Setting: This study was conducted in M.A.G Osmani Medical College Hospital Sylhet, Bangladesh.

Study population: The target population was registered nurses of M.A.G Osmani Medical College Hospital, Sylhet.

Study Sample: The sample of this study was registered nurses in Medicine, Surgery and Orthopedic Ward

Study Period: The study period was from September to January 2017.

Sampling technique: A non-probability convenience sampling technique was used in this study. Registered nurses participated in this study. This study ensured that confidentiality and privacy would be maintained.

Sample Size: The total number of respondents ($N=100$) was selected as a sample size for this study.

Inclusion criteria:

- Participants who met the following criteria were included in this study.
- Those who would give an interview to participate in this study in M.A.G Osmani Medical College Hospital, Sylhet.
- Registered Nurses.

Exclusion criteria:

- Participants excluded from the study
- Those who did not give an interview participated in this study.

Data Collection Procedure:

The reliability of the questionnaire was 100. Data were collected from the Osmani Medical College Hospital, Sylhet, Bangladesh, in September 2016. Our data collection procedure was divided into two parts.

Data analysis:

After the collection of the required information, data were checked, cleaned & edited manually. Data was entered into the computer a data based on the software package- Statistical Package using descriptive statistics such as frequency distribution, percentage, and categories. All scores & percentages were computed & presented in Tabular form, Charge & Graphs as appropriate. Cases such as the preparation and implementation phase.

Ethical Consideration:

The study proposal approved by the principal of Sylhet Nursing College, Sylhet. Permission for data collection was obtained from the Director of Osmani Medical College, Hospital & the Nurse In charge of every unit. After formal consent from respondents' data was collected. The information sheet was in English. The researcher explained the purpose of the study to participate. Confidentiality of personal data was strictly maintained. The data for the study was collected through the face-to-face interview with the registered nurses & record of the file.

RESULTS

The purpose of analyzing was to use the data to describe a number of variables. Collected data were edited and analyzed according to the nature of a variable. The result was provided as simple percentages and presented as pie charts, column charts and tables. This study found that nurses were divided into three educational qualification groups, and were B.Sc. in Nursing 15 Nurses (15%), Diploma in Nursing 82 nurses (82%), and Masters 3 Nurses (3%). (Table -01).

Table No-01: Distribution of respondents by educational Qualification

Category	Frequency	Percentage
B.Sc. in Nursing	15	15%
Diploma In Nursing	82	82%
Masters	03	03%
Total	100	100%

This table shows the educational Qualification of the respondents, among 100 respondents. B.Sc. in Nursing 15% (n=15); Diploma in Nursing 82% (n=82); Masters 3% (n=3).

This study found that the definition of pressure ulcer were known by 27% of nurses correctly and 73% nurses incorrectly (Table-02). This study result shows that knowledge about sign & symptoms of pressure ulcer (Pale skin, blister formation, Headache, No idea). According to kisses 1996 we divided the transformed score into four levels (Good, Average, Poor and No idea). In this study there are 76% Good, 13% Average, 9% Poor and 2% No idea result (Figure - 03).

Table No-02: Distribution of knowledge about definition of pressure ulcer

Category	Frequency	Percentage
Correct	27	27%
Incorrect	73	73%
Total	100	100%

This table shows knowledge about definition of pressure ulcer among 100 respondents. Correct 27% (n=27); Incorrect 73% (n=73).

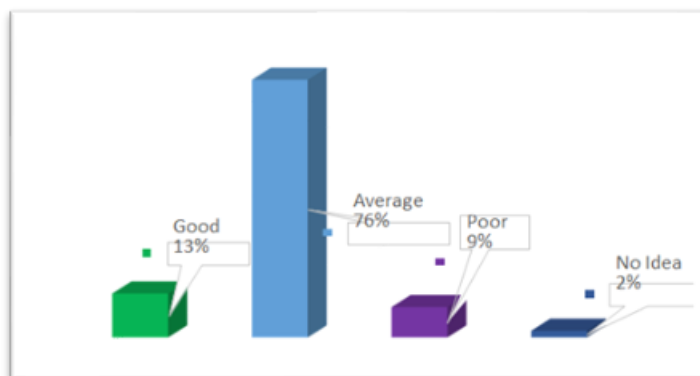


Figure No-01: Distribution of respondents by knowledge about sign symptoms of pressure ulcer

This chart shows knowledge about sign symptoms (pale skin, blister formation, headache, No idea) of pressure ulcer of the respondents among 100 respondents. This part divided 4 category good, average, poor and no idea. Good 13% (n=13); Average 76% (n=76); Poor 9% (n=9); No idea 2% (n=2).

The practice about how to prevent pressure ulcer in ward were transformed score into four levels (Good, Average & Poor). In this study the answer were divided into 3 category - Good 20% (n=20); Average 25% (n=25); Poor 55% (n=55) (Table-04).

Table No-03: Distribution of the respondents by practice about how to prevent pressure ulcer in ward

Category	Frequency	Percentage
Good	20	20%
Average	25	25%
Poor	55	55%
Total	100	100%

This table shows knowledge how to prevent pressure ulcer in your ward of the respondents among 100 respondents. Answer divided into 3 category - Good 20% (n=20); Average 25% (n=25); Poor 55% (n=55).

DISCUSSION

The study was carried out to assess the Nurses knowledge and practice about pressure ulcer prevention in SOMCH. It was 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 were discussed according to analysis. In this study results showed that the major finding of the demographic information indicate that maximum 32% nurses were in between (25-29) years and the minimum 12% nurses were in between (20-24) years in age group of above (40-44) years.⁸ It was quite similar another study finding half (53.3%) of nurses are less than 25% years old.⁹ In this study, educational Qualification of nurses states that B.Sc. in Nursing (15%), Diploma in Nursing (82%), Masters (3%). It was quite similar to the study of Rajshahi medical College Hospital in Bangladesh, study finding that most of them 78% had Diploma in Nursing.¹⁰

In this study major area of knowledge about pressure ulcer among nurses study finding based on 100% nurses listen the word pressure ulcer and also knowledge about definition of pressure ulcer Correct 27%, Incorrect 73%. The level of knowledge signs and symptoms, causes, developing site, complication, predominant age and positioning angel of pressure ulcer are divided four category for each variable-Good, Average, Poor, No idea. And knowledge about prevention of pressure ulcer is categorized Yes, No. Signs and symptoms of pressure ulcer level of nurse's knowledge Good 76%, Average 13%, Poor 9%, No idea 2%. Cause of pressure ulcer level of nurses knowledge Good 24%, Average 8%, Poor 67%, No idea 1%. Sites of developing pressure ulcer level of knowledge of nurses Good 51%, Average 26%, Poor 18%, No idea 5%. Complication of pressure ulcer level of knowledge of nurses Good 38%, Average 33%, Poor 24%, No idea 5%. Predominant age for developing pressure ulcer level of knowledge of nurses Good 87%, Poor 12%, No idea 1%. Positioning angel to provide care during pressure ulcer level of nurses knowledge Good 71%, Average 2%, Poor 23%, No idea 4%. Another finding how to prevention of pressure in your ward. The level of practice was lower than knowledge. In this study nurses knowledge was not reflected by their practice. The knowledge of the respondents about prevention of pressure ulcer Yes 55% No 45%. The study finding was quite similar to the study.

The study showed that practice about time of interval need to change the position to prevent pressure ulcer Good 22%, Average 76%, Poor 2%. Practice about how to maintain skin care Good 14%, Average 15%, Poor 70%, No idea 1%. Practice about knowledge in how many weeks should a pressure ulcer heal Good 16%, average 53%, No idea 31%. Practice about the type of information that should collect to prepare a treatment plan for a patient who has developed pressure ulcer Good 41%, Average 42%, Poor 10%, No idea 7%. Practice about how a pressure ulcer wound is healing Good 25%, Average 32%, Poor 26%, No idea 17%. Practice about the advice that will give during discharge on pressure ulcer yes 100%. attend any seminar by respondents on pressure ulcer Yes 3%, No 97%.

CONCLUSION

Pressure Ulcer is escalating as a major health problem leading to high morbidity & mortality in every region of the world. This problem affects patients' physical, psychological, social, economic & realistic aspects of life. This cross-sectional descriptive study has focused on assessment of the knowledge or perception about pressure ulcer among the nurses in SOMCH. In this study identified that nurses have average knowledge about pressure ulcer but not proper practice to prevent the complication of pressure ulcer. Implementation of pressure ulcer prevention activity & treatment plan depends mainly on knowledge & proper practice. In-service training & educational program should be designed for

nurses to enhance their knowledge & practice. Proper practice & adequate knowledge entails a multi-faceted method to guarantee sufficient support to make changes revealed on patient's outcomes & raising awareness of pressure ulcer preventive & treatment interventions using a variety of approaches including use of risk assessment tools, grading scores & clinical guidelines. Satisfactory dissemination of P.U. prevention & treatment guidelines appears to be essential to advance quality of P.U. prevention & treatment.

Limitation of the study

In this study all nurses were recruited from the Sylhet Osmani Medical College Hospital. This may limit the generalization of the results of this study to all nurses in Bangladesh. Another limitation was that the time allocation for research study was limited or short, and it done in only one hospital.

Recommendation

- The finding could be used by nurse educators to teach nursing students about procedures or way to create awareness among the patients based on their practice.
- This study presents nurses knowledge & practice about pressure ulcer. Further research is needed to explore this phenomenon, using a greater number of subject, setting to obtain more variance in the data & adequate time.

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