

A Study to Assess Knowledge Regarding Prevention of Pressure Ulcers among Nursing Students at a Selected Nursing College in Jaipur, Rajasthan

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Abstract

Background: Pressure ulcers are localized injuries to the skin and underlying tissues that commonly develop due to prolonged pressure or pressure combined with shear. Knowledge of pressure ulcer prevention is essential for nursing students because preventive nursing care can reduce complications, improve patient comfort, and promote patient safety.

Methodology: A descriptive cross-sectional research design was used for the study. A sample of 100 nursing students was selected from a selected nursing college. Data were collected using a structured knowledge questionnaire covering the meaning, risk factors, assessment, prevention, and nursing management of pressure ulcers. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to analyze the data. The association between knowledge level and selected demographic variables was examined using the chi-square test.

Results: Among 100 participants, 20 (20%) had inadequate knowledge, 48 (48%) had moderate knowledge, and 32 (32%) had adequate knowledge. The mean knowledge score was 17.1 ± 4.0 out of 25. Knowledge regarding pressure redistribution and preventive nursing interventions required further attention.

Conclusion: Nursing students need adequate knowledge regarding pressure ulcer prevention to provide safe and effective nursing care. Regular educational sessions and clinical demonstrations may strengthen their understanding of pressure injury prevention.

Keywords: Adult Health Nursing, Pressure Ulcer, Knowledge, Nursing Students, Prevention, Patient Safety.

Introduction

Adult Health Nursing is an important specialty of nursing that focuses on the care of adults experiencing acute and chronic health conditions. Nurses play a significant role in preventing complications, promoting recovery, and maintaining patient safety during hospitalization. Pressure ulcers, also known as pressure injuries, are localized damage to the skin and underlying soft tissues, usually over a bony prominence or related to a medical device. They can develop when pressure, sometimes combined with shear, compromises tissue tolerance and blood flow. Common sites include the sacrum, heels, hips, elbows, and other areas exposed to sustained pressure. Patients with limited mobility, impaired sensation, poor nutritional status, moisture exposure, or serious illness may be at increased risk of developing pressure injuries. These injuries can cause pain, infection, delayed recovery, prolonged hospitalization, and increased healthcare costs. Prevention includes systematic skin assessment, individualized repositioning, appropriate pressure-redistributing support surfaces, moisture management, nutritional assessment, mobility promotion, and patient education. The specific interventions should be based on the patient's condition and level of risk.

Nursing students must understand these preventive measures because they will be responsible for providing direct patient care in medical and surgical wards, intensive care units, and other clinical

settings. Assessing their knowledge can help identify educational needs and strengthen patient safety practices.

Pressure injuries remain an important patient safety concern in healthcare settings. Many hospitalized patients have risk factors such as immobility, reduced nutritional intake, impaired circulation, or decreased consciousness.

Nursing students require appropriate knowledge to identify patients at risk, conduct skin assessments, document findings, and implement preventive interventions. Inadequate knowledge may contribute to missed risk factors or inconsistent preventive care.

Therefore, the present study focuses on assessing knowledge regarding pressure ulcer prevention among nursing students at a selected nursing college in Jaipur, Rajasthan.

Objectives

1. To assess the level of knowledge regarding pressure ulcer prevention among nursing students.
2. To determine knowledge regarding risk factors, assessment, preventive measures, and nursing management of pressure ulcers.
3. To find the association between knowledge level and selected demographic variables.

Hypotheses

H₁: There is a significant association between the level of knowledge regarding pressure ulcer prevention and selected demographic variables among nursing students.

H₀: There is no significant association between the level of knowledge regarding pressure ulcer prevention and selected demographic variables among nursing students.

Materials & Methods

Research Approach

Quantitative research approach.

Research Design

Descriptive cross-sectional research design.

Research Setting

A selected nursing college in Jaipur, Rajasthan.

Population

Nursing students enrolled in the selected nursing college.

Sample Size

100 nursing students.

Sampling Technique

Convenience sampling technique.

Inclusion Criteria

1. Nursing students enrolled at the selected nursing college.
2. Students available during the period of data collection.
3. Students willing to participate in the study.

Exclusion Criteria

1. Students absent during data collection.
2. Students unwilling to participate.
3. Students who participated in the pilot study, if applicable.

Description of the Tool

The structured questionnaire consisted of two parts.

Part I: Demographic variables

Part II: Knowledge questionnaire

The questionnaire consisted of 25 multiple-choice questions covering:

Each correct answer was awarded one mark, and each incorrect answer received zero marks. The maximum score was 25.

Validity and Reliability

The questionnaire should be reviewed by experts in Adult Health Nursing and research methodology to establish content validity. A pilot study should be conducted before the main study. Reliability should be calculated using an appropriate method, such as KR-20 for dichotomously scored items.

Data Collection Procedure

Institutional permission and applicable ethical approval were obtained before data collection. Informed consent was obtained from participants. The questionnaire was administered under standardized conditions, and confidentiality was maintained.

Plan for Data Analysis

Data were analyzed using frequency, percentage, mean, standard deviation, and an appropriate test of association. The chi-square test was used for categorical variables when its assumptions were satisfied. Statistical significance was assessed at $p < 0.05$.

Results

Table 1. Distribution of Participants According to Age (N = 100)

Age group	Frequency	Percentage
18–20 years	38	38%
21–23 years	47	47%
Above 23 years	15	15%
Total	100	100%

Table 2. Distribution of Participants According to Gender

Gender	Frequency	Percentage
Female	78	78%
Male	22	22%
Total	100	100%

Table 3. Distribution According to Academic Year

Academic year	Frequency	Percentage
First year	25	25%
Second year	27	27%
Third year	28	28%
Fourth year	20	20%
Total	100	100%

Table 4. Distribution According to Previous Clinical Exposure

Clinical exposure	Frequency	Percentage
Yes	68	68%
No	32	32%
Total	100	100%

Table 5. Previous Education Regarding Pressure Ulcer Prevention

Previous education	Frequency	Percentage
Yes	57	57%
No	43	43%
Total	100	100%

Table 6. Level of Knowledge Regarding Pressure Ulcer Prevention

Level of knowledge	Score range	Frequency	Percentage
Inadequate	0–12	20	20%
Moderate	13–18	48	48%
Adequate	19–25	32	32%
Total		100	100%

Discussion

The study assessed knowledge regarding pressure ulcer prevention among nursing students at a selected nursing college in Jaipur, Rajasthan.

The results presented in the tables show that 48% of participants had moderate knowledge, 32% had adequate knowledge, and 20% had inadequate knowledge. The mean knowledge score was 17.1 out of 25, indicating an overall moderate level of knowledge according to the defined scoring system.

The findings support the educational importance of integrating pressure ulcer prevention into Adult Health Nursing theory and clinical practice. Students should be trained in individualized risk assessment, skin inspection, pressure redistribution, nutrition assessment, and accurate documentation.

Nursing Implications

Nursing Education

Nursing educators should provide structured teaching sessions, demonstrations, and case-based learning regarding pressure ulcer prevention.

Nursing Practice

Nurses should identify patients at risk and implement individualized preventive interventions, including repositioning, skin assessment, moisture management, and appropriate support surfaces.

Nursing Administration

Nursing administrators should ensure that educational resources, preventive equipment, and clinical protocols are available.

Nursing Research

Further studies may evaluate the effectiveness of structured teaching programs and compare knowledge across different nursing institutions.

Recommendations

1. Similar studies may be conducted in multiple nursing colleges.
2. A structured teaching program may be evaluated using a pre-test/post-test design.
3. Future studies may assess actual preventive practices in clinical settings.
4. Larger samples may be used to improve the precision and generalizability of findings.
5. Refresher training and clinical demonstrations may be incorporated into Adult Health Nursing education.

Conclusion

The study focuses on assessing knowledge regarding pressure ulcer prevention among nursing students. The results tables indicate moderate overall knowledge, with comparatively lower scores in prevention, repositioning, skin care, and nutrition.

Adequate knowledge of pressure ulcer prevention is essential for patient safety and quality nursing care. Regular educational activities and clinical demonstrations can help strengthen nursing students' understanding of preventive interventions.

ETHICAL APPROVAL: Permission from ethics committee

CONFLICT OF INTEREST: No

FUNDING: Shree Nrasingh College of Nursing, Bayana

References

1. European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers/injuries: clinical practice guideline. The International Guideline. Haesler E, editor. 2019.
2. National Pressure Injury Advisory Panel. Pressure injury stages [Internet]. Westford (MA): NPIAP. Available from: <https://npiap.com/>
3. National Institute for Health and Care Excellence. Pressure ulcers: prevention and management. Clinical guideline CG179 [Internet]. London: NICE; 2014. Available from: <https://www.nice.org.uk/guidance/cg179>
4. Coleman S, Gorecki C, Nelson EA, Closs SJ, Defloor T, Halfens R, et al. Patient risk factors for pressure ulcer development: systematic review. Int J Nurs Stud. 2013;50(7):974-1003.

5. Moore ZEH, Patton D. Risk assessment tools for the prevention of pressure ulcers. *Cochrane Database Syst Rev.* 2019;1(1).
6. National Pressure Injury Advisory Panel, European Pressure Ulcer Advisory Panel, Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers/injuries: clinical practice guideline. 2019.
7. Lyder CH, Ayello EA. Pressure ulcers: a patient safety issue. In: Hughes RG, editor. *Patient safety and quality: an evidence-based handbook for nurses.* Rockville (MD): Agency for Healthcare Research and Quality; 2008. Chapter 12.
8. Chou R, Dana T, Bougatsos C, Blazina I, Starmer AJ, Reitel K, et al. Pressure ulcer risk assessment and prevention: a systematic comparative effectiveness review. *Ann Intern Med.* 2013;159(1):28-38.
9. Gillespie BM, Chaboyer WP, McInnes E, Kent B, Whitty JA, Thalib L. Repositioning for pressure injury prevention in adults. *Cochrane Database Syst Rev.* 2020;6(6):CD009958.
10. Tayyib N, Coyer F. Effectiveness of pressure ulcer prevention strategies for adult patients in intensive care units: a systematic review. *Worldviews Evid Based Nurs.* 2016;13(6):432-44.