



A study to assess the knowledge regarding the use of Braden scale for pressure sore prevention among nursing officers in selected hospitals of Jaipur

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Abstract

Introduction: Pressure ulcers are a significant clinical concern in hospital settings, particularly among immobilized patients. The Braden Scale is a widely accepted tool used to assess the risk of pressure sore development. However, the effectiveness of this tool depends heavily on the knowledge and application skills of nursing personnel. This study aimed to assess the knowledge of nursing officers regarding the use of the Braden Scale for pressure sore prevention in a selected hospital setting.

Methodology: A quantitative research approach with a descriptive cross-sectional survey design was employed. The study was conducted at Liberty Hospital, Jaipur. A total of 100 nursing officers were selected using a non-probability purposive sampling technique. Data were collected using a structured questionnaire comprising two sections: demographic details and a knowledge-based questionnaire related to the use of the Braden Scale.

Results: The findings revealed that the majority of nursing officers had an average level of knowledge regarding the use of the Braden Scale. A small percentage demonstrated poor knowledge, while no participant achieved a high level of knowledge in the pre-test. These results highlight the need for improved awareness and structured training programs on pressure sore risk assessment and prevention strategies.

Conclusion: The study concludes that although basic knowledge regarding the Braden Scale exists among nursing officers, there is a substantial need for enhancement through targeted educational interventions. Promoting the routine and correct use of risk assessment tools like the Braden Scale is essential to ensure quality patient care and reduce the incidence of pressure ulcers.

Keywords: Braden scale, pressure ulcer, nursing officers, knowledge level

Introduction

Background of the study

Pressure ulcers—commonly referred to as decubitus ulcers, pressure injuries, or bedsores—are localized damage to the skin and underlying soft tissues, typically over bony prominences, resulting from prolonged pressure, shear, or friction [1]. They remain a major indicator of care quality, especially among patients who are immobilized, critically ill, or elderly. Globally, pressure ulcers affect millions of individuals annually and are associated with significant clinical, emotional, and economic burdens [2].

Prevalence rates vary widely depending on the healthcare setting. A systematic review estimates that the global prevalence in acute care settings ranges from 6% to 18.5%, with rates rising to 24.3% in ICUs and 23%-27% in long-term care facilities [3, 4]. A meta-analysis by Isfahani *et al.* in the Eastern Mediterranean region revealed a pooled ICU prevalence of 16.6%, with extreme variation—from 0.9% to 83.1%—attributed to differences in age, care standards, and clinical practices [5].

In the Indian context, the burden of pressure ulcers is similarly significant. Mehta *et al.* reported prevalence rates ranging from 3.1% to 24.3%, with the highest figures observed in ICUs and among long-stay patients. A 2015 study in Varanasi recorded a 4.94% prevalence, while a

tertiary hospital in Northern India reported 7.8%, particularly in patients admitted for over a month. These findings highlight the need for consistent risk assessment protocols and improved clinical vigilance [6].

Numerous intrinsic and extrinsic factors contribute to pressure ulcer formation. A study by Beriso *et al.* (2022) in Ethiopia found that 10.2% of hospitalized adults developed pressure ulcers. Key associated factors included smoking, prolonged immobility, hospital stay > 20 days, pain, and exposure to friction and shear—underscoring the multifactorial nature of this preventable condition [7].

To mitigate risk, the Braden Scale has emerged as a globally recognized tool. It evaluates six key domains: sensory perception, moisture, activity, mobility, nutrition, and friction/shear, generating a total score that categorizes patients by risk level. While the Braden Scale is widely recommended, its clinical efficacy depends heavily on the knowledge, training, and consistency of use by nursing personnel [8].

However, studies reveal gaps in awareness and application. In a recent survey by Abena P.A. (2022), although 91.25% of ICU nurses were aware of high-risk anatomical sites for ulcer development, only 23.75% knew the recommended frequency of Braden Scale use. Alarming, just 5% demonstrated exceptional knowledge, and statistically

significant associations were found between knowledge levels and factors such as ICU experience and educational qualifications^[9].

Despite well-established guidelines and the availability of validated tools such as the Braden Scale, pressure ulcers remain a prevalent, yet preventable complication in hospitals across India. Their development is not only indicative of lapses in clinical care but also results in prolonged hospital stays, increased treatment costs, patient suffering, and potential litigation^[10].

With studies reporting that 83% of ulcers may develop within the first five days of admission, the importance of early risk identification and prevention cannot be overstated^[11]. Yet, as existing literature indicates, the translation of knowledge into practice among nurses-particularly in high-acuity environments like ICUs-remains suboptimal^[12].

This study, therefore, seeks to evaluate the knowledge of nursing officers regarding the use of the Braden Scale for pressure ulcer prevention in selected hospitals of Jaipur. The findings aim to inform evidence-based training programs, promote standardized assessment practices, and ultimately enhance the quality of patient care.

Research Methodology

Aim of the study

To assess the knowledge regarding the use of the Braden Scale for pressure sore prevention among nursing officers.

Research Approach

The present study adopted a quantitative research approach. This approach was chosen to systematically assess and quantify the knowledge levels of nursing officers regarding the use of the Braden Scale for pressure sore prevention.

Research Design

A descriptive cross-sectional survey design was employed for the study. This design was appropriate for assessing the knowledge of nursing officers at a single point in time without manipulating any variables.

Study Setting

The study was conducted at Liberty Hospital, Jaipur, a tertiary-level healthcare facility located in an urban region of Rajasthan, India.

Population

The target population for the study consisted of nursing officers working in Liberty Hospital, Jaipur.

Sample

The study sample included nursing officers who met the inclusion criteria and were available and willing to participate during the data collection period.

Sample Size

A total of 100 nursing officers were selected for participation in the study.

Sampling Technique

A non-probability purposive sampling method was used to select participants. This method was chosen due to the accessibility and availability of nursing officers at the time

of data collection.

Sampling Criteria

Inclusion Criteria

- Nursing officers working in the selected hospital located in Jaipur.
- Nursing officers who were willing to participate in the study.

Exclusion Criteria

- Nursing officers who were unavailable during the time of data collection.
- Nursing officers who declined to participate.
- Nursing officers who were uncooperative or unwilling to complete the study tool.

Method of data collection

Data were collected using a structured, self-administered questionnaire. Prior informed consent was obtained from all participants. The purpose of the study was explained, and confidentiality was assured.

Development of the Tool

The data collection tool consisted of two sections:

Section I: Demographic Profile

This section gathered information on age, gender, professional qualification, area of working (ward/ICU), and total years of clinical experience.

Section II: Structured Knowledge Questionnaire

This section contained multiple-choice and structured questions designed to assess the participants' knowledge regarding the use of the Braden Scale in pressure sore prevention. The questions were developed based on literature review and validated by subject experts in nursing.

Results

Description of demographic variables of nursing officers.

The demographic characteristics of the nursing officers participating in the study (N=100) reveal a predominantly young workforce. A majority of the respondents (75%) were within the age group of 20 to 30 years, followed by 15% in the 30-40 years range. A smaller proportion, 6%, were between 40 and 50 years of age, and only 4% were above 50 years. With respect to gender, 72% of the nursing officers were male, while 28% were female, indicating a male-dominated sample in the selected hospital.

In terms of educational qualification, most of the participants (60%) had completed General Nursing and Midwifery (GNM), while 28% held a B.Sc. Nursing degree. Post Basic Nursing was the qualification for 10% of the participants, and only 2% had completed M.Sc. Nursing. These figures suggest that the majority of the nursing officers were trained at the diploma or undergraduate level. Regarding the area of posting, more than half of the respondents (53%) were working in the Intensive Care Unit (ICU), indicating a strong representation from critical care settings. Other participants were distributed across general wards (22%), medical wards (13%), and post-operative wards (12%). In terms of clinical experience, 38% of the nursing officers reported having 1 to 3 years of working

experience, followed by 27% with over 5 years of experience. Another 20% had between 3 to 5 years of experience, while 15% had less than 1 year of experience. This distribution shows that the sample primarily consisted

of nurses with early to mid-career experience levels.

Frequency and percentage distribution on level of knowledge of nursing officers

Table 1: Level of knowledge of nursing officers

Level of knowledge	Frequency (F)	Percentage (%)
Poor (0-33%)	15	15
Average (34-66%)	75	75
Good (67-100%)	10	10
Total	100	100.0

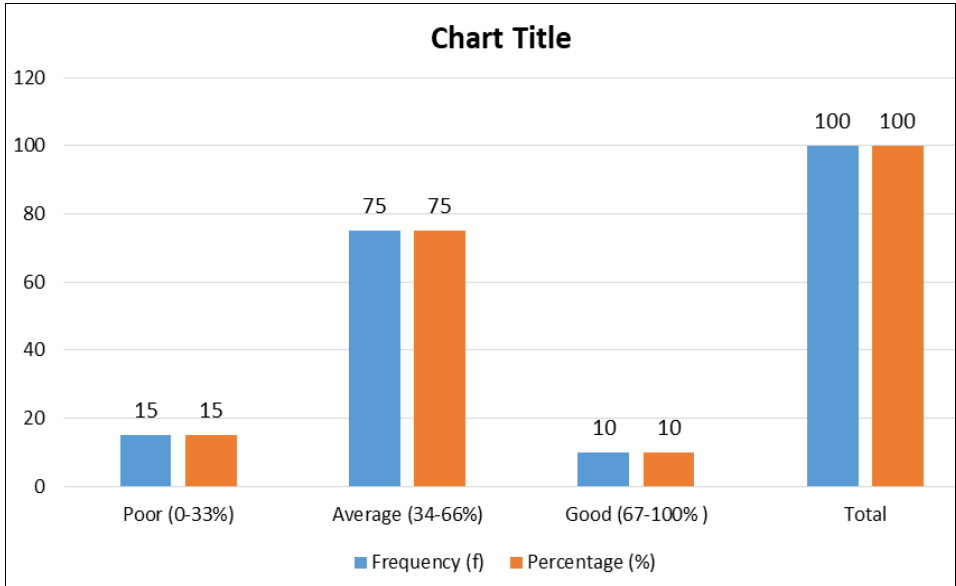


Fig 1: Level of knowledge of nursing officers

Table 1 presents the distribution of nursing officers based on their level of knowledge regarding the use of the Braden Scale for pressure sore prevention during the pre-test. The data reveals that a majority of the participants (75%) demonstrated an average level of knowledge (scoring between 34-66%). Only 10% of the nursing officers exhibited a good level of knowledge (scoring between 67-100%). 15% participants achieved a poor level of knowledge (0-33%) in the pre-test phase. These findings indicate a general lack of in-depth understanding among the nursing officers regarding the Braden Scale prior to any intervention or awareness efforts.

Discussion

The present study aimed to assess the knowledge of nursing officers regarding the use of the Braden Scale for pressure sore prevention and to examine the association of knowledge levels with selected demographic variables. In the pre-test findings, the majority of nursing officers (75%) demonstrated an average level of knowledge, with only 10% exhibiting good knowledge. 15% participants demonstrated a poor level of knowledge before the intervention, reflecting a critical gap in comprehensive understanding of pressure sore risk assessment tools among the study population. These findings are partially consistent with the results of Abena PA, (2022), who assessed knowledge among ICU staff nurses in India. In that study, a higher percentage of participants (66.25%) demonstrated a sufficient level of

expertise, while 26.25% had a fair amount of knowledge, 5% exhibited exceptional knowledge, and only 2.5% were found to have inadequate knowledge. This suggests a relatively better knowledge profile among ICU nurses in Abena's study compared to the nursing officers in the current investigation, where no participants reached the 'good' or 'exceptional' knowledge level in the pre-test phase. Both studies converge on a common insight: while awareness of pressure ulcer prevention tools exists, there are critical knowledge gaps in frequency of Braden Scale usage, nutritional components, and repositioning practices. These findings underscore the importance of targeted educational interventions, continuous professional development, and policy-level integration of risk assessment protocols within daily nursing practice.

In conclusion, the comparison with Abena's study not only validates the observed knowledge deficiencies in our setting but also reinforces the global relevance of addressing these gaps through evidence-based nurse training programs, especially in high-risk environments such as ICUs and tertiary care hospitals.

Conclusion

The present study concluded that nursing officers demonstrated an average level of knowledge regarding the use of the Braden Scale for pressure sore prevention. While a basic understanding of the concept was evident, key gaps remained in areas such as early identification of pressure

sores, appropriate use of the Braden Scale, and clinical best practices. The absence of higher-level knowledge among participants highlights the need for targeted educational interventions and skill-based training programs.

These findings underscore the importance of equipping nursing officers with up-to-date knowledge and practical tools necessary for effective pressure ulcer prevention. Promoting the routine use of standardized assessment tools like the Braden Scale in daily nursing care can enhance patient safety and reduce preventable complications. Therefore, continuous professional development, supported by structured learning opportunities, is essential to bridge the existing knowledge gaps and strengthen the overall quality of nursing care.

Conflict of Interest: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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