

KNOWLEDGE AND PRACTICE OF NURSES REGARDING PRESSURE ULCER PREVENTION AMONG BED RIDDEN PATIENTS

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Abstract: *Background:* Pressure ulcers, also known as bedsores or decubitus ulcers, remain one of the most common and preventable complications among bedridden patients in healthcare settings. They are localized injuries to the skin and underlying tissue, primarily caused by prolonged pressure, friction, or shear forces, particularly over bony prominences such as the sacrum, heels, elbows, and hips. *Methodology:* A descriptive cross-sectional study was conducted at Aziz Bhatti Shaheed Teaching Hospital, Gujrat, over four months (August–November 2025) to assess nurses' knowledge and practices regarding pressure ulcer prevention among bedridden patients. A total of 80 registered nurses providing direct care to immobile patients, with at least six months of clinical experience, were selected through convenient sampling. Data were collected using a structured, pre-validated questionnaire comprising demographic information, a 22-item knowledge questionnaire, and a 22-item practice questionnaire, with scoring systems categorizing knowledge as poor, moderate, or good, and practices as inadequate, moderate, or adequate. Informed consent was obtained from all participants, and confidentiality was maintained. Data were analyzed using SPSS version 24, with frequencies and percentages calculated for categorical variables and knowledge and practice levels. *Results:* The study included 80 nurses, with the majority aged 21–30 years (52.5%) and slightly more males (57.5%) than females (42.5%). Most participants held a Post RN BScN qualification (55.0%) and had less than one year of clinical experience (43.8%). Assessment of knowledge regarding pressure ulcer prevention revealed that over half of the nurses (56.3%) had poor knowledge, 37.5% had moderate knowledge, and only 6.3% demonstrated good knowledge. Knowledge levels were significantly associated with age ($p = 0.020$), educational qualification ($p = 0.002$), and clinical experience ($p = 0.008$). In terms of practice, most nurses (81.3%) demonstrated moderate practices, while 18.8% showed adequate practices, and none had inadequate practices, indicating that although practical adherence was generally acceptable, knowledge gaps were evident. *Conclusion:* The study concluded that nurses generally demonstrated moderate practices in pressure ulcer prevention, but their knowledge was largely inadequate. Strengthening educational interventions is essential to improve nurses' understanding and enhance patient care outcomes.

Keywords: Nurses; Knowledge; Practices, Pressure Ulcers

INTRODUCTION

Pressure ulcers, also known as bedsores or decubitus ulcers, remain one of the most common and preventable complications among bedridden patients in healthcare settings (Inayat et al., 2025). Despite advancements in healthcare, pressure ulcers continue to represent a serious challenge to patient safety, quality of care, and healthcare costs worldwide (Osaele, 2024).

According to the World Health Organization (WHO), prevalence rates ranging from 10% to 25% among hospitalized patients, with higher rates observed in intensive care units and long-term care facilities (Alkhatieb et al., 2025). In developing countries like Pakistan, the burden is even higher due to limited resources, staff shortages, inadequate training, and the absence of standardized preventive protocols (Hasifah et al., 2025).

The prevention of pressure ulcers is a primary nursing responsibility and an essential component of patient care (Ayane et al., 2025). Evidence-based preventive measures include regular repositioning of bedridden patients, use of pressure-relieving devices such as air or foam mattresses, maintaining optimal skin hygiene, ensuring adequate nutrition and hydration, and conducting regular skin assessments (Elmanzalawy et al., 2024). The knowledge of nurses regarding pressure ulcer prevention involves understanding the causes, risk assessment tools, staging, and evidence-based interventions that minimize pressure ulcer development (Junejo et al., 2024). Meanwhile, the practice of nurses refers to their actual performance of preventive interventions, including turning schedules, skin inspection, patient positioning, and documentation (Noreen et al., 2025).

In Pakistan, studies focusing on nurses' knowledge and practices regarding pressure ulcer prevention are limited, and the available data indicate significant variations in awareness and compliance with preventive guidelines (Diwoto et al., 2025). Furthermore, such studies contribute to quality improvement initiatives and enhance the overall standard of nursing care in hospitals (Sari et al., 2025).

METHODOLOGY & MATERIALS

A descriptive cross-sectional study was conducted at Aziz Bhatti Shaheed Teaching Hospital, Gujrat, over a four-month period from August 2025 to November 2025 to assess nurses' knowledge and practices related to pressure ulcer prevention among bedridden patients. A sample of 80 registered nurses was selected through convenient sampling from a total population of 100, calculated using Slovin's formula with a 5% margin of error. Eligible participants included male and female registered nurses with at least six months of clinical experience who were providing direct patient care in inpatient wards, ICUs, or other clinical units and were able to read and understand the questionnaire, while

nursing students, interns, nurses on leave, those in purely administrative roles, and those unwilling to provide consent were excluded. Formal permission was obtained from the hospital administration, and eligible nurses were identified with the assistance of the nursing service department; the study purpose was explained to participants and informed consent was obtained prior to data collection. Data were collected using a structured, pre-validated questionnaire consisting of a demographic form and adopted knowledge and practice questionnaires (Nuru et al., 2015), each containing 22 items, with knowledge scored as correct or incorrect and practice rated on a three-point scale. Knowledge and practice levels were categorized into poor, moderate, and good or inadequate, moderate, and adequate, respectively. Collected data were checked for completeness and analyzed using SPSS version 24 to calculate frequencies and percentages. Ethical principles were strictly observed through voluntary participation, written informed consent, confidentiality, anonymity, and the right to withdraw at any stage without any risk or harm.

RESULTS

Demographic Characteristics of Nurses

Table 1: Demographics characteristics of participants (n=80)

Demographic Variables	Category	Frequency (f)	Percentage (%)
Age	21–30 Year	42	52.5
	31–40 Year	22	27.5
	41–50 Year	16	20.0
Gender	Male	46	57.5
	Female	34	42.5
Qualification	Diploma in Nursing	21	26.3
	Post RN BScN	44	55.0
	Generic BScN	15	18.8
Experience	Less than 1 year	35	43.8
	1–3 years	19	23.8
	4–6 years	12	15.0
	7–10 years	14	17.5

Table 1 shows the demographic characteristics of the participants. More than half of the nurses were aged 21–30 years (52.5%), followed by those aged 31–40 years (27.5%). The majority of participants were male (57.5%). Regarding qualification, most nurses held a Post RN BScN degree (55.0%), while 26.3% had a Diploma in Nursing and 18.8% had a Generic BScN. In terms of experience, the largest proportion of nurses had less than one year of work experience (43.8%), followed by those with 1–3 years of experience (23.8%).

Knowledge of Nurses Regarding Pressure Ulcer Prevention

Table 2. Overall knowledge of nurses regarding Pressure ulcer prevention

Level of Knowledge	Frequency	Percentage
Poor Knowledge	45	56.3
Moderate Knowledge	30	37.5
Good Knowledge	5	6.3
Total	80	100

Table 2 presents the overall level of knowledge of nurses regarding pressure ulcer prevention. More than half of the nurses (56.3%) had poor knowledge, while 37.5% demonstrated moderate knowledge. Only a small proportion of nurses (6.3%) showed good knowledge, indicating an overall inadequate level of knowledge regarding pressure ulcer prevention.

Relationship Between Knowledge and Demographic Variables

Table 3. Association Between Knowledge Level and Age (n = 80)

Age	Poor Knowledge n (%)	Average Knowledge n (%)	Good Knowledge n (%)	Total	p-value
20–25 Year	20	17	5	42	0.020
26–30 Year	11	11	0	22	
31–35 Year	14	2	0	16	
Total	46	29	5	80	

Table 3 shows the association between nurses' knowledge level regarding chest tube care and their age. The association between age and knowledge level was statistically significant ($p = 0.020$), indicating that nurses' knowledge regarding chest tube care differed significantly across age groups.

Table 4. Association Between Knowledge Level and Qualification (n = 80)

Qualification	Poor Knowledge n (%)	Average Knowledge n (%)	Good Knowledge n (%)	Total	p-value
Diploma in Nursing	7	9	5	21	0.002
Post RN BScN	28	16	0	44	
Generic BScN	10	5	0	15	
Total	45	30	5	80	

Table 4 illustrates the association between nurses' knowledge level regarding chest tube care and their educational qualification. The association between knowledge level and qualification was statistically significant ($p = 0.002$), indicating that nurses' knowledge regarding chest tube care varied significantly according to their educational qualification.

Table 5. Association Between Knowledge Level and experience (n = 80)

Experience	Poor Knowledge n (%)	Average Knowledge n (%)	Good Knowledge n (%)	Total	p-value
Less than 1 year	20	10	5	35	0.008
1–3 years	8	11	0	19	
4–6 years	11	1	0	12	
7–10 years	6	8	0	14	
Total	45	30	5	80	

Table 5 shows the association between nurses' knowledge level regarding chest tube care and their clinical experience. The association between knowledge level and clinical experience was statistically significant ($p = 0.008$), indicating that nurses' knowledge varied significantly according to their years of experience.

Practices of Nurses Regarding Pressure Ulcer Prevention

Table 6 Overall practices of nurses regarding Pressure ulcer prevention

Level of Practices	Frequency	Percentage
Inadequate Practices	0	0
Moderate Practices	65	81.3
Adequate Practices	15	18.8
Total	80	100

Table 6 shows the overall practices of nurses regarding pressure ulcer prevention. The majority of nurses (81.3%) had moderate practices, while 18.8% demonstrated adequate practices. None of the nurses were found to have inadequate practices.

DISCUSSION

The present study aimed to assess the knowledge and practices of nurses regarding pressure ulcer prevention and to explore the association of demographic variables with their knowledge. The demographic findings showed that the majority of nurses were young, with 52.5% aged 21–30 years, followed by 27.5% aged 31–40 years. This indicates that the nursing workforce in the selected hospital primarily consisted of early-career professionals. Similar age distribution was reported by Al-Mugheed et al. (2020), who found that most participants in their study were aged between 20–30 years, reflecting the trend of employing younger nurses in hospital settings.

Regarding gender distribution, slightly more than half of the participants were male (57.5%), while females constituted 42.5%. This relatively balanced distribution contrasts with many international studies where female nurses dominate the workforce (Gillespie et al., 2014), suggesting a more equitable gender representation in this setting.

Educationally, the majority of nurses (55%) held a Post RN BScN degree, indicating a reasonably high academic qualification among participants. This aligns with findings by Alqahtani et al. (2021), who observed that nurses with bachelor-level education were more likely to demonstrate higher knowledge and competency in clinical care practices.

In terms of clinical experience, the largest proportion of nurses had less than one year of experience (43.8%), indicating a predominance of novice staff. Studies have shown that early-career nurses often have limited clinical exposure, which may influence their knowledge and performance in specialized nursing care, such as pressure ulcer prevention (Bale et al., 2019).

The findings on nurses' knowledge regarding pressure ulcer prevention were concerning, as more than half of the participants (56.3%) demonstrated poor knowledge, 37.5% had moderate knowledge, and only 6.3% showed good knowledge. This indicates an overall inadequate level of knowledge, which is consistent with similar studies conducted in developing countries where knowledge gaps in pressure ulcer prevention are common among nurses (Moore et al., 2018; Farid et al., 2020).

The analysis of the relationship between knowledge and demographic variables revealed statistically significant associations with age ($p = 0.020$), educational qualification ($p = 0.002$), and clinical experience ($p = 0.008$). Younger nurses (20–25 years) showed comparatively higher knowledge in some aspects,

possibly due to recent academic training. Nurses with a Diploma in Nursing exhibited better knowledge compared to Post RN BScN and Generic BScN in this study, which may reflect targeted training or experience in pressure ulcer care. Moreover, nurses with less than one year of experience demonstrated a proportion of good knowledge, highlighting the importance of recent education and training. These results are in line with previous research indicating that educational level and experience are significant predictors of nurses' knowledge and competency in wound care (Ayello & Baranoski, 2018; Kaddoura et al., 2019).

Regarding nursing practices, the majority of nurses (81.3%) demonstrated moderate practices in pressure ulcer prevention, and 18.8% showed adequate practices, with none having inadequate practices. This indicates that while knowledge was limited, nurses still applied preventive measures moderately in clinical settings. Similar trends were reported by Saleh et al. (2020), who found that nurses' practices in pressure ulcer prevention were generally moderate even when knowledge levels were low, highlighting the impact of institutional protocols and on-the-job experience on practice.

In summary, the study highlights a significant gap in knowledge regarding pressure ulcer prevention among nurses despite moderate practical performance. The findings emphasize the need for continuous professional education, targeted training programs, and mentoring for nurses, particularly those with limited experience, to enhance knowledge and improve patient care outcomes.

CONCLUSION

The study revealed that the majority of nurses were young (21–30 years), predominantly male, and held a Post RN BScN qualification, with most having less than one year of clinical experience. Overall knowledge regarding pressure ulcer prevention was inadequate, with 56.3% of nurses demonstrating poor knowledge, while only a small proportion (6.3%) showed good knowledge. Statistically significant associations were found between nurses' knowledge and their age, educational qualification, and clinical experience, indicating that these demographic factors influenced their understanding of pressure ulcer prevention. Despite limited knowledge, most nurses (81.3%) demonstrated moderate practices, suggesting that routine clinical exposure and institutional protocols may support the application of preventive measures.

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