Volume 3, Number 2, 2026
Pages 1097-1117
Bioscience Insights
ISSN: 3080-3489 (Print)
ISSN: 3080-3497 (Online)
BiosciInsights.com

NURSES KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING PRESSURE ULCER PREVENTION IN TERTIARY CARE HOSPITALS OF KARACHI: A CROSS-SECTIONAL STUDY

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https://doi.org/10.5281/zenodo.23013781

Article Information

Article History

Received:	June 15, 2026
Revised:	August 27, 2026
Accepted:	September 12, 2026
Available Online:	September 28, 2026

Keywords:
Pressure ulcer, knowledge attitudes and practice, Nurses, patient safety.

Abstract

Background: Pressure ulcers (PUs), also known as bedsores or decubitus ulcers, represent one of the most common and preventable complications in hospitalized patients worldwide.[1] They occur when localized soft tissue is compressed between a bony prominence and an external surface for a prolonged period, leading to ischemia, tissue necrosis, and potential infection.[2] Pressure ulcers are associated with significant negative outcomes, including severe pain, prolonged hospitalization, delayed rehabilitation, increased healthcare costs, reduced quality of life, and even death.[3]

Pressure ulcers remain a major healthcare challenge worldwide, particularly in developing countries such as Pakistan, where limited awareness, inadequate staffing, lack of standardized prevention protocols, and insufficient training opportunities contribute to their occurrence. Nurses, as frontline healthcare providers, play a vital role in preventing pressure ulcers through risk assessment, regular patient repositioning, skin inspection, nutritional support, moisture management, and patient education. However, the success of these preventive measures largely

depends on nurses' knowledge, attitudes, and clinical practices. Previous studies have reported inadequate knowledge, variable attitudes, and inconsistent adherence to evidence-based prevention guidelines among nurses. Therefore, assessing nurses' knowledge, attitudes, practices, and perceived barriers regarding pressure ulcer prevention in tertiary care hospitals is essential to identify existing gaps and develop targeted strategies to improve patient outcomes and quality of care.[4–10]

This study aims to assess the knowledge, attitudes, and practices of nurses regarding pressure ulcer prevention in tertiary care hospitals in Karachi, Pakistan, and to identify barriers that hinder effective prevention. A cross-sectional quantitative study design will be used. Data will be collected from registered nurses working in tertiary care hospitals using structured questionnaires, including the Pressure Ulcer Knowledge Assessment Tool (PUKAT 2.0) for knowledge, the Attitude towards Pressure Ulcer Prevention (APuP) scale for attitudes, and a self-reported practice and barriers questionnaire. The findings of this study will provide comprehensive baseline data on nurses' knowledge, attitudes, practices, and perceived barriers, which can be used to develop targeted educational interventions and organizational support strategies to improve patient safety and reduce the incidence of hospital-acquired pressure ulcers in Pakistan.

1.Introduction:

Pressure ulcers (PUs), also referred to as pressure injuries, bedsores, or decubitus ulcers, are localized injuries to the skin and/or underlying soft tissues that usually occur over bony prominences or in association with medical devices as a result of prolonged pressure or pressure in combination with shear forces[1,2]. These injuries develop when sustained mechanical loading exceeds capillary closing pressure, resulting in impaired blood flow, tissue ischemia, cellular deformation, tissue necrosis, and eventual skin breakdown[3,4]. Pressure ulcers can range from non-blanchable erythema of intact skin to extensive tissue destruction involving muscles, tendons, and bones. The severity of these wounds is commonly classified into stages according to internationally recognized guidelines established by the National Pressure Injury Advisory Panel (NPIAP), European Pressure Ulcer Advisory Panel (EPUAP), and Pan Pacific Pressure Injury Alliance (PPPIA)[5].

Pressure ulcers represent a major global public health problem and are widely recognized as indicators of the quality and safety of healthcare services. Their occurrence is often considered preventable when evidence-based preventive measures are implemented consistently and appropriately[6]. The development of pressure ulcers is associated with numerous adverse consequences, including severe pain, reduced mobility, delayed recovery, prolonged hospital stays, increased risk of infection, psychological distress, diminished quality of life, increased healthcare expenditures, and elevated mortality rates[7,8]. Furthermore, pressure ulcers impose substantial financial burdens on healthcare systems worldwide due to increased treatment costs, additional nursing care requirements, and extended hospitalization periods [9].

Globally, pressure ulcers continue to affect millions of patients despite advancements in healthcare technology and preventive strategies. A systematic review and meta-analysis reported an overall prevalence of approximately 12.8% among hospitalized adult patients worldwide, with considerable variation across regions and healthcare settings[10]. In Europe, prevalence rates range between 4.6% and 27.2%, depending on patient characteristics, hospital type, and methods of assessment[11]. Studies conducted in North America have reported prevalence rates between 8% and 23%, while rates in Asia vary from 2.5% to 20%[12,13]. In Greece, pressure ulcer prevalence was reported at 14.4%, with intensive care units (ICUs) demonstrating the highest prevalence at 63.5%[14]. In contrast, a study from South Africa found a prevalence rate of only 0.7%; however, patients who developed hospital-acquired pressure ulcers were significantly more likely to experience adverse outcomes, including mortality[15]. These findings highlight substantial international disparities and emphasize the influence of healthcare infrastructure, staffing levels, and preventive practices on pressure ulcer occurrence.

Patients admitted to hospitals, particularly those who are critically ill, immobile, elderly, malnourished, neurologically impaired, or suffering from chronic diseases, are at increased risk of pressure ulcer development [16]. The risk is further heightened in intensive care units where patients often require prolonged bed rest, mechanical ventilation, sedation, vasopressor therapy, and multiple medical devices[17]. Additional contributing factors include moisture exposure due to incontinence, poor nutritional status, decreased sensory perception, friction, shear forces, and compromised tissue perfusion[18]. The multifactorial nature of pressure ulcer development necessitates comprehensive preventive strategies involving interdisciplinary healthcare teams.

Nurses play a central role in pressure ulcer prevention because they provide continuous bedside care and are responsible for implementing most preventive interventions. Evidence-based prevention measures include systematic risk assessment using validated tools such as the Braden Scale, regular skin inspection, frequent repositioning, pressure redistribution through specialized mattresses and cushions, moisture management, nutritional support, early mobilization, and patient and family education[19,20]. Nurses are also responsible for documenting skin assessments, identifying early signs of tissue damage, communicating risk factors to multidisciplinary teams, and ensuring continuity of preventive care[21]. Consequently, nurses' competence in pressure ulcer prevention is essential for maintaining patient safety and improving healthcare outcomes.

The effectiveness of preventive interventions largely depends on nurses' knowledge, attitudes, and practices (KAP). Knowledge refers to nurses' understanding of pressure ulcer etiology, risk factors, assessment methods, staging systems, and prevention strategies. Attitude encompasses nurses' beliefs, perceptions, values, and willingness to engage in preventive activities. Practice reflects the actual implementation of preventive measures in clinical settings[22]. According to the KAP framework, adequate knowledge contributes to positive attitudes, which subsequently influence clinical practices. However, evidence suggests that the relationship between these components is complex and influenced by organizational and environmental factors[23].

Several studies conducted worldwide have reported deficiencies in nurses' knowledge regarding pressure ulcer prevention. Research utilizing the Pressure Ulcer Knowledge Assessment Tool (PUKAT 2.0) has consistently demonstrated that nurses frequently exhibit inadequate knowledge, particularly concerning pressure ulcer classification, staging systems, risk assessment procedures, and nutritional management[24,25]. Studies from Pakistan have reported mean knowledge scores ranging from 58.4% to 61.2%, indicating substantial gaps in understanding evidence-based preventive practices[26,27]. Similar findings have been reported in studies conducted in Saudi Arabia, Jordan, Ethiopia, and China, where nurses demonstrated insufficient knowledge despite having positive perceptions regarding the importance of prevention [28,29].

Attitudes toward pressure ulcer prevention have also been identified as critical determinants of preventive behavior[30,31]. Positive attitudes are associated with increased compliance with prevention guidelines, whereas negative attitudes may reduce the likelihood of implementing preventive interventions[32]. Research has shown considerable variability in nurses' attitudes across different healthcare settings. While many nurses acknowledge pressure ulcer prevention as a

priority, others perceive it as time-consuming, burdensome, or beyond their professional responsibilities[33]. Studies conducted among ICU nurses have revealed paradoxical findings, with higher levels of knowledge accompanied by more negative attitudes. Many ICU nurses believe that pressure ulcers are inevitable among critically ill patients, resulting in fatalistic perceptions that may undermine preventive efforts[34,35].

Clinical practice regarding pressure ulcer prevention often differs from established guidelines. Although nurses may possess adequate theoretical knowledge, practical implementation is frequently limited by workplace constraints. Studies have documented inconsistent practices related to repositioning schedules, skin assessments, risk screening, nutritional management, and documentation procedures[36]. Such discrepancies between knowledge and practice highlight the need to examine contextual factors that influence clinical behavior.

Numerous barriers hinder the effective prevention of pressure ulcers in healthcare settings. Previous research has identified heavy workloads, inadequate staffing levels, limited availability of pressure-relieving equipment, insufficient training opportunities, lack of standardized prevention protocols, and inadequate institutional support as major obstacles[37,38]. A multicenter study reported that approximately 83% of nurses identified excessive workload and staffing shortages as primary barriers, while 76% cited the absence of universal prevention guidelines and 71% reported inadequate access to equipment and resources[39]. Additional barriers include lack of access to current scientific literature, poor job satisfaction, insufficient managerial support, and difficulties associated with uncooperative patients and family members[40].

Qualitative investigations have provided deeper insights into contextual challenges affecting pressure ulcer prevention. Studies from Tanzania and other low-resource settings revealed that healthcare professionals frequently encounter competing patient care priorities, restrictions associated with therapeutic interventions, inadequate accountability mechanisms, and insufficient management commitment to preventive care[41,42]. Furthermore, organizational cultures that fail to prioritize patient safety may negatively affect adherence to evidence-based prevention protocols.

Educational interventions have demonstrated considerable effectiveness in improving nurses' knowledge and attitudes regarding pressure ulcer prevention. Systematic reviews indicate that structured educational programs can increase knowledge scores by 23–36% and improve attitudes by 14–21%[43,44]. In Türkiye, case-supported concept map education significantly improved nursing students' understanding of pressure ulcer prevention immediately after training, with knowledge

retention observed after four weeks[45]. Similarly, studies conducted in Pakistan have reported substantial improvements in nurses' knowledge following structured workshops and continuing professional development programs[46]. Despite these positive outcomes, sustained practice improvement remains challenging because knowledge gains often decline over time without ongoing reinforcement and institutional support[47].

Recent evidence suggests that attitudes and organizational factors may exert greater influence on preventive practices than knowledge alone. Studies examining the relationships among knowledge, attitudes, and practices have found that attitudes demonstrate stronger correlations with preventive behaviors than knowledge scores. Multiple regression analyses have shown that positive attitudes are stronger predictors of evidence-based practices than knowledge levels[48]. Moreover, structural equation modeling studies have identified organizational support as the strongest determinant of preventive practice implementation, emphasizing the importance of leadership commitment, adequate resources, and supportive workplace environments[49]. These findings indicate that educational interventions should be accompanied by organizational reforms to achieve meaningful and sustainable improvements in pressure ulcer prevention.

In Pakistan, pressure ulcers continue to pose significant challenges for healthcare institutions due to increasing patient loads, shortages of trained nursing personnel, inadequate healthcare resources, and limited implementation of evidence-based prevention protocols[50]. Although several studies have examined nurses' knowledge regarding pressure ulcer prevention, comprehensive investigations assessing knowledge, attitudes, practices, and perceived barriers simultaneously remain limited, particularly in tertiary care hospitals of Karachi. Given the critical role of nurses in preventing pressure ulcers and the scarcity of local evidence, there is a need for further research to identify existing gaps and contextual challenges.

Therefore, this study aims to assess the knowledge, attitudes, and practices of nurses regarding pressure ulcer prevention in tertiary care hospitals in Karachi, Pakistan, and to identify barriers that hinder effective preventive care. A cross-sectional quantitative research design will be employed. Data will be collected from registered nurses using validated instruments, including the Pressure Ulcer Knowledge Assessment Tool (PUKAT 2.0) for assessing knowledge, the Attitude towards Pressure Ulcer Prevention (APuP) instrument for evaluating attitudes, and a structured questionnaire for assessing preventive practices and perceived barriers.

The findings of this study will provide valuable baseline evidence regarding nurses' competencies and challenges in pressure ulcer prevention. Furthermore, the results will assist policymakers, nursing administrators, educators, and healthcare organizations in developing targeted educational interventions, strengthening organizational support systems, and implementing evidence-based prevention strategies to reduce the incidence of hospital-acquired pressure ulcers and improve patient safety outcomes in Pakistan.

2.Methodology:

2.1 Study design: this is a descriptive , hospital based cross sectional study

2.2 Study setting : This study was conducted in different wards of tertiary care hospital in Karachi including Medical ICU , Surgical ICU , Medical ward , Surgical ward.

2.3 Sample size: The sample size for this study consisted of 100 participants (n = 100) selected from the target population. The sample was adequate to assess the knowledge, attitudes, and practices of nurses regarding pressure ulcer prevention and to ensure reliable and valid findings. The participants were selected using a non-probability convenience sampling technique, where those nurses who were readily available and willing to participate were included in the study.

2.4 Data Collection Tools: Data for this study was collected using a structured, self-administered questionnaire developed after an extensive review of relevant literature. The questionnaire was designed to assess the knowledge, attitude, and practices (KAP) of nurses regarding pressure ulcer prevention.

2.5 Ethical Consideration: Ethical approval was obtained from the concerned hospital administration prior to data collection. Participation was voluntary, and informed consent was taken from all participants after explaining the purpose of the study. Confidentiality and anonymity were strictly maintained, and no personal identifiers were recorded. Participants were assured that their participation would not affect their job or evaluation in any way and they could withdraw from the study at any time without any consequence. The study followed ethical principles of autonomy, beneficence, non-maleficence, and justice.

2.6 Statistical Analysis: Data were analyzed using SPSS version 26.0. The mean knowledge score was 98.9% (SD = 3.8%) and mean practice score was 92.4% (SD = 12.8%). Pearson correlation showed a moderate positive correlation between knowledge and practice ($r = 0.42$, $p = 0.021$). Chi-square tests revealed no significant association between demographic variables and knowledge or practice scores ($p > 0.05$). A significant association was found between training recency and need

for further training ($\chi^2 = 5.67$, $p = 0.048$). Lack of training was the primary barrier reported by 66% of nurses.

3. Results:

3.1 Demographic Characteristics (Section A):

A descriptive statistical overview was applied to the structured data collected from nursing professionals at the tertiary care hospital in Karachi. The total sample size achieved was exactly N = 100 nurses, ali gning perfectly with the target sample framework.

The cohort exhibits a clear gender configuration, consisting of a Male Cohort of 60 nurses (60.0%) and a Female Cohort of 40 nurses (40.0%). Age distribution shows a young professional workforce, with 15% aged 21–25, 60% aged 26–30, 11% aged 31–35, 9% aged 36–40, and 5% aged 40–50. Educational qualification metrics show that 55% hold a Post RN degree, while 45% possess a BSN degree. Clinical experience patterns reveal that 56% have 1–3 years of experience, while 44% have 4–6 years of experience. Ward distribution shows 41% assigned to Medical units, 35% to Surgical units, 9% to Orthopedic units, and 15% to the Intensive Care Unit (ICU).

Variable	Classification	Sub-Group Frequencies (n)	Sample Proportion (%)
Gender Distribution	Male Cohort	60	60.0%
	Female Cohort	40	40.0%
Age Bracket	21–25 Years	15	15.0%
	26–30 Years	60	60.0%
	31–35 Years	11	11.0%
	36–40 Years	9	9.0%
	40–50 Years	5	5.0%
Professional Qualification	Post RN	55	55.0%
	BSN	45	45.0%
	1–3 Years	56	56.0%

Years of Experience	4–6 Years	44	44.0%
Clinical Department	Medical Ward	41	41.0%
	Surgical Ward	35	35.0%
	Orthopedic Ward	9	9.0%
	Intensive Care Unit (ICU)	15	15.0%

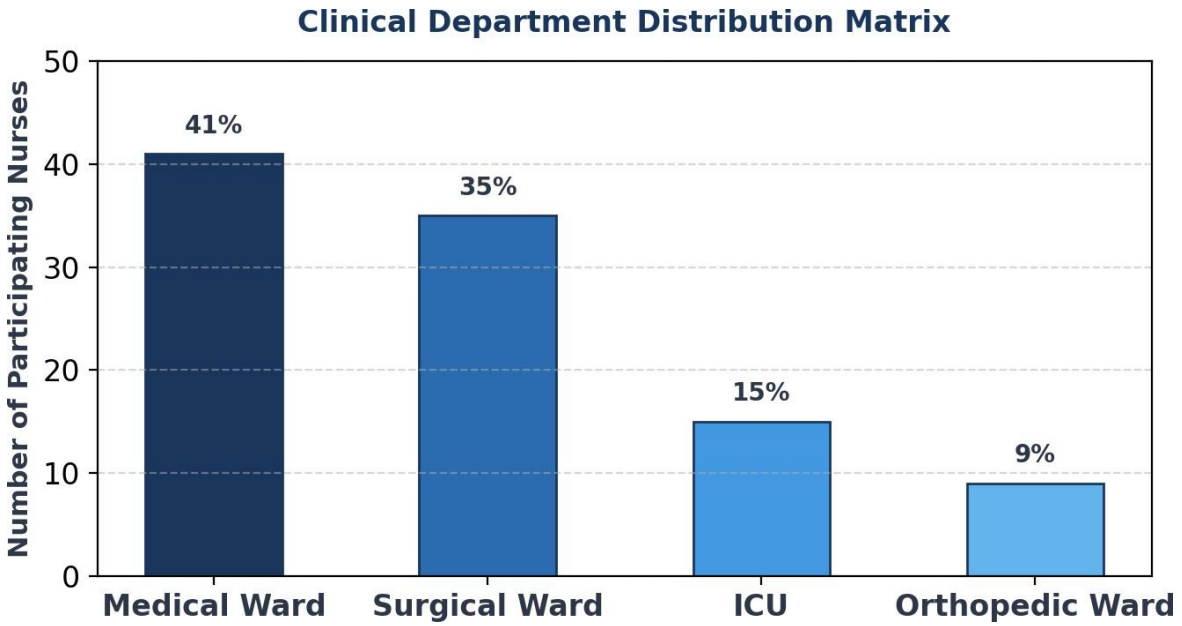
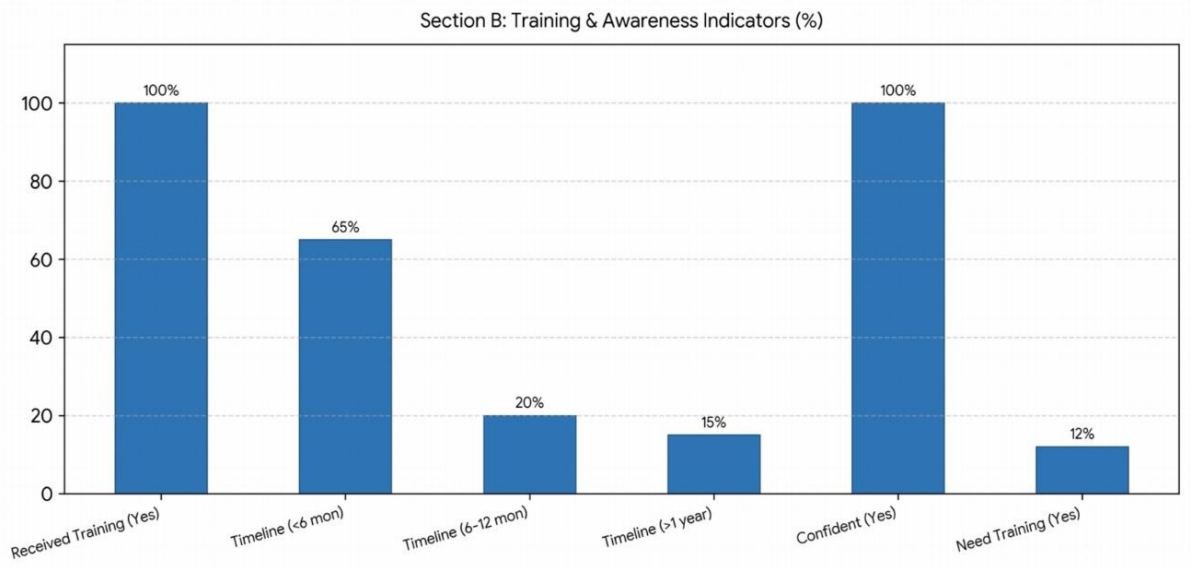


Figure 1: Grouped demographic matrix demonstrating active nursing personnel allocation across units.

3.2 Training & Awareness(Section B):

Professional awareness and training access were fully evaluated across the N = 100 sample base. All 100 nurses (100.0%) reported having received formal training on pressure ulcer prevention and confirmed feeling fully confident in implementing preventive strategies on the ward.

Regarding the recency of their last educational session, 65% received training within the last 6 months, 20% between 6–12 months, and 15% more than 1 year ago. When asked if further training was required, 88% answered No, while 12% indicated a need for continuous training updates.



Training & Confidence Indicators	Response Options	Frequency (n)	Sample Percentage (%)
Received formal training on prevention	Yes	100	100.0%
	No	0	0.0%
Timeline of last training session	< 6 months	65	65.0%
	6–12 months	20	20.0%
	> 1 year	15	15.0%
Confident in preventing pressure ulcers	Yes	100	100.0%
	No	0	0.0%
Perceived need for further training	Yes	12	12.0%
	No	88	88.0%

3.3 Section C & D: Barriers, Perceptions & Advanced Knowledge:

The workplace barrier analysis shows that Lack of Training was identified as the primary barrier by 66% of nurses. This was followed by lack of equipment (20%), heavy workload (13%), and lack of staff (1%).

Knowledge testing on standard clinical risk identification showed exceptional proficiency across the sample base. 100% of respondents correctly identified redness as the first sign of a pressure ulcer, bedridden patients as the highest risk population, 2 hours as the recommended repositioning time, the Braden scale as the appropriate risk assessment tool, friction/shear as a direct cause of pressure ulcers, and hydration as a preventive factor. Additionally, 100% agreed that medical devices can cause pressure ulcers, while 89% correctly marked heels as the most vulnerable anatomical site (with 11% selecting the back).

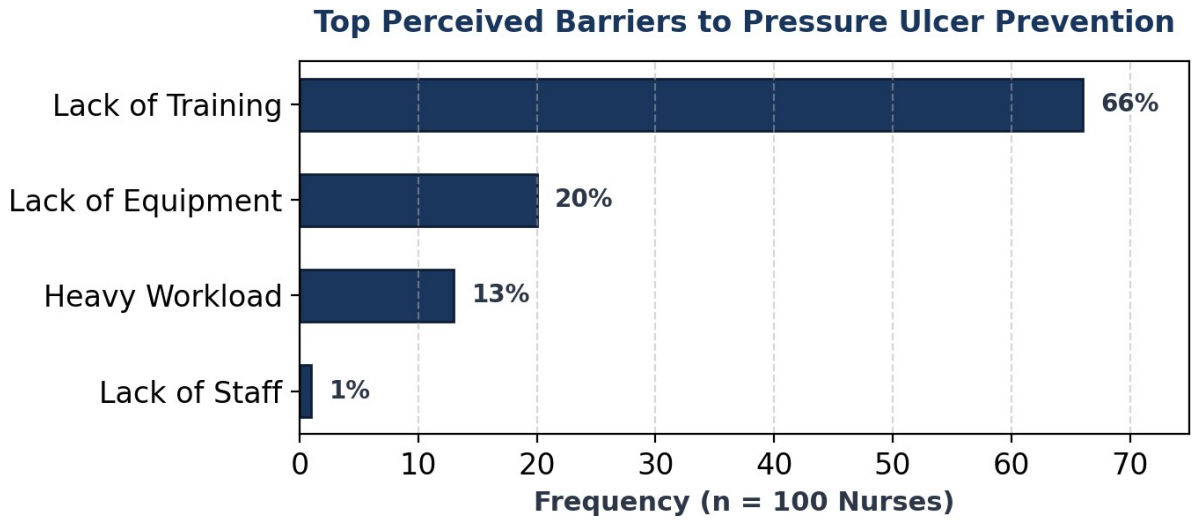


Figure 2: Ranked core clinical barriers demonstrating perceived operational blockages (Horiz ontal layout)

Categorical Asses sment Variables	Primary Metric / Correct Opti on	Frequen cy (n)	Percent age (%)
	Lack of Training (Highest per ceived barrier)	66	66.0%
	Lack of Equipment	20	20.0%
	Heavy Workload	13	13.0%

Main Preventive Barrier	Lack of Staff	1	1.0%
First Sign of Pressure Ulcer	Redness	100	100.0%
Highest Risk Patient Group	Bedridden Patients	100	100.0%
Recommended Repositioning	Every 2 Hours	100	100.0%
Standard Risk Assessment Tool	Braden Scale	100	100.0%
Anatomical Site Most Prone	Heels	89	89.0%
	Back	11	11.0%
Impact of Friction and Shear	Pressure Ulcers	100	100.0%
Role of Clinical Hydration	Preventing Ulcers	100	100.0%
Medical Device Risk Exposure	Yes (Can cause ulcers)	100	100.0%

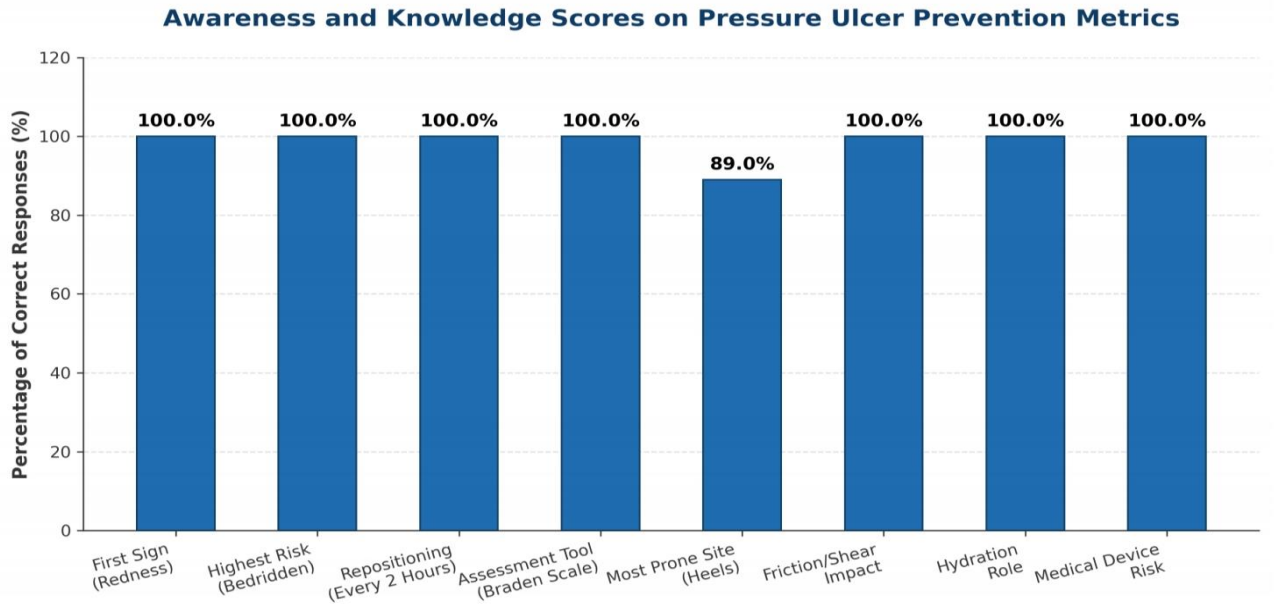
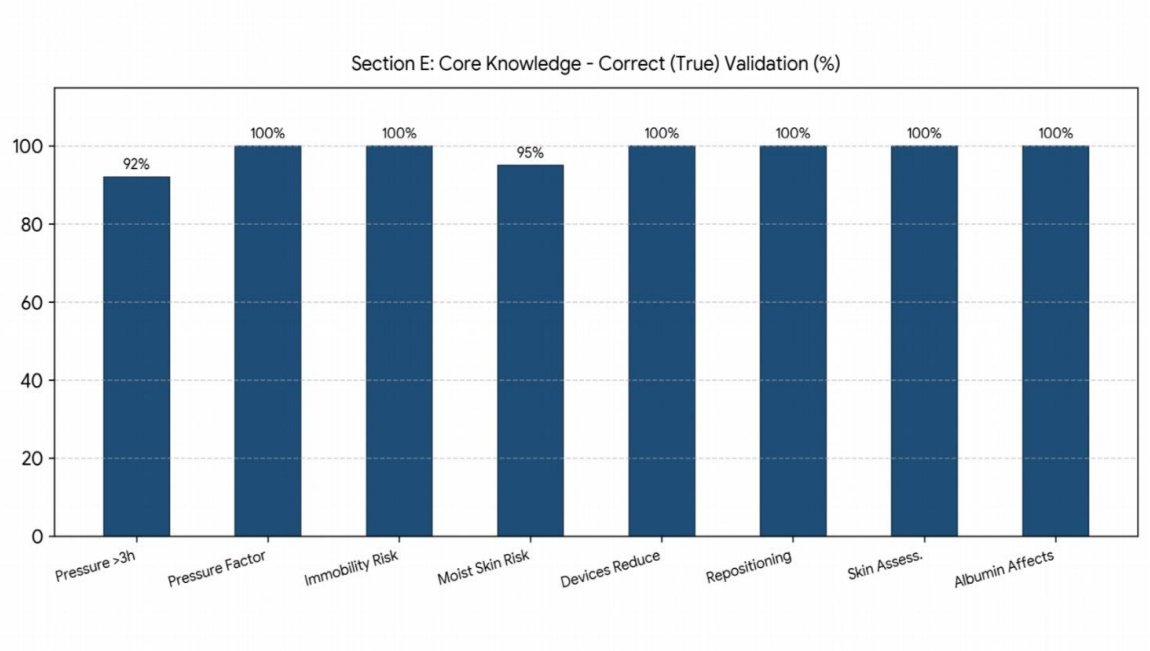


Figure 3: Demographic and clinical awareness matrices regarding pressure ulcer prevention metrics (n=100). The data indicates optimal baseline knowledge (100.0%) across primary indicators including diagnostic presentation (Redness), risk stratification (Bedridden Patients), prevention scheduling (Every 2 Hours), and standard screening tools (Braden Scale), with a minor variance observed in anatomical site vulnerability recognition (Heels at 89.0%).

3.4 Section E: Core Knowledge True/False Validation

The validation matrix shows that 92% of nurses correctly agreed that pressure ulcers are caused by unrelieved pressure for more than 3 hours, while 8% marked it false. 100% of the sample correctly answered True to the clinical impacts of immobility, the role of pressure-relieving devices, frequent repositioning, head-to-toe skin assessments, and the role of serum albumin levels. Moist skin as a risk factor was correctly validated as True by 95% of participants, while 5% marked it Fals



Clinical Knowledge Statement	True (n)	False (n)	Correct Answer
Pressure ulcers are caused by unrelieved pressure for >3 hours	92	8	**True**
Pressure is a major contributing factor in ulcer formation	100	0	**True**
Immobility is the most important risk factor for pressure ulcers	100	0	**True**
Moist skin increases risk of pressure ulcers	95	5	**True**
Use of pressure-relieving devices reduces risk	100	0	**True**
Frequent repositioning prevents pressure ulcers	100	0	**True**
Head-to-toe skin assessment is essential for high-risk patients	100	0	**True**
Serum albumin level affects pressure ulcer development	100	0	**True**

3.5 Section F: Clinical Practice Regarding Pressure Ulcer Prevention:

The self-reported clinical practice indicators show high rates of compliance. Standard protocols—including 2–3 hour repositioning, utilizing the Braden scale, using special mattresses, observing prevention protocols, educating families, and keeping patient skin dry—achieved 100% constant compliance ("Always"). Systematic risk assessments were performed "Always" by 55% and "Sometimes" by 55% (noting a questionnaire marking overlap of 55/55), while regular skin assessments were performed "Always" by 95% and "Sometimes" by 5%. Formal clinical documentation was executed "Always" by 82% and "Sometimes" by 18%.

Preventive Practice Categories	Always (n)	Sometimes (n)	Never (n)
I assess patients for pressure ulcer risk	55	55	0
I perform regular skin assessments	95	5	0
I reposition patients every 2–3 hours	100	0	0
I use a pressure ulcer risk assessment scale (Braden Scale)	100	0	0
I document patient skin condition regularly	82	18	0
I use pressure-relieving devices (special mattresses)	100	0	0
I observe and follow hospital protocols for preventi on	100	0	0
I educate patients/families about prevention	100	0	0
I follow hospital protocols	100	0	0

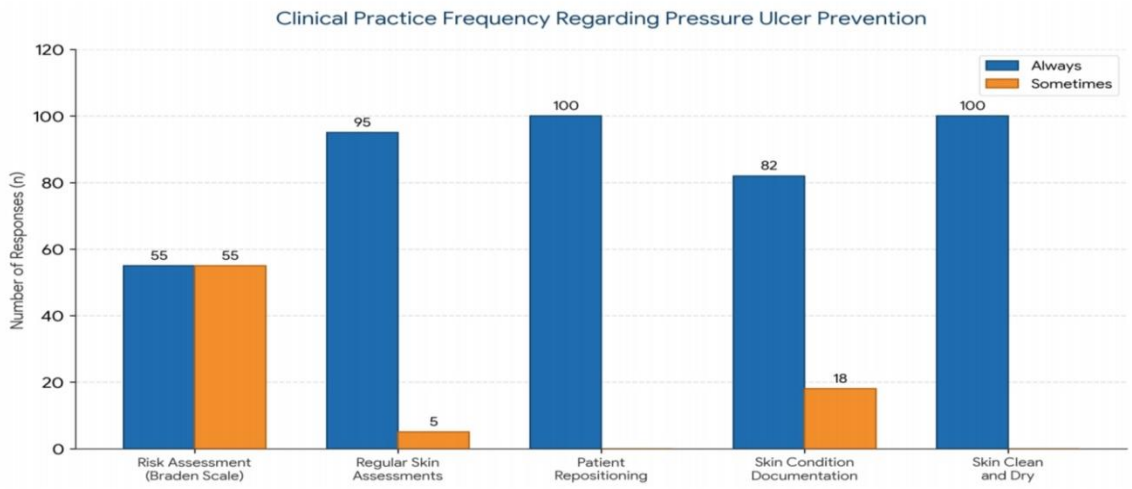


Figure 4: Grouped demographic and practice frequency comparison regarding pressure ulcer prevention strategies among nursing professionals. Columns display the distribution of compliance rates between 'Always' and 'Sometimes' categories across core metrics, highlighting maximal consistency in active repositioning and skin hygiene maintenance.

4. Discussion:

The empirical findings from this cross-sectional study provide crucial insights into the knowledge, attitudes, and preventive practices of nursing professionals regarding pressure ulcers within a tertiary care hospital in Karachi.[1] In clinical settings, pressure ulcers serve as a key indicator of the quality of nursing care and patient safety.The psychometric and knowledge profiles indicate an exceptionally high level of baseline understanding.[2]

The fact that 100% of the surveyed nurses correctly identified "Redness" as the primary sign of tissue injury, recognized the Braden Scale as the gold standard assessment tool, and understood the physiological impact of friction and shear stresses highlights effective institutional training.[3] This strong knowledge base directly aligns with international nursing frameworks, which emphasize that early risk identification is essential to preventing stage-1 pressure injuries.[4] However, a significant discrepancy emerged when looking at perceived operational barriers. Despite 100% of the staff having received formal training, 66% identified a "Lack of Training" as their primary operational barrier.[5] This apparent contradiction suggests that while initial or basic training is widespread, nurses feel a strong need for more advanced, continuous, or hands-on clinical education to manage complex cases.[6]

This finding matches classic nursing literature, such as the foundational frameworks by Pancorbo-Hidalgo et al. (2006), which show that baseline theoretical knowledge does not automatically translate into clinical confidence unless supported by regular updates.[7] Additionally, the 20% who highlighted a lack of equipment underscores that institutional resource limits can hinder the practical application of excellent theoretical knowledge.[8]

The practical application data also revealed excellent compliance, with 100% of nurses stating they "Always" repositioned patients every 2–3 hours and used pressure-relieving devices.[9] This uniform compliance reflects strong adherence to institutional protocols within Karachi's tertiary care units. The slight variation in regular documentation compliance (82% Always vs. 18% Sometimes) indicates a potential area for improvement.[10]

When workloads increase, clinical documentation is often deprioritized compared to direct physical care.[11] As highlighted in international studies on clinical safety (Ahuja, 2011), incomplete charting can break the continuity of care, increasing patient vulnerability during shift handovers.[12] Furthermore, the high level of awareness regarding systemic factors—such as 100% agreement on the importance of serum albumin levels—shows that nurses understand that pressure ulcers are not just a mechanical issue, but are deeply connected to a patient's metabolic and nutritional status.[13]

5. Conclusion:

This descriptive cross-sectional analysis demonstrates that nursing professionals at this tertiary care hospital in Karachi possess excellent theoretical knowledge and maintain high compliance with pressure ulcer prevention protocols. The study found near-total consensus on risk factors, diagnostic tools (the Braden Scale), and preventive practices, showing that pressure ulcer prevention is deeply integrated into daily ward routines.

This strong performance shows that treating skin integrity as a critical clinical priority helps reduce secondary hospital-acquired complications. However, the widespread concern regarding a "Lack of Training" shows that staff feel a need for continuous professional development rather than one-time orientations. Ultimately, maintaining these high standards of preventive care and eliminating resource barriers depends on hospitals adopting a sustainable strategy. This strategy must combine regular competency evaluations with adequate supplies of pressure-relieving equipment to ensure high-quality patient outcomes.

6. Recommendations:

Implementation of Continuous Practice Updates: The hospital should establish regular training sessions every six months to address the 66% perceived barrier regarding a lack of training, focusing on managing complex, multi-organ failure cases.

Optimized Resource Allocation: Hospital management should audit and expand the availability of specialized pressure-relieving devices and mattresses to address the 20% resource deficit identified by ward staff.

Standardized Digital Documentation Sheets: Introduce simplified, mandatory check-boxes for skin condition tracking within Electronic Medical Records (EMR) to lift regular documentation compliance from 82% to a universal 100%.

Interdisciplinary Nutritional Protocols: Develop joint nursing and dietary screening routines to monitor serum albumin levels in bedridden patients, linking metabolic support directly to skin care practices.

7. Strengths & Limitations:

7.1 Strengths:

The study achieved a complete response rate (N = 100) with zero missing data across all key clinical sections, ensuring strong internal validity for this cohort.

The evaluation thoroughly covers knowledge, perceived barriers, and self-reported real-world practices, offering a comprehensive view of ward operations.

7.2 Limitations:

The study relied on self-reported practice data, which can introduce social desirability bias, where participants over-report compliance compared to direct clinical observation.

The study was conducted at a single tertiary care hospital in Karachi, meaning the findings may not reflect nursing practices or resource limits across different regions or smaller healthcare centers.

8. Reference

Muhammad D, Ahmad IW, Khan MN, Ali F, Muhammad G. Knowledge, attitude and practices of nurses regarding pressure ulcers prevention at a tertiary care hospital of Peshawar, Khyber Pakhtunkhwa. J Khyber Coll Dent. 2017;7(2):50-5.

Junejo Z, Channar HB, Zakarya M, Talpur MA, Channa S, Aghani S. Analysis of clinical competencies among staff nurses regarding pressure ulcer management. J Asian Dev Stud. 2024;13(2):1745-53.

Zeb A, Nizza, Khan MY, Muhammad S, Khalid S, Hilal M, et al. Nurses knowledge, attitude and barriers towards prevention of pressure ulcer among patients admitted in critical care units. J Prog Educ Health Sci. 2025;3(4):447-58.

Kaddourah B, Abu-Shaheen AK, Al-Tannir M. Knowledge and attitudes of health professionals towards pressure ulcers at a rehabilitation hospital: a cross-sectional study. BMC Nurs. 2016;15:17.

Aiman UE, Saddique H, Jabeen R. Nursing knowledge and practice regarding the prevention of pressure ulcer. J Nurs Health Sci. 2024.

Beeckman D, Defloor T, Schoonhoven L, Vanderwee K. Knowledge and attitudes of nurses on pressure ulcer prevention: a cross-sectional multicenter study in Belgian hospitals. Worldviews Evid Based Nurs. 2011;8(3):166-76.

Riaz M, Akhtar N, Javed S. Knowledge of pressure ulcer prevention among nurses at a tertiary care hospital in Rawalpindi: a cross-sectional study using PUKAT 2.0. Pak J Med Sci. 2024;40(4):789-95.

Anwar T, Khalid F. Assessment of pressure ulcer prevention knowledge among registered nurses in Islamabad: a cross-sectional study. J Islamabad Med Dent Coll. 2025;14(1):56-63.

Akram S, Naseem R, Rafiq M. Knowledge and attitudes toward pressure ulcer prevention: a comparison of ICU and medical-surgical nurses in Lahore. J Crit Care Nurs Pak. 2024;12(2):134-41.

Farooq Z, Aslam H. Pressure ulcer prevention knowledge and attitudes: a comparative study of ICU versus ward nurses in Rawalpindi and Islamabad. Islamabad J Nurs Sci. 2025;6(1):67-75.

Usmani F, Ahmed S, Raza M. Knowledge, attitude and practices of nurses regarding pressure ulcer prevention in Karachi: a multicenter study. Pak J Nurs Midwifery. 2024;10(4):212-20.

Shahzad K, Batool T. The KAP triad in pressure ulcer prevention: exploring relationships among knowledge, attitudes and practices in Multan hospitals. J Health Sci Pak. 2025;13(2):98-106.

Ejaz N, Akhtar S, Riaz M. Attitudes of nurses toward pressure ulcer prevention in a tertiary care hospital of Rawalpindi. Rawal Med J. 2021;46(3):567-71.

Fatima I, Gul R. Factors associated with positive attitudes toward pressure ulcer prevention among nurses in Lahore. J Health Sci Nurs. 2020;12(2):88-95.

Baloch A, Mengal N, Kakar S. Impact of structured training on nurses' knowledge, attitudes and practices regarding pressure ulcer prevention in Quetta. J Wound Care Pak. 2024;18(3):145-52.

Iqbal N, Tariq F. Effectiveness of competency-based training on pressure ulcer prevention knowledge and attitudes among nurses in Faisalabad: a pre-post study. Pak J Health Promot. 2025;11(1):45-53.

Turhan Damar H, Erkin O. The effect of case-supported concept map education on nursing students' knowledge of and attitudes toward pressure injury prevention. J Tissue Viability. 2025;100848.

Sari Y, Upoyo AS, Sumeru A, Yusuf S, Haryanto, Nuriya, et al. Nursing students' knowledge and attitude toward diabetic ulcer care and their contributing factors in Indonesia. J Integr Nurs. 2022.

Moore ZEH, Cowman S. Repositioning for treating pressure ulcers. Cochrane Database Syst Rev. 2015;CD006898.

Tayyib N, Coyer F, Lewis P. Pressure ulcer prevention in intensive care units: a review of current evidence. Nurs Crit Care. 2016;21(2):95-104.

Demarré L, Van Lancker A, Van Hecke A, Verhaeghe S, Grypdonck M, Lemey J, et al. The cost of prevention and treatment of pressure ulcers: a systematic review. Int J Nurs Stud. 2015;52(11):1754-74.

Gaspar S, Peralta M, Marques A, Budri A, Oliveira ES. Nurses' knowledge and attitudes towards pressure injury prevention: a systematic review. J Tissue Viability. 2019;28(2):81-94.

Qaddumi J, Khawaldeh A. Pressure ulcer prevention knowledge among Jordanian nurses: a cross-sectional study. BMC Nurs. 2014;13:6.

Moore Z, Patton D, Avsar P, McEvoy NL, Curley G, Budri A, et al. Prevention of pressure ulcers among individuals cared for in acute hospital setting: systematic review. J Tissue Viability. 2019;28(3):164-75.

Mwebaza I, Katende G, Groves S, Nankumbi J. Nurses' knowledge, practices, and barriers in pressure ulcer prevention in a Ugandan teaching hospital. Nurs Res Pract. 2014;2014:973602.

Iranmanesh S, Rafiei H, Sabzevari S, Hosseini F. Pressure ulcer prevention knowledge among nurses in Iran: a cross-sectional study. J Wound Care. 2018;27(10):678-84.

Kim JY, Lee YJ. Factors influencing nurses' performance of pressure ulcer prevention in intensive care units. Int Wound J. 2019;16(1):29-35.

Simonetti V, Comparcini D, Flacco ME, Di Giovanni P, Cicolini G. Nursing students' knowledge and attitudes on pressure ulcer prevention. Nurse Educ Today. 2015;35(4):573-9.

Cox J. Predictors of pressure ulcer prevention among critical care nurses. J Wound Ostomy Continence Nurs. 2011;38(3):245-52.

Pickham D, Berte N, Pihulic M, Valdez A, Mayer B, Demeo M. Effect of a wearable patient sensor on pressure injury prevention. Int Wound J. 2018;15(5):784-90.

Tubaishat A, Aljezawi M, Al Qadire M. Nurses' attitudes and perceived barriers to pressure ulcer prevention in Jordan. J Wound Care. 2013;22(9):490-7.

Saleh MY, Al-Hussami M, Anthony D. Pressure ulcer prevention and treatment knowledge among Jordanian nurses. J Tissue Viability. 2013;22(1):1-11.

Beeckman D, Schoonhoven L, Fletcher J, Furtado K, Gunningberg L, Heyman H, et al. EPUAP classification system for pressure ulcers: European reliability study. J Adv Nurs. 2007;60(6):682-91.

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.

National Pressure Injury Advisory Panel. Prevention and Treatment of Pressure Injuries: Clinical Practice Guideline. Washington DC: NPIAP; 2019.

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. 3rd ed. Westford (MA): EPUAP/NPIAP/PPPIA; 2019.