

Perceived Barriers toward Pressure Injury Prevention among Nurses in a Public Hospital

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ABSTRACT

Background: Pressure injury prevention remains a major patient safety priority, yet various barriers may hinder nurses from implementing evidence-based preventive practices. This study aimed to assess perceived barriers to pressure injury prevention among nurses in a public hospital in Malaysia. Methods: A quantitative cross-sectional study was conducted among 497 nurses using convenience sampling. Data were collected through a self-administered questionnaire comprising sociodemographic characteristics and the Pressure Injury Prevention Barriers (PIPB) instrument and analysed using SPSS version 27. Results: The overall mean perceived barrier score was low ($M = 5.67$, $SD = 6.66$), representing 22.7% of the total possible barriers. Among the four domains, staff and collaboration recorded the highest perceived barrier score (42.0%), followed by management and organisation (30.6%). Conclusion: Although nurses reported generally low perceived barriers, challenges related to staffing, interdisciplinary collaboration, and organisational support remain evident. Addressing these barriers may strengthen pressure injury prevention and improve the quality and safety of patient care.

Keywords: Pressure injury, barrier, nurses, prevention, patient safety, Malaysia.

INTRODUCTION

Pressure injury (PI) remains a major patient safety concern and an important indicator of healthcare quality. It is associated with pain, physical and psychological distress, prolonged hospitalisation, increased treatment costs, and reduced quality of life. Although PI is generally regarded as a preventable adverse event, it continues to occur in hospital settings across both developed and developing healthcare systems. Lopez-Lopez- et al. (2020) highlighted that PI prevalence remains substantial across countries and that hospital-acquired PI imposes a considerable clinical and economic burden on healthcare organisations.

Evidence-based guidelines recommend preventive measures such as systematic risk assessment, regular skin inspection, repositioning, nutritional management, appropriate documentation, and the use of pressure-redistributing support surfaces. Nurses have a central role in performing these interventions because they are continuously involved in assessing patients, identifying risks, planning preventive care, and monitoring skin integrity. However, adequate knowledge and positive attitudes do not necessarily ensure that recommended preventive measures are consistently translated into practice. Wan et al. (2023) reported that the uptake of pressure injury prevention and management guidelines remains suboptimal, particularly within complex acute-care environments where clinical priorities, workload, resources, and multidisciplinary decision-making compete with preventive activities.

Pressure injury prevention is therefore influenced not only by individual nurses' competence but also by organisational, environmental, and interpersonal factors. Lopez- et al. (2020) described barriers to PI prevention as factors arising from healthcare systems, organisational structures, management processes,

healthcare professionals, patients, and families that may impede the delivery of recommended preventive care. Their work further demonstrated that perceived barriers can be grouped into four domains: management and organisation, motivation and priority, knowledge, and staff and collaboration.

International evidence has shown that barriers to PI prevention are diverse and occur at both individual and organisational levels. In a mixed-methods systematic review of 78 studies, Wu et al. (2023) identified knowledge, skills, environmental context and resources, social influences, professional roles, and optimism as prominent factors affecting pressure injury prevention in hospital settings. Similarly, Wan et al. (2023) found that clinicians frequently experienced practical difficulties in implementing PI guidelines because of competing clinical priorities, substantial workload demands, limited access to updated guidelines, inadequate specialist support, and shortages of pressure-relieving equipment. Their review also emphasised the importance of nurse-led multidisciplinary care, effective communication, and patient participation in improving guideline implementation.

Earlier work by Lizarondo et al. (2020) similarly proposed that the successful implementation of PI prevention depends on interactions among healthcare organisations, practitioners, patients, and caregivers. Leadership, organisational culture, teamwork, communication, education, resource availability, and staff engagement were identified as important contextual influences on preventive practice. The authors argued that identifying barriers and facilitators is necessary before targeted implementation strategies can be developed. More recent evidence among neonatal and paediatric intensive care nurses also demonstrated that staff shortages and time constraints remained prominent barriers, while formal training and the use of structured assessment tools were associated with improved preventive practices (Mostafa et al., 2024).

Within Malaysia, evidence regarding nurses' perceived barriers to PI prevention remains relatively limited and has predominantly focused on critical care settings. A study among critical care nurses in Klang Valley public hospitals found unsatisfactory knowledge and attitudes, together with a moderately high level of perceived barriers toward PI prevention Azhar et al. (2022). More recently, Iskandar et al. (2025) examined critical care nurses across three Malaysian tertiary hospitals and identified frequent staff turnover, poor cooperation from family caregivers, and inadequate preventive equipment as the most prominent barriers. Access to PI prevention guidelines was also significantly associated with lower perceived barriers, indicating that organisational support and effective dissemination of evidence-based guidance may facilitate preventive care.

The Pressure Injury Prevention Barriers questionnaire developed by Lopez-Franco et al. (2020) provides a structured approach for assessing these challenges. The validated instrument contains 25 items across four domains—management and organisation, motivation and priority, knowledge, and staff and collaboration—and demonstrates good overall internal consistency and adequate construct validity. It was specifically developed to measure how frequently nurses perceive barriers during their usual clinical practice, making it appropriate for evaluating organisational and professional obstacles to PI prevention.

Although previous Malaysian studies have examined barriers among critical care nurses, less is known about perceived barriers among nurses working across broader clinical settings within a public hospital. Barriers may vary between departments because of differences in patient dependency, workload, staffing arrangements, access to resources, clinical priorities, and patterns of multidisciplinary collaboration. Evidence from a broader hospital nursing population is therefore required to identify context-specific obstacles and inform targeted organisational improvements. Accordingly, this study aimed to assess perceived barriers to pressure injury prevention among nurses in a public hospital in Malaysia.

METHODOLOGY

Study Design

A quantitative cross-sectional study was conducted to assess nurses' perceived barriers to pressure injury prevention in a public hospital in Malaysia. Data were collected in April 2026 using a self-administered online questionnaire distributed through Google Forms. A cross-sectional design was selected because it enables the assessment of nurses' perceptions at a single point in time and facilitates the identification of perceived barriers

associated with pressure injury prevention in routine clinical practice. The study was carried out in one of the largest tertiary public hospitals in Malaysia, providing comprehensive healthcare services across a wide range of medical and surgical specialties.

Study Population

The study population comprised registered nurses who were directly involved in patient care at the selected public hospital. Nurses with a minimum of three months of clinical working experience and who voluntarily agreed to participate were eligible for inclusion. Nurses working solely in administrative or managerial positions and those not directly involved in patient care were excluded from the study. Convenience sampling was employed to recruit eligible participants. A total of 497 registered nurses completed the questionnaire and were included in the final analysis.

Research Instrument

Data were collected using a structured self-administered questionnaire consisting of two sections.

The first section collected respondents' sociodemographic characteristics, including age, gender, ethnicity, educational level, years of nursing experience, current job position, frequency of caring for patients at risk of pressure injury, previous experience in managing patients with pressure injury, attendance at pressure injury-related education or training, and the most recent pressure injury-related training attended.

The second section consisted of the Pressure Injury Prevention Barriers (PIPB) questionnaire developed and validated by Lopez-Franco et al. (2020). The instrument comprises 25 items organised into four domains: management and organisation, motivation and priority, knowledge, and staff and collaboration. Each item is rated using a five-point Likert scale ranging from 0 (never) to 4 (always), with higher scores indicating greater perceived barriers to pressure injury prevention.

Translation, Content Validation and Reliability

Permission to use the Pressure Injury Prevention Barriers (PIPB) questionnaire was obtained from the original instrument developer before data collection commenced.

The original English version of the questionnaire was translated into Malay using a forward-backward translation procedure to ensure conceptual, semantic, and linguistic equivalence. The forward translation from English into Malay and the backward translation from Malay into English were independently reviewed by qualified bilingual language experts in Malay and English to ensure the translated version accurately reflected the meaning of the original instrument while maintaining clarity and cultural appropriateness.

Following the translation process, the Malay version of the questionnaire underwent content validation by two nursing experts with Master's degrees in Nursing (Research), who evaluated the relevance, clarity, and appropriateness of each item for use among Malaysian nurses. Minor linguistic refinements were incorporated based on their recommendations without altering the original content, item structure, or response categories.

Prior to the main study, a pilot study involving 50 registered nurses was conducted to evaluate the reliability of the translated instrument. The Malay version of the PIPB questionnaire demonstrated excellent internal consistency, with an overall Cronbach's alpha coefficient of 0.90, indicating that the instrument was reliable and suitable for use in the present study.

Data Collection

Following ethical approval and institutional permission, the questionnaire was distributed electronically using a self-administered online questionnaire developed using Google Forms. Participation was voluntary, and informed consent was obtained electronically before respondents accessed the questionnaire. The survey was completed anonymously, and no personally identifiable information was collected. Respondents were informed that they could withdraw from the study at any time without penalty.

Data Analysis

Data were analysed using the Statistical Package for the Social Sciences (SPSS) version 27.0. Descriptive statistics were used to summarise respondents' sociodemographic characteristics and perceived barrier scores. Continuous variables were presented as means and standard deviations, whereas categorical variables were presented as frequencies and percentages.

Ethical Considerations

Ethical approval for this study was obtained from the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia, and the study was registered with the National Medical Research Register (NMRR ID-26-00432-UXD (IIR)). Institutional approval was also obtained from the Director of the participating public hospital before data collection commenced.

Participation was entirely voluntary, and electronic informed consent was obtained from all respondents before completing the questionnaire. Participants were assured that all information would remain anonymous and confidential and would be used solely for research purposes. All data were stored securely and accessed only by the research team.

RESULTS

Sociodemographic Characteristics

A total of 497 nurses participated in this study. The mean age of the respondents was 34.17 ± 5.72 years (range: 22–57 years), with a mean working experience of 9.20 ± 6.14 years (range: 0–33 years). Most respondents were female (87.5%), Malay (76.7%), diploma holders (96.4%), and Staff Nurses U5 (86.3%). More than half of the respondents (59.4%) reported caring for patients at risk of pressure injury daily, while 81.5% had managed patients with pressure injuries within the previous six months. Slightly more than half (53.9%) had attended pressure injury-related training or continuing professional development (CPD). The sociodemographic characteristics of the respondents are presented in Table 1.

Table 1: Sociodemographic Background (N=497)

Variable	n	%
Gender		
Male	62	12.5
Female	435	87.5
Race		
Malay	381	76.7
Chinese	10	2.0
Indian	12	2.4
Sabah/Sarawak	94	18.9
Education Level		
Certificate	3	0.6

Diploma	479	96.4
Bachelor's Degree	15	3.0
Position		
Community Nurse Flexi U5	4	0.8
Staff Nurse U5	429	86.3
Staff Nurse U6 (KUP)	64	12.9
Frequency of Caring for Patients at Risk of Pressure Injury		
Never	4	0.8
Daily	295	59.4
Several times a week	83	16.7
Once a week	14	2.8
Rarely	101	20.3
Managed Patients with Pressure Injury (Past 6 Months)		
Yes	405	81.5
No	92	18.5
Attended Pressure Injury Training/CPD		
Yes	268	53.9
No	229	46.1

Nurses' Perceived Barriers Toward Pressure Injury Prevention

Table 2 presents the proportion of nurses who perceived each item as a barrier to pressure injury prevention. The most frequently reported barrier was lack of cooperation from family caregivers in the hospital, identified by 237 respondents (47.7%). This was followed by a lack of patient cooperation in implementing preventive measures, reported by 219 respondents (44.1%), and a lack of preventive equipment, including specialised mattresses, cushions, and skin-care products, reported by 209 respondents (42.1%).

Other prominent barriers included lack of time to implement preventive care (n = 168, 33.8%), high nursing staff turnover (n = 160, 32.2%), and the absence of a multidisciplinary team for pressure injury prevention (n = 141, 28.4%). These findings indicate that the most perceived barriers were largely related to patient and caregiver cooperation, availability of preventive resources, staffing stability, time constraints, and multidisciplinary support.

In contrast, the least frequently perceived barriers were pressure injury prevention not being considered a nursing priority (n = 63, 12.7%), lack of knowledge regarding pressure injury prevention (n = 65, 13.1%), incomplete documentation of preventive interventions (n = 70, 14.1%), and difficulty understanding recommendations or levels of evidence in guidelines or protocols (n = 71, 14.3%). Overall, the pattern of

findings suggests that organisational, resource-related, and collaborative factors were more prominent than barriers related to nurses' knowledge or professional prioritisation.

Table 2 Perceived Barriers Toward Pressure Injury Prevention Among Nurses (N = 497)

Rank	Perceived barrier	n (%)	
		No	Yes
1	Lack of cooperation from family caregivers in the hospital	260 (52.3)	237 (47.7)
2	Lack of patient cooperation in implementing preventive measures	278 (55.9)	219 (44.1)
3	Lack of preventive equipment, such as specialised mattresses, cushions, and skin-care products	288 (57.9)	209 (42.1)
4	Lack of time to implement preventive care	329 (66.2)	168 (33.8)
5	High turnover of nursing staff	337 (67.8)	160 (32.2)
6	Lack of a multidisciplinary team for pressure injury prevention	356 (71.6)	141 (28.4)
7	Lack of specific training courses on pressure injury prevention	373 (75.1)	124 (24.9)
8	Lack of job satisfaction	382 (76.9)	115 (23.1)
9	Use of traditional, non-evidence-based practices	383 (77.1)	114 (22.9)
10	Lack of continuity of care between healthcare facilities	390 (78.5)	107 (21.5)
11	Lack of clarity regarding responsibility for pressure injury prevention	394 (79.3)	103 (20.7)
12	Incorrect use of equipment or devices due to inadequate staff training	400 (80.5)	97 (19.5)
13	Lack of communication within the multidisciplinary team	402 (80.9)	95 (19.1)
14	Difficulty documenting preventive interventions because of the form or recording system	404 (81.3)	93 (18.7)
15	Lack of management monitoring of preventive interventions	406 (81.7)	91 (18.3)
16	Variability in implementation and poor adherence to care plans	408 (82.1)	89 (17.9)
17	Lack of awareness of legal responsibility when patients develop pressure injuries	414 (83.3)	83 (16.7)
18	Difficulty understanding pressure injury risk-assessment scales	419 (84.3)	78 (15.7)
19	Lack of motivation among nurses	421 (84.7)	76 (15.3)
19	Difficulty understanding research findings	421 (84.7)	76 (15.3)
21	Lack of protocols or clinical guidelines for pressure injury prevention	423 (85.1)	74 (14.9)
22	Difficulty understanding recommendations or levels of evidence in guidelines or protocols	426 (85.7)	71 (14.3)
23	Incomplete documentation of preventive interventions	427 (85.9)	70 (14.1)

24	Lack of knowledge regarding pressure injury prevention	432 (86.9)	65 (13.1)
25	Pressure injury prevention is not considered a nursing priority	434 (87.3)	63 (12.7)

Overall Perceived Barriers Toward Pressure Injury Prevention

The overall mean Pressure Injury Prevention Barriers (PIPB) score was 22.49 (SD = 14.25) out of a maximum possible score of 75, representing 30.0% of the maximum attainable score. Overall, this finding suggests that nurses perceived a relatively low level of barriers to pressure injury prevention.

Among the four PIPB domains, Staff and Collaboration recorded the highest percentage of the maximum possible score (42.0%), indicating that barriers related to teamwork, staffing, and interdisciplinary collaboration were perceived more frequently than those in the remaining domains. Followed by Management and Organisation (30.6%), Motivation and Priority (29.5%), and Knowledge (25.7%). These findings indicate that barriers related to staffing, teamwork, and collaboration were more frequently perceived than barriers associated with nurses' knowledge.

Table 3 Perceived Barrier Scores According To Pipb Domains (N = 497)

Domain	Possible Score	Mean $\pm$ SD	Percentage of Maximum Score (%)
Management and Organisation	0–36	11.03 $\pm$ 7.91	30.6
Motivation and Priority	0–18	5.32 $\pm$ 3.69	29.5
Knowledge	0–12	3.08 $\pm$ 2.41	25.7
Staff and Collaboration	0–9	3.78 $\pm$ 2.27	42.0
Overall PIPB Score	0–75	22.49 $\pm$ 14.25	30.0

DISCUSSION

Overall Perceived Barriers Toward Pressure Injury Prevention

The present study found that nurses perceived a relatively low level of barriers toward pressure injury prevention, with an overall mean PIPB score of 22.49 $\pm$ 14.25, representing approximately 30.0% of the maximum attainable score. This finding indicates that pressure injury prevention was generally not perceived as being substantially hindered by organisational, professional or knowledge-related barriers within the study setting. The relatively low barrier score may reflect improvements in institutional support, accessibility of preventive resources and greater awareness of evidence-based pressure injury prevention among nurses.

This finding differs from that reported by Azhar et al. (2022), who found a moderately high level of perceived barriers among Malaysian critical care nurses. Similarly, studies conducted in Ethiopia and Iraq reported higher perceived barriers, particularly those related to inadequate staffing, heavy workload, shortage of preventive equipment and insufficient organisational support (Etafa et al., 2018; Majeed et al., 2020). The discrepancy between the present study and previous findings may be explained by differences in study settings and patient characteristics. Unlike studies conducted exclusively in intensive or critical care units, the present study included nurses from multiple clinical disciplines, where patient acuity and preventive care demands may vary considerably. Consequently, nurses working in less intensive clinical environments may perceive fewer barriers when implementing routine pressure injury prevention.

The present findings are consistent with the conceptual framework proposed by (Lopez- et al., 2020), who emphasised that perceived barriers are multidimensional and influenced by organisational support, professional

motivation, staff collaboration and knowledge. Likewise, the mixed-methods systematic review by Wu et al. (2023) concluded that organisational and environmental factors frequently exert a greater influence on pressure injury prevention than individual nurses' knowledge alone. These findings suggest that the relatively low overall barrier score observed in the present study should not be interpreted as indicating the absence of implementation challenges, but rather that barriers were generally perceived less frequently within the participating hospital.

Nevertheless, maintaining a low level of perceived barriers requires continuous organisational commitment. According to the International Pressure Injury Guideline (2026), effective pressure injury prevention depends on sustained leadership support, multidisciplinary collaboration, adequate preventive resources and ongoing professional education. Therefore, continuous quality improvement initiatives remain essential to ensure that evidence-based pressure injury prevention practices are consistently maintained despite the relatively favourable findings observed in the present study.

Staff and Collaboration: The Most Prominent Barrier Domain

Among the four domains assessed using the Pressure Injury Prevention Barriers (PIPB) instrument, Staff and Collaboration recorded the highest perceived barrier score, representing 42.0% of the maximum attainable score. This finding indicates that collaborative and interpersonal factors constituted the most prominent barriers to pressure injury prevention among nurses in the present study. Within this domain, the most frequently perceived barriers included lack of cooperation from family caregivers (47.7%), lack of patient cooperation (44.1%), high nursing staff turnover (32.2%), and lack of a multidisciplinary team (28.4%). These findings suggest that successful pressure injury prevention extends beyond individual nursing competency and relies heavily on effective collaboration among patients, family caregivers and members of the multidisciplinary healthcare team.

The finding that lack of cooperation from family caregivers was the most frequently perceived barrier deserves particular attention. Pressure injury prevention requires continuous repositioning, skin assessment and adherence to preventive interventions, many of which require cooperation from caregivers, particularly among older adults and patients with limited mobility. Insufficient caregiver involvement may reduce adherence to preventive strategies and increase nurses' workload, especially in busy clinical settings. Similar observations have been reported by Roddis et al. (2024), who highlighted that caregivers often experience uncertainty regarding their responsibilities, receive inconsistent information from healthcare professionals and require greater support to participate effectively in pressure injury prevention. Likewise, the International Pressure Injury Guideline (2026) recommends active involvement of patients and caregivers throughout prevention planning, recognising that pressure injury prevention is a shared responsibility rather than an intervention performed solely by nurses.

Patient cooperation represented the second most frequently perceived barrier in the present study. This finding is consistent with the classic study by Moore and Price (2004), which identified patient-related factors as common barriers affecting pressure ulcer prevention. Similarly, studies conducted in Iraq and Ethiopia reported that severe illness, reduced mobility, pain and poor patient participation frequently limited the implementation of preventive interventions (Etafa et al., 2018; Majeed et al., 2024). Therefore, limited patient cooperation should not necessarily be interpreted as unwillingness to participate but rather because of patients' clinical conditions, which often restrict their ability to comply with repositioning schedules and other preventive measures.

Another important finding was the perception that high nursing staff turnover and inadequate multidisciplinary collaboration remained important barriers to pressure injury prevention. Workforce instability may disrupt continuity of care, increase workload among remaining staff and reduce opportunities for maintaining consistent preventive practices. Similarly, ineffective communication and limited multidisciplinary collaboration may delay clinical decision-making and compromise adherence to evidence-based prevention protocols. These findings are consistent with the conceptual framework proposed by Lopez-Franco et al. (2020) and the mixed-methods systematic review by Wu et al. (2023), both of which identified organisational

communication, professional roles and collaborative practice as critical determinants influencing pressure injury prevention across healthcare settings.

Overall, the findings suggest that the greatest challenges identified by nurses were not primarily related to professional competence but rather to collaborative processes involving patients, caregivers and healthcare professionals. Strengthening multidisciplinary teamwork, improving communication, supporting caregiver engagement and maintaining workforce stability may therefore represent more effective strategies for reducing perceived barriers than educational interventions alone. These findings reinforce current international recommendations that pressure injury prevention should be implemented through coordinated, patient-centred and multidisciplinary approaches supported by organisational leadership and effective communication systems (International Pressure Injury Guideline, 2026; Wu et al., 2023).

Management and Organisation: Organisational Support for Pressure Injury Prevention

The Management and Organisation domain represented the second highest perceived barrier in the present study, accounting for 30.6% of the maximum attainable domain score. Although the overall level of organisational barriers was relatively low, nurses continued to identify inadequate preventive equipment (42.1%) and insufficient time to implement preventive care (33.8%) as the most prominent organisational challenges. Other barriers, including limited management monitoring, documentation difficulties and inconsistent adherence to care plans, were reported less frequently. These findings suggest that organisational support remains an important determinant of successful pressure injury prevention despite the generally favourable perception reported by participants.

Among the organisational barriers identified, inadequate preventive equipment emerged as the most common challenge. Pressure-redistributing mattresses, positioning devices and skin protection products are recognised as essential components of evidence-based pressure injury prevention. Therefore, limited availability of these resources may compromise nurses' ability to fully implement recommended preventive interventions, particularly among patients requiring prolonged immobilisation. Similar findings have been reported among Malaysian critical care nurses, where shortages of preventive equipment were identified as a major organisational barrier (Azhar et al., 2022). Comparable observations have also been reported in Ethiopia and Iraq, suggesting that resource availability remains a persistent challenge across different healthcare systems despite increasing awareness of evidence-based pressure injury prevention (Etafa et al., 2018; Majeed et al., 2024).

Time constraint was the second most frequently perceived organisational barrier in the present study. Pressure injury prevention requires comprehensive risk assessment, regular skin inspection, patient repositioning, documentation and continuous evaluation, all of which demand considerable nursing time. Consequently, competing clinical priorities may reduce opportunities to consistently implement preventive interventions. This finding is consistent with previous studies that identified workload and limited time as major barriers affecting pressure injury prevention (Moore & Price, 2004; Dealey et al., 2013). Similarly, the mixed-methods systematic review by Wu et al. (2023) concluded that organisational pressures, workload and resource limitations remain among the most consistently reported barriers across healthcare settings, highlighting that successful prevention depends not only on nurses' knowledge but also on adequate institutional support.

Although management monitoring, documentation systems and adherence to care plans were less frequently perceived as barriers, these organisational processes remain fundamental for maintaining quality improvement and ensuring consistent implementation of preventive interventions. Lopez-Franco et al. (2020) highlighted that institutional leadership and organisational governance substantially influence nurses' perceptions of barriers, while the International Pressure Injury Guideline (2026) recommends regular auditing, adequate preventive resources and continuous quality monitoring to support evidence-based pressure injury prevention. Therefore, strengthening organisational commitment through improved resource allocation, effective monitoring and standardised preventive protocols may further reduce organisational barriers and enhance the sustainability of pressure injury prevention programmes.

Knowledge: Knowledge-Related Barriers Toward Pressure Injury Prevention

The Knowledge domain recorded the lowest perceived barrier in the present study, accounting for 25.7% of the maximum attainable domain score. Nurses generally did not perceive deficiencies in knowledge as a major obstacle to pressure injury prevention. The most frequently reported knowledge-related barriers included difficulty understanding pressure injury risk assessment scales (15.7%), difficulty interpreting research findings (15.3%), difficulty understanding recommendations within clinical guidelines (14.3%) and lack of knowledge regarding pressure injury prevention (13.1%). These findings suggest that knowledge-related challenges were less influential than organisational and collaborative barriers in the implementation of preventive practices.

The relatively low level of perceived knowledge barriers may reflect improvements in nursing education, continuing professional development and wider accessibility of evidence-based clinical guidelines. Similar observations were reported by Lopez-Franco et al. (2020) during the development of the PIPB instrument, in which organisational and collaborative issues were perceived as greater barriers than knowledge deficits. Likewise, the cultural adaptation of the PIPB among Indonesian nurses demonstrated that knowledge was generally not the principal obstacle affecting pressure injury prevention, highlighting the growing emphasis on evidence-based nursing practice and continuing education (Sari et al., 2023). Together, these findings suggest that many nurses possess adequate theoretical knowledge but may still encounter challenges when translating knowledge into routine clinical practice because of organisational constraints.

The present findings differ from those reported by Azhar et al. (2022), who found unsatisfactory knowledge among Malaysian critical care nurses. This difference may be explained by variations in study design and measurement approaches. While Azhar et al. evaluated nurses' factual knowledge using a knowledge assessment instrument, the present study assessed perceived knowledge barriers using the PIPB questionnaire. Consequently, lower perceived knowledge barriers should not be interpreted as indicating a high level of objective knowledge but rather that respondents did not consider inadequate knowledge to be the primary factor limiting pressure injury prevention. This distinction is important because perceived barriers and actual knowledge represent different constructs and should therefore be interpreted independently.

The findings are consistent with the systematic review by Wu et al. (2023), which concluded that educational interventions alone are insufficient to improve pressure injury prevention unless supported by organisational resources, multidisciplinary collaboration and effective leadership. Similarly, the International Pressure Injury Guideline (2026) recommends continuous competency-based education, regular updates on evidence-based recommendations and ongoing clinical training to ensure that current scientific evidence is translated into routine nursing practice. Therefore, although knowledge-related barriers were perceived relatively infrequently in the present study, maintaining continuous professional education remains essential to sustain evidence-based pressure injury prevention and improve patient outcomes.

Motivation and Priority: Professional Commitment Toward Pressure Injury Prevention

The Motivation and Priority domain accounted for 29.5% of the maximum attainable domain score, indicating that motivational factors were perceived as relatively minor barriers compared with staff collaboration and organisational support. Within this domain, the most frequently reported barriers included lack of specific training on pressure injury prevention (24.9%), lack of job satisfaction (23.1%), use of traditional non-evidence-based practices (22.9%), and lack of motivation among nurses (15.3%). Conversely, only 12.7% of respondents perceived that pressure injury prevention was not a nursing priority, suggesting that most nurses recognised pressure injury prevention as an important component of routine nursing care.

The relatively low perception of motivational barriers is consistent with previous studies demonstrating that nurses generally acknowledge the importance of pressure injury prevention despite encountering organisational constraints. Moore and Price (2004) reported that most nurses regarded pressure injury prevention as an essential aspect of nursing practice, while Mostafa et al. (2024) similarly found positive attitudes toward pressure injury prevention among nurses despite persistent barriers related to staffing and workload. These

findings suggest that professional commitment is generally well established and that nurses remain motivated to provide preventive care even when workplace challenges exist.

Although motivation was not perceived as a major barrier in the present study, the findings highlight the importance of maintaining continuous professional development and promoting evidence-based practice. The presence of traditional, non-evidence-based practices and the perceived lack of specialised training indicate that educational initiatives should remain an organisational priority. Similar conclusions were reported by Wu et al. (2023), who emphasised that ongoing education and leadership support are essential for sustaining evidence-based pressure injury prevention. Likewise, the International Pressure Injury Guideline (2026) recommends regular competency-based education, reinforcement of evidence-based recommendations and organisational support to strengthen nurses' confidence and maintain high-quality preventive care. Therefore, maintaining nurses' motivation should be viewed as a continuous organisational responsibility rather than solely an individual professional obligation.

Implications for Nursing Practice and Healthcare Organisations

The findings of the present study have several important implications for nursing practice and healthcare organisations. Although nurses generally perceived a relatively low level of barriers toward pressure injury prevention, the highest barriers remained associated with staff collaboration and organisational support rather than knowledge deficits. These findings indicate that future quality improvement initiatives should extend beyond educational programmes and focus on strengthening multidisciplinary collaboration, improving communication among healthcare professionals and promoting active involvement of patients and family caregivers in pressure injury prevention.

From an organisational perspective, healthcare institutions should ensure adequate availability of pressure injury prevention resources, including specialised support surfaces, positioning devices and evidence-based clinical guidelines. Regular competency-based education, continuous clinical auditing and supportive leadership are also essential to promote consistent implementation of preventive interventions. These organisational strategies are consistent with recommendations outlined in the International Pressure Injury Guideline (2026), which emphasises that successful pressure injury prevention requires coordinated organisational commitment, multidisciplinary teamwork and continuous monitoring of evidence-based practice.

The findings further suggest that hospital administrators and nurse managers should prioritise workforce planning and supportive working environments to minimise barriers related to workload, staff turnover and limited clinical resources. Integrating pressure injury prevention into routine quality improvement programmes and strengthening collaboration between nurses, physicians, allied health professionals and caregivers may further enhance the effectiveness of preventive care. Collectively, these initiatives have the potential to improve patient safety, reduce the occurrence of pressure injuries and support the delivery of high-quality nursing care.

Strengths and Limitations

This study has several strengths, including a relatively large sample size, the use of a culturally adapted Malay version of the Pressure Injury Prevention Barriers (PIPB) instrument, and rigorous forward-backward translation, expert validation and pilot testing prior to the main survey. Nevertheless, several limitations should be acknowledged. The cross-sectional design precludes causal inference, convenience sampling may limit the representativeness of the findings, and data were collected from a single public hospital, which may restrict generalisability. In addition, the use of self-administered questionnaires may have introduced response bias. Future multicentre studies employing probability sampling are recommended to further validate these findings.

CONCLUSION

This study demonstrated that nurses perceived a relatively low level of barriers toward pressure injury prevention, with staff and collaboration representing the greatest perceived challenge. Organisational factors,

including preventive resources and time constraints, remained more influential than knowledge-related barriers. These findings highlight the importance of strengthening multidisciplinary collaboration, organisational support and continuous professional development to sustain evidence-based pressure injury prevention. Addressing these barriers may contribute to improved patient safety and higher-quality nursing care in Malaysian public hospitals.

Conflict Of Interest

The authors declare that there are no conflicts of interest arising from the conduct of this study. This research was carried out independently, without the influence of any third parties or organisations that could affect the objectivity and integrity of the research. All participants provided voluntary consent, and their confidentiality was ensured throughout the research process.

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