Nurses' Attitudes toward Pressure Injury Prevention in a Malaysian Public Hospital

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ABSTRACT

Background: Pressure injury remains a major patient safety concern despite the availability of evidence-based prevention guidelines. Nurses' attitudes are essential for ensuring effective pressure injury prevention. This study aimed to assess nurses' attitudes toward pressure injury prevention in a Malaysian public hospital. Methods: A quantitative cross-sectional study was conducted among 497 nurses using convenience sampling. Data were collected using a self-administered questionnaire consisting of respondents' sociodemographic characteristics and an adapted nine-item questionnaire assessing attitudes toward pressure injury prevention. Data were analysed using IBM SPSS Statistics version 27. Results: Most respondents were female (87.5%), Malay (76.7%), diploma holders (96.4%), and Staff Nurses U5 (86.3%). Overall, response patterns across the adapted questionnaire suggested generally favourable perceptions toward pressure injury prevention. Conclusion: Nurses generally exhibited favourable attitudes toward pressure injury prevention. Continuous education and organizational support are recommended to strengthen evidence-based preventive practices.

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

INTRODUCTION

Pressure injury remains one of the most common patient safety issues in healthcare settings despite the implementation of evidence-based prevention guidelines. It is associated with prolonged hospitalisation, increased healthcare costs, infection, pain, reduced quality of life, and increased morbidity among hospitalised patients (Padula & Delarmente, 2019). In Malaysia, pressure injury prevention is recognised as one of the Malaysian Patient Safety Goals (MPSG 2.0), which aims to reduce the incidence of healthcare-associated pressure injuries to improve patient safety and quality of care (Medical Development Division, Ministry of Health Malaysia, 2021). Nevertheless, pressure injuries continue to occur in clinical settings. A recent Malaysian study reported a prevalence of 31% among patients admitted to medical and surgical wards, indicating that pressure injury remains a significant healthcare challenge (Shahadan et al., 2024).

Nurses play a fundamental role in preventing pressure injuries because they are directly responsible for performing skin assessments, identifying patients at risk, implementing regular repositioning, monitoring nutritional status, and utilizing appropriate pressure-relieving devices. Although these interventions are supported by clinical guidelines, their effectiveness depends largely on nurses' willingness and commitment to consistently implement preventive measures. Positive attitudes towards pressure injury prevention encourage adherence to evidence-based practices, whereas negative attitudes may reduce compliance and compromise the quality of patient care despite adequate knowledge (Mengist et al., 2022; Seman et al., 2025).

Previous studies have demonstrated variations in nurses' attitudes toward pressure injury prevention across different healthcare settings. A study conducted among critical care nurses in Klang Valley public hospitals reported that nurses exhibited unsatisfactory attitudes toward pressure injury prevention, with significant relationships observed between attitudes, knowledge, years of working experience, and perceived barriers

(Azhar et al., 2022). Likewise, an international study conducted in Kuwait found that positive attitudes among nurses were associated with greater compliance with preventive interventions and lower hospital-acquired pressure injury rates (Alfadhalah et al., 2025). Other studies have also highlighted that education, professional training, organisational support, and clinical experience may influence nurses' attitudes toward pressure injury prevention (Daraqel et al., 2024; Iskandar et al., 2025).

Although several studies have examined nurses' knowledge, attitudes, and preventive practices regarding pressure injury prevention, evidence describing nurses' attitudes toward pressure injury prevention in Malaysian public hospitals remains limited. Therefore, this study aimed to assess nurses' attitudes toward pressure injury prevention among nurses working in a Malaysian public hospital.

METHODOLOGY

Study Design

This study employed a quantitative cross-sectional design to assess nurses' attitudes toward pressure injury prevention in a Malaysian public hospital. Data were collected in April 2026 using a self-administered online questionnaire. A cross-sectional design was selected because it enables the collection of data at a single point in time, allowing researchers to determine nurses' attitudes toward pressure injury prevention. The study was conducted in one of the largest tertiary public hospitals in Malaysia, which provides comprehensive healthcare services to patients from diverse clinical settings.

Study Population

The study population consisted of registered nurses directly involved in patient care at a selected public hospital. Nurses with at least three months of working experience and who voluntarily agreed to participate were included in the study, while nurses in administrative or managerial positions and those not directly involved in patient care were excluded. Convenience sampling was employed to recruit eligible participants. A total of 497 nurses participated in the study, providing an adequate sample to describe nurses' attitudes toward pressure injury prevention in the study setting.

Data Collection

Data were collected using a self-administered questionnaire comprising two sections. The first section collected respondents' sociodemographic characteristics, including age, gender, race, educational level, working experience, job position, frequency of caring for patients at risk of pressure injury, previous experience managing patients with pressure injury, attendance at pressure injury-related training and the most recent pressure injury-related training attended.

The second section consisted of an adapted attitude questionnaire derived from the Attitude Towards Pressure Ulcer Prevention Tool (APuP) originally developed by Moore and Price (2004) and subsequently adapted by Sari et al. (2021). Prior to the main study, a pilot study involving 50 registered nurses was conducted to evaluate the internal consistency of the adapted instrument. Following item analysis, two items demonstrating unsatisfactory psychometric performance were removed to improve the internal consistency of the questionnaire. In addition, the response format was modified into four response categories (strongly disagree, disagree, neutral and agree). Consequently, the final questionnaire consisted of nine attitude items. The questionnaire was distributed electronically via Google Forms, and participation was voluntary and anonymous.

Instrument Development and Reliability

A pilot study involving 50 registered nurses was conducted before the main survey to evaluate the clarity and internal consistency of the adapted questionnaire. Based on the pilot study findings, two attitude items were removed following item analysis to improve the internal consistency of the instrument. The final questionnaire

consisted of nine attitude items. The adapted nine-item questionnaire demonstrated moderate internal consistency (Cronbach's α = 0.601) and was considered acceptable for this exploratory descriptive study.

Data Analysis

The adapted nine-item questionnaire demonstrated acceptable internal consistency for an exploratory descriptive study (Cronbach's α = 0.601). Given that the instrument was adapted from the original APuP by modifying both the response format and the number of items, further psychometric evaluation is recommended in future studies.

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 permission was also obtained from the director of the public hospital before data collection commenced. Participation was voluntary, and written informed consent was obtained from all respondents prior to completing the questionnaire. Participants were assured that all information would remain confidential, anonymous and used solely for research purposes.

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

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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' Attitudes Toward Pressure Injury Prevention

The distribution of responses to the nine attitude items is presented in Table 2. The response patterns generally suggested favourable perceptions toward pressure injury prevention. More than half of the respondents agreed that all patients are at risk of developing pressure injuries (55.9%), that continuous risk assessment provides a more accurate assessment of pressure injury risk (60.4%), and that most pressure injuries are preventable (61.4%).

For the negatively worded statements, most respondents disagreed that pressure injury prevention is unnecessary in nursing practice (83.3%), that it is less important than other aspects of nursing care (79.1%), or that patients nowadays rarely develop pressure injuries (70.6%). Similarly, 69.2% disagreed that treating pressure injuries is more important than preventing them, while 44.3% disagreed that their clinical judgement is superior to available pressure injury risk assessment tools. Furthermore, 40.2% disagreed that pressure injury prevention is too time-consuming.

Table 2 Distribution Of Responses To The Adapted Attitude Questionnaire (n = 497)

Item	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**
	n (%)			
I consider that all patients are at risk of developing	24 (4.8)	80 (16.1)	115 (23.1)	278 (55.9)

pressure injuries.				
Pressure injury prevention is too time-consuming.	59 (11.9)	141 (28.4)	196 (39.4)	101 (20.3)
Patients nowadays rarely develop pressure injuries.	120 (24.1)	231 (46.5)	112 (22.5)	34 (6.8)
I do not need to pay special attention to pressure injury prevention in my practice.	265 (53.3)	149 (30.0)	61 (12.3)	22 (4.4)
Treating pressure injuries is more important than preventing them.	229 (46.1)	115 (23.1)	66 (13.3)	87 (17.5)
Continuous risk assessment provides more accurate pressure injury risk assessment.	18 (3.6)	32 (6.4)	147 (29.6)	300 (60.4)
Most pressure injuries are preventable.	10 (2.0)	31 (6.2)	151 (30.4)	305 (61.4)
I am less interested in pressure injury prevention than other aspects of nursing care.	240 (48.3)	153 (30.8)	83 (16.7)	21 (4.2)
My clinical judgement is better than available pressure injury risk assessment tools.	80 (16.1)	140 (28.2)	199 (40.0)	78 (15.7)

DISCUSSION

Overall Attitudes Toward Pressure Injury Prevention

The present study demonstrated that nurses generally exhibited favourable attitudes towards pressure injury prevention. Overall, respondents recognised pressure injury prevention as an essential component of nursing care, particularly regarding the importance of continuous risk assessment and the belief that most pressure injuries are preventable. Furthermore, most respondents rejected negative perceptions, including the belief that pressure injury prevention is unnecessary, excessively time-consuming or less important than other nursing responsibilities. These findings indicate that nurses possess encouraging professional beliefs towards evidence-based pressure injury prevention and acknowledge their responsibility in maintaining patient safety and improving the quality of nursing care.

The favourable attitudes observed in this study may partly be explained by the respondents' substantial clinical exposure to patients at risk of pressure injury. More than half of the respondents reported caring for patients at risk of pressure injury daily, over four-fifths had previous experience managing patients with pressure injuries within the preceding six months, and more than half had attended pressure injury-related continuing professional development (CPD) programmes. Frequent exposure to high-risk patients, together with ongoing professional education, may have enhanced nurses' awareness of evidence-based preventive strategies and reinforced positive perceptions regarding the importance of pressure injury prevention. Previous studies have consistently demonstrated that clinical experience and continuous education improve nurses' confidence, awareness and adherence to recommended preventive interventions, thereby strengthening professional commitment towards patient safety.

The present findings are consistent with the original study conducted by Moore and Price (2004), who first introduced the Attitude Towards Pressure Ulcer Prevention Tool (APuP). Moore and Price reported that nurses generally demonstrated favourable attitudes towards pressure ulcer prevention and acknowledged the importance of preventive nursing care. However, they also emphasised that positive attitudes alone were insufficient to ensure optimal preventive practice because organisational barriers, including inadequate staffing, time constraints and limited institutional support, frequently prevented nurses from translating favourable perceptions into routine clinical practice. More than two decades later, the present study employed an adapted version of the original instrument, suggesting that nurses consistently recognise the importance of

pressure injury prevention. Nevertheless, organisational commitment remains equally important in ensuring that positive professional beliefs are translated into sustainable evidence-based clinical practice.

The present findings are also supported by the national study conducted by Alfadhalah et al. (2024) who similarly reported generally favourable attitudes among nurses towards pressure injury prevention. Their findings demonstrated that most nurses believed pressure injuries were largely preventable and recognised the importance of continuous nursing assessment in identifying patients at risk. Comparable observations were identified in the present study, where respondents expressed strong agreement that continuous risk assessment improves the accuracy of identifying patients at risk and that pressure injuries can largely be prevented through appropriate nursing interventions. The consistency between both studies may reflect increasing international awareness regarding patient safety, wider dissemination of evidence-based clinical practice guidelines and continuous investment in professional education programmes. Collectively, these initiatives may have contributed to improving nurses' understanding of pressure injury prevention across different healthcare systems.

Similar findings were also reported by Sari et al., who utilised attitude items adapted from the Moore and Price instrument. Their study demonstrated that most nurses believed continuous nursing assessment improves the accuracy of pressure injury risk identification, recognised that most pressure injuries are preventable and rejected the perception that pressure injury prevention should be regarded as a low priority within nursing practice. These findings closely mirror those observed in the present study. Importantly, direct comparison between both studies is methodologically appropriate because both investigations employed comparable attitude items derived from the same conceptual framework. This methodological similarity strengthens the credibility of the present findings and suggests that nurses across different healthcare settings consistently acknowledge pressure injury prevention as a fundamental responsibility rather than an optional component of patient care.

Although several international studies have demonstrated similar findings, not all investigations have reported equally favourable attitudes. For instance, Seman et al. (2025) reported that Malaysian nurses demonstrated an overall neutral attitude towards pressure injury prevention despite exhibiting excellent preventive practices. Likewise, Lotfi et al. (2019)found that nurses in Iran demonstrated only moderate attitudes, while Etafa et al. (2018) reported that more than half of Ethiopian nurses exhibited negative attitudes towards pressure injury prevention. These discrepancies suggest that nurses' attitudes are likely influenced by multiple contextual factors beyond individual professional knowledge. Differences in organisational culture, staffing adequacy, patient workload, access to continuing education, availability of pressure-relieving equipment and institutional commitment towards evidence-based practice may all contribute to variations in nurses' perceptions across different healthcare systems. Consequently, comparisons between studies should be interpreted cautiously because attitudes are shaped not only by individual characteristics but also by organisational and environmental conditions.

Perceptions Towards Continuous Pressure Injury Risk Assessment

One of the most important findings of the present study was respondents' strong agreement that continuous pressure injury risk assessment provides a more accurate method of identifying patients at risk. This finding reflects nurses' recognition that pressure injury prevention should begin with early identification of susceptible patients rather than relying solely on treatment after tissue damage has occurred. Continuous assessment enables nurses to identify subtle changes in skin integrity, mobility, nutritional status and other contributing risk factors, allowing preventive interventions to be implemented before pressure injuries develop. Consequently, respondents' favourable perceptions towards continuous risk assessment demonstrate encouraging acceptance of evidence-based preventive nursing practice.

The present findings are highly consistent with those reported by Sari et al. (2021) who found that most Indonesian nurses agreed that continuous nursing assessment improves the accuracy of pressure injury risk identification. Likewise, Alfadhalah et al. (2024) reported that nurses recognised continuous patient assessment as an essential component of pressure injury prevention, while Mostafa et al. (2024) similarly observed that nurses with favourable attitudes considered continuous assessment fundamental to maintaining patient safety.

The consistency of these findings across different healthcare settings suggests that continuous risk assessment has become an internationally accepted standard of nursing practice. This consistency may be attributed to increasing implementation of international pressure injury prevention guidelines, wider dissemination of evidence-based recommendations and greater emphasis on patient safety within healthcare organisations.

Another factor that may explain respondents' favourable perceptions is their considerable clinical exposure to patients at risk of pressure injury. In the present study, most respondents reported caring for patients at risk of pressure injury daily, while a substantial proportion had previous experience managing patients with pressure injuries. Regular exposure to high-risk patients enables nurses to appreciate the importance of systematic risk assessment and early preventive intervention through direct clinical experience. Consequently, nurses who frequently encounter pressure injury risk factors are likely to develop stronger confidence in the value of continuous assessment as an essential preventive strategy.

The importance of continuous assessment is further reinforced by current international clinical practice guidelines, which consistently recommend routine pressure injury risk assessment upon admission and repeated reassessment throughout hospitalisation. Early identification of patients at risk facilitates timely implementation of preventive interventions, including regular repositioning, utilisation of pressure redistribution devices, nutritional optimisation and frequent skin inspection. Therefore, respondents' positive perceptions towards continuous risk assessment should be viewed as an encouraging indicator of their readiness to implement evidence-based preventive care within routine clinical practice.

Belief That Pressure Injuries Are Preventable

Another encouraging finding of the present study was respondents' strong belief that most pressure injuries are preventable. This finding reflects nurses' confidence in the effectiveness of evidence-based preventive interventions and demonstrates an important shift from viewing pressure injuries as unavoidable complications towards recognising them as largely preventable adverse events. Such beliefs are particularly important because nurses who perceive pressure injuries as preventable are generally more motivated to implement preventive measures consistently during patient care.

The present findings closely resemble those reported by Moore and Price (2004), who observed that nurses generally believed pressure injury prevention constituted an essential nursing responsibility. Similar findings were reported by Sari et al. (2021) where almost all respondents agreed that pressure injuries could be avoided through appropriate preventive care. Likewise, Alfadhalah et al. (2024) and Mostafa et al. (2024) found that nurses consistently acknowledged the preventable nature of pressure injuries and recognised prevention as a priority within clinical practice. The remarkable consistency across these international studies strengthens confidence in the present findings and suggests that nurses increasingly recognise pressure injury prevention as a realistic and achievable clinical objective rather than an idealistic expectation.

Several factors may explain these favourable perceptions. Over the past two decades, considerable advances have occurred in pressure injury prevention through publication of international evidence-based clinical guidelines, widespread adoption of validated risk assessment tools and increasing emphasis on quality improvement initiatives within healthcare organisations. Furthermore, continuous professional development programmes have improved nurses' awareness regarding effective preventive interventions, including regular repositioning, skin assessment, nutritional support, moisture management and utilisation of pressure redistribution devices. Collectively, these developments may have contributed to strengthening nurses' confidence that pressure injuries can be successfully prevented when appropriate preventive measures are implemented consistently.

Nevertheless, recognising that pressure injuries are preventable should not lead healthcare organisations to underestimate the challenges associated with prevention. Previous studies have demonstrated that favourable attitudes alone cannot eliminate pressure injuries when organisational barriers remain unresolved. Therefore, positive beliefs should be accompanied by adequate staffing, sufficient clinical resources, supportive leadership and ongoing professional education to ensure that preventive interventions can be implemented effectively in routine clinical practice.

Interpretation of Negative Attitudes Towards Pressure Injury Prevention

Although the present study demonstrated generally favourable attitudes towards pressure injury prevention, several negatively worded items warrant further interpretation. Most respondents disagreed that pressure injury prevention was excessively time-consuming, unnecessary in routine nursing practice or less important than other aspects of patient care. These findings indicate that respondents generally rejected misconceptions that have historically been recognised as barriers to effective pressure injury prevention. Such favourable perceptions suggest that nurses increasingly acknowledge pressure injury prevention as a core professional responsibility that should be integrated into routine nursing care rather than regarded as an additional task.

These findings are consistent with those reported by Sari et al. (2021) who similarly found that most nurses disagreed that pressure injury prevention represented a low clinical priority or that they were less interested in preventive care than in other nursing responsibilities. Likewise, Moore and Price (2004) observed that nurses generally recognised pressure injury prevention as an essential component of nursing practice despite acknowledging the existence of organisational barriers. The similarity between these studies may reflect the increasing integration of evidence-based pressure injury prevention within undergraduate nursing education, hospital accreditation standards and international patient safety initiatives. Consequently, nurses are becoming more aware that pressure injury prevention is an essential quality indicator rather than an optional nursing intervention.

Nevertheless, favourable attitudes towards prevention should not be interpreted as evidence that pressure injury prevention is free from practical challenges. The original study by Moore and Price (2004) clearly demonstrated that although nurses possessed positive attitudes, many experienced difficulties translating these attitudes into routine clinical practice because of heavy workloads, insufficient staffing and inadequate organisational support. Similar observations were reported by Etafa et al. (2018) who identified workload, shortage of nurses, inadequate pressure-relieving equipment, insufficient training and limited institutional resources as important barriers influencing preventive practice. Collectively, these studies suggest that organisational constraints remain important determinants of successful pressure injury prevention regardless of nurses' professional attitudes.

The discrepancy between positive attitudes and actual preventive practice has important implications for healthcare organisations. Nurses may recognise the importance of pressure injury prevention yet remain unable to perform preventive interventions consistently because of competing clinical priorities, high patient acuity and limited availability of resources. Therefore, healthcare organisations should avoid assuming that positive professional attitudes alone are sufficient to improve patient outcomes. Instead, organisational strategies should simultaneously strengthen nurses' attitudes while addressing structural barriers that limit the implementation of evidence-based preventive interventions.

Another interesting observation concerns respondents' perceptions regarding clinical judgement. Although most respondents rejected the belief that personal clinical judgement was superior to validated pressure injury risk assessment tools, a proportion of respondents remained neutral regarding this statement. This finding may suggest that some nurses continue to rely on accumulated clinical experience when identifying patients at risk. Clinical experience undoubtedly remains valuable; however, previous literature consistently recommends combining professional judgement with validated pressure injury risk assessment instruments to improve assessment accuracy and reduce subjective variation. Therefore, healthcare organisations should continue promoting the routine use of validated assessment tools alongside professional clinical judgement to ensure more consistent identification of patients requiring preventive interventions.

Implications for Nursing Practice, Education and Healthcare Management

The findings of the present study have several important implications for nursing practice. The generally favourable attitudes demonstrated by respondents indicate that Malaysian nurses possess an encouraging foundation for implementing evidence-based pressure injury prevention strategies. Nevertheless, sustaining these favourable attitudes requires continuous reinforcement through organisational commitment and supportive clinical environments. Positive professional beliefs should therefore be translated into consistent

preventive behaviours, including systematic skin assessment, routine repositioning, nutritional optimisation, moisture management and utilisation of validated pressure injury risk assessment tools throughout patient hospitalisation.

The present findings also highlight the importance of continuing professional development (CPD) in strengthening nurses' attitudes towards pressure injury prevention. More than half of the respondents reported having attended pressure injury-related educational programmes, suggesting that continuing education may have contributed to improving awareness regarding evidence-based preventive care. Previous studies have similarly demonstrated that ongoing education enhances nurses' knowledge, confidence and professional attitudes towards pressure injury prevention. Consequently, healthcare institutions should continue investing in structured educational programmes, simulation-based learning and competency assessments to ensure nurses remain updated with current international recommendations and preventive practices.

From a healthcare management perspective, fostering positive attitudes should be accompanied by organisational initiatives that facilitate the implementation of preventive care. Adequate staffing levels, availability of pressure redistribution equipment, supportive clinical leadership and effective implementation of evidence-based guidelines remain fundamental components of successful pressure injury prevention programmes. Nursing managers should also promote regular clinical audits, multidisciplinary collaboration and continuous quality improvement initiatives to ensure that favourable attitudes are translated into measurable improvements in patient outcomes. Such organisational support is essential for reducing hospital-acquired pressure injuries while simultaneously improving patient safety and overall healthcare quality.

Strengths and Limitations of the Study

The present study possesses several methodological strengths that enhance the credibility of its findings. First, the study involved a relatively large sample of 497 registered nurses directly involved in patient care, providing a comprehensive overview of nurses' attitudes towards pressure injury prevention within the selected Malaysian public hospital. The relatively large sample size improves the precision of the descriptive findings and reduces the likelihood that the observed results occurred by chance. Furthermore, respondents represented different clinical departments and possessed varying levels of professional experience, thereby providing broader insight into nurses' perceptions across diverse healthcare environments.

Another important strength is the utilisation of an adapted attitude questionnaire derived from the Moore and Price Attitude Towards Pressure Ulcer Prevention Tool (APuP), which was adapted to improve its contextual suitability for the present study. The Moore and Price instrument has been widely recognised as one of the earliest and most extensively utilised instruments for measuring nurses' attitudes towards pressure injury prevention. More recently, Wu et al. (2025) reconfirmed the instrument's satisfactory psychometric properties across different healthcare settings, further supporting its validity and reliability for evaluating professional attitudes. The use of an internationally recognised instrument enhances the comparability of the present findings with previous national and international studies, thereby strengthening the scientific contribution of the study.

In addition, the present study contributes valuable evidence to the relatively limited body of Malaysian literature concerning nurses' attitudes towards pressure injury prevention. While previous local studies have primarily focused on knowledge and preventive practices, fewer investigations have specifically explored nurses' professional attitudes using attitude-based measurement instruments. Therefore, the present findings provide updated evidence that may assist healthcare administrators, nursing educators and policy makers in understanding current professional perceptions towards evidence-based pressure injury prevention among Malaysian nurses.

Despite these strengths, several limitations should be acknowledged when interpreting the findings. First, the cross-sectional design only captured respondents' attitudes at a single point in time and therefore does not permit causal inference between respondents' characteristics and their attitudes towards pressure injury prevention. Changes in organisational policies, educational interventions or professional experience over time may influence nurses' perceptions differently. Future longitudinal studies would therefore be valuable in

examining changes in attitudes following structured educational programmes or organisational quality improvement initiatives.

Second, this study was conducted within a single public hospital. Consequently, the findings may not be fully generalisable to nurses working in other public hospitals, private healthcare institutions, specialist centres or community healthcare settings throughout Malaysia. Variations in organisational culture, patient characteristics, staffing adequacy and resource availability may influence nurses' perceptions and should therefore be considered when interpreting the present findings.

Another limitation relates to the use of self-administered questionnaires. The adapted questionnaire differed from the original instrument in both the number of attitude items and the response categories. Therefore, direct comparison with studies using the original Attitude Towards Pressure Ulcer Prevention Tool (APuP) should be interpreted with caution. Although anonymous questionnaires encourage honest responses, self-reported attitudes remain susceptible to response bias, particularly social desirability bias, whereby respondents may provide answers that reflect professionally acceptable beliefs rather than their actual perceptions or routine clinical behaviours. Furthermore, because the present study focused exclusively on nurses' attitudes, the findings cannot determine whether favourable attitudes were consistently translated into evidence-based preventive practices. Positive professional attitudes do not necessarily guarantee behavioural compliance, particularly when organisational barriers remain present. In addition, the adapted questionnaire demonstrated only acceptable internal consistency for an exploratory descriptive study. Therefore, the findings should be interpreted as reflecting respondents' attitudes within the context of the adapted questionnaire used in this study rather than as direct measurements obtained using the original APuP instrument.

RECOMMENDATIONS FOR FUTURE RESEARCH

Future studies should expand upon the present findings by recruiting nurses from multiple public and private healthcare institutions throughout Malaysia to improve the generalisability of the findings. Multi-centre studies involving hospitals with different organisational characteristics would provide a more comprehensive understanding of nurses' attitudes towards pressure injury prevention across diverse healthcare settings.

In addition, future research should investigate the relationships between nurses' attitudes, knowledge, preventive practices and organisational factors using more advanced statistical analyses. Examining variables such as staffing adequacy, workload, leadership support, availability of pressure-relieving equipment, continuing professional development, and organisational safety culture may provide greater insight into factors influencing evidence-based pressure injury prevention. Such information would assist healthcare organisations in developing targeted interventions that address both individual and organisational determinants of preventive practice.

Future qualitative studies are also recommended to explore nurses' personal experiences, perceived barriers and facilitators associated with pressure injury prevention. Qualitative findings would complement quantitative evidence by providing deeper understanding of contextual factors that influence nurses' decision-making during everyday clinical practice. Combining quantitative and qualitative approaches through mixed-methods research may therefore provide a more comprehensive understanding of pressure injury prevention within Malaysian healthcare settings.

Finally, intervention studies evaluating the effectiveness of structured educational programmes, simulation-based learning, clinical mentoring and quality improvement initiatives are recommended. Such studies would provide stronger evidence regarding strategies capable of improving nurses' professional attitudes while simultaneously enhancing evidence-based preventive practices and patient outcomes.

Overall Discussion

Overall, the present study provides important evidence that Malaysian nurses generally demonstrate favourable attitudes towards pressure injury prevention. Respondents recognised pressure injury prevention as an essential component of nursing care, particularly regarding continuous risk assessment and the preventability of pressure

injuries. The findings were largely consistent with previous international studies conducted using the Moore and Price framework, suggesting that positive professional attitudes towards pressure injury prevention are increasingly recognised across different healthcare systems. Nevertheless, differences observed between studies also indicate that nurses' attitudes are influenced by organisational context, professional education, clinical exposure and healthcare resources.

Importantly, the present findings reinforce the notion that favourable attitudes alone are insufficient to ensure consistent implementation of evidence-based preventive practice. Positive professional beliefs must be supported by continuous professional development, adequate staffing, effective leadership, sufficient clinical resources and strong organisational commitment towards patient safety. Strengthening these components will facilitate translation of positive attitudes into sustainable preventive behaviours, ultimately contributing to reduced pressure injury incidence, improved patient outcomes and higher quality nursing care within Malaysian healthcare institutions.

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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