Modern Journal of Health and Applied Sciences *(MJHAS)*

E-ISSN 3078-2791; P-ISSN 3078-2783

Journal homepage: https://mucjournals.muc.edu.ps/index.php/MJHAS

Assessment of Knowledge and Practice on Prevention of Pressure Ulcer among Nurses in Palestine Cross-Sectional Study

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ARTICLE INFO

Received: 16th July 2024
Received in revised form: 17th August 2024
Accepted: 25th August 2024
Published: *15* th September 2024

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Citation : Daraqel, S., Qattousah, R., Khalaileh, M., Salahedin, R., Zaidat, Y., Abu-Rmaileh, M., & Al-Qadi, M. (2024). Assessment of knowledge and practice on prevention of pressure ulcer among nurses in Palestine: Cross-sectional study. *Modern Journal of Health and Applied Sciences,* 1(1), 59-71.

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DOI: https://doi.org/10.70411/MJHAS.1.1.2024132

ABSTRACT

Pressure Ulcers (PUs) are localized skin injuries caused by long-term compression of soft tissue between an external pressure source and a bony prominence. They are one of the iatrogenic causes of extra morbidity for hospitalized patients. This study aimed to assess knowledge and practices regarding preventing PUs among nurses in Palestine. A cross-sectional study was conducted on 430 nurses in various Palestinian hospitals and health centers between February 15, 2024, and April 14, 2024. Convenience sampling was used to collect samples for this study. The collected data were analyzed using the Statistical Package for Social Sciences (SPSS) Version 27. Data analysis included descriptive and inferential statistics. The study showed that 65.61% of participants correctly answered questions about PU prevention. Regarding practice, 55.3% of nurses demonstrated a good level, with an average score of 2.37. Additionally, there was a significant association between demographic variables and levels of knowledge and practice in PU prevention, with P values ranging from 0.01 to 0.05. The study found that male nurses had higher knowledge and practice scores than female nurses, with significant differences in mean scores. The overall level of knowledge and practice among Palestinian nurses was found to be good; however, there is room for improvement in several aspects of both knowledge and practice. Variables such as gender, age, marital status, qualification, and job experience were found to have significant correlations with the level of knowledge and practice among nurses.

Keywords: *Pressure Ulcers, Nurses, Knowledge, Practice, Prevention, Palestine.*

1. Introduction

Hospital-acquired conditions are common, costly, and fatal (Arntson et al., 2021). One of the iatrogenic causes of extra morbidity for hospitalized patients is Pressure Ulcers (PUs). As a result, they may cause longer hospital stays and higher treatment costs. In addition, PUs are a significant issue for healthcare institutions. Beyond the physical difficulties that PUs cause to individuals, they also have a huge financial impact on healthcare systems (Al Mutair et al., 2020).

PUs are a localized skin injury that arises from prolonged compression of soft tissue between a bony prominence structure and external pressures. Friction and shear may also contribute. Millions of people are impacted globally, and the extent and severity of the injury to the skin, underlying tissue, and muscle vary (Gedamu et al., 2021).

Most people who have health problems that make it difficult for them to move or who spend much time in beds or chairs are at risk of getting PUs. Elderly people, those with spinal cord injuries, and people under anesthesia after surgery or trauma are more likely to develop PUs. On the other hand, persons of any age may develop PUs if they are exposed to constant, unrelieved pressure, friction, and shear forces for a prolonged period of time. Many factors, including advanced age, diabetes mellitus, smoking, prolonged immobility, poor nutrition, incontinence, decreased sensitivity, steroid usage, wetness, friction, shear, and pressure, are considered to have contributed to the development of PUs (Getie et al., 2020).

PUs are also a costly problem; treatment for PUs is 2.5 times more expensive than prevention. PUs increase hospital stays from four to thirty days, lower quality of life, and raise pain, morbidity, and death rates (Dalvand et al., 2018).

For a long time, nurses have been concerned about pressure ulcer prevention. Nurses are the first line of care for patients with Pus; therefore, to successfully prevent and treat them and their complications, which, if left untreated, can be fatal, nurses must be knowledgeable about PUs prevention and treatment (Saleh et al., 2019). Globally, nurses are recognized for their ability to tend to hospitalized patients, and the existence or absence of PUs is considered a key indicator of high-quality nursing care (Ingwu et al., 2019).

One of the most important aspects of PUs prevention is risk assessment (RA) (Díaz-Caro & García Gómez-Heras., 2020). One of the most popular RA techniques for developing PUs is the Braden scale (BS), which has been demonstrated to offer the best risk assessment with an acceptable ratio of sensitivity to specificity when compared to other RA measures (Gaspar et al., 2022).

Only a small number of studies, meanwhile, have identified risk factors for both healthcare-acquired PUs and patients with PUs present at admission. Individuals who developed PUs while in the hospital were often identified by their restricted activity level, length of stay, intensive care unit (ICU) admission, or the appearance of one or more PUs during the first skin assessment. PUs were substantially correlated with both older age and a lower Braden score (Olivo et al., 2020).

In 2015, a study of statistics in Palestine found that PUs are very prevalent among inactive patients. Comparatively speaking, 4,033 cases were reported in the West Bank and around 2,312 cases in the Gaza Strip (Eljedi et al., 2015).

The PUs issue poses a serious risk to patients' health due to increased mortality rates, poorer quality of life, longer hospital stays, expensive patient care, disturbed body image, extended recovery times, and a detrimental impact on patients' overall performance (Gedamu et al., 2021).

After heart disease and cancer, PUs-related injuries are the third costliest medical condition, taking up around 4% of Europe's yearly healthcare expenditure. For instance, in 2018, a US study revealed that individuals with PUs had costs that were 22.5% higher than those of other patients (Isfahani et al., 2024).

Diverse research on nurses' understanding of PUs management has produced inconsistent results. The likelihood that nurses will use PUs prevention in practice is significantly influenced by their knowledge of the technique (Saleh et al., 2019).

According to a 2018 study, it's possible that nurses lack sufficient understanding of current clinical practices and are not fully informed of updated treatment guidelines. Occasionally, nurses' actions are guided more by instinct, experience, or habit than by

knowledge (Dalvand et al., 2018). Some studies have indicated that a significant number of nurses cannot recognize PUs preventive guidelines, reduce PUs, or categorize and evaluate PUs risk (Mahmoud Belal & Ali, 2023).

In Palestine, particularly in the West Bank, pressure ulcers are a common issue in hospitals and long-term care facilities. A study conducted on pressure ulcers among patients in the ICU department of a governmental hospital in Palestine reported a prevalence of 33%, with most cases being in Stage I. When Stage I cases were excluded, the prevalence was 7.34%.(Almahmoud, 2018).

The analysis of a Palestinian study in 2019 about Palestinian ICU nurses' knowledge of PUs prevention displayed inadequate knowledge among nurses in this context (Al-Shaikh, 2019). Recent studies on the knowledge and attitudes of nurses in the closed care units about PUs in patients, as well as their prevention and management, are relatively limited (Avgerinou et al., 2022). However, several studies suggested that even though nurses' knowledge and attitudes regarding the prevention of PUs were poor, the management of PUs was relatively acceptable (Avgerinou et al., 2022).

2. Materials and methods

A cross-sectional study was conducted in West Bank hospitals and health care centers from February 15th, 2024, to April 14th, 2024. According to the Palestine Central Bureau of Statistics (2023), there are over 25,000 nurses in Palestine, over 13,000 nurses in the West Bank, and over 12,000 nurses in the Gaza Strip. The targeted population was all nurses, with a total population of over 13,000 nurses.

All nurses working in the closed and open units of all the hospitals and health care centers in the West Bank /Palestine and available during the data collection period were included as the study population for this study. Nurses in the Gaza Strip, nurses who refused to participate in the study, and other medical staff were excluded.

Samples for this study were gathered using convenience sampling. The sample size was determined with a 95% confidence level and a 5% margin of error. The calculated sample size was 374, and after adding a 15% response rate, the final sample became 430.

A standardized, self-administered questionnaire was used to gather data from study participants. The data collection tool was adopted from (Nasreen et al., 2017) . Cronbach's alpha was used to measure consistency for each domain of the questionnaire separately; the knowledge domain scored 0.86, and the practice domain scored 0.81, indicating good reliability for the entire questionnaire. Before data collection, the questionnaire was examined by experts for content validity, thoroughness, and clarity. The questionnaire consisted of three parts with a total of 45 items. First Part (Demographic Data): This part consists of 5 items regarding participants' demographic data of the participant (age, gender, and marital status) and other independent variables (qualification, & and job experience). Second Part (Knowledge Assessment): This part consisted of 20 questions assessing the participants' level of knowledge on PUs prevention. Questions were presented in a 'yes, no, or I don't know' format with a single correct answer. A score of '1' was awarded for each correct answer, and the wrong answer was given a score of 'zero' for a total score of 20. Researchers calculated the average of correct and incorrect answers. Third Part (Practice Assessment): This part consisted of 20 items assessing the participants' practice. The items were presented in an 'always, sometimes or never' format with a score of '3, 2 and 1' awarded for each answer, respectively, with a minimum mean of '1' and a maximum mean of '3'. (Mean Score: 1 - 1.66 = Poor Practice, Mean Score: 1.67 - 2.33 = Fair Practice, Mean Score: 2.34 - 3 = Good Practice).

Data collection started after the approval of the ethical review committee at Modern University College (Ref: muc001/2024). Hospitals and health centers were reached, consent was obtained from each unit's supervisor, and the study's aim was explained to the participants. Informed them that their participation was voluntary and they could withdraw any minute they felt uncomfortable with data collection. It was explained that filling out the form would take 10 minutes or less and that no personal data would be shared. The collected data was analyzed using the Statistical Package for Social Sciences (SPSS) Version (27). After entering the data, it was double-checked for errors or outliers. Descriptive and inferential statistical data analysis was

done**.** In terms of descriptive statistics, the study variables were described using frequency, percentages, mean scores, and Standard Deviation (SD). These metrics are suitable for characterizing the distribution and proportion of categorical variables, such as demographic characteristics (e.g., gender, department, and experience levels) among the 430 nurses. The independent t-test and One-Way ANOVA are chosen for inferential statistics because of their capacity to evaluate group differences. The independent t-test is employed when comparing two groups, and one-way ANOVA is utilized when comparing three or more groups. These statistical tests aid in effectively understanding the relationships and differences between the research variables and are appropriate for the data obtained.

3. Results

The demographic analysis of 430 nurses **(*via* Table 1)** reveals males constitute a slight majority, representing 53.3% (229 individuals). A significant portion of the nurses are married (51.16%, 220 individuals). The group is predominantly young, with 36.5% (157 individuals) falling within the 20-25 age bracket. Regarding qualifications, a significant number hold a bachelor's degree (50.2%, 216 individuals), followed by those with a diploma (25.1%, 108 individuals). In the area of job experience, a wide range of experience levels is present. Many nurses have 1-5 years of experience (36%, 155 individuals).

Table 1. Demographic variables of the nurses (n=430)

Variable		n	%
Gender	Male	229	53.3%
	Female	201	46.7%
Marital status	Single	172	40.0%
	Married	220	51.16%
	Divorced	26	6.04%
	Widowed	12	2.80%
Age group	20-25 years old	157	36.50%
	26-30 years old	106	24.65%
	31-35 years old	73	17.0%
	36-40 years old	63	14.65%
	>40 years old	31	7.20%
Qualification of the participants	Diploma	108	25.10%
	Bachelor's Degree	216	50.20%
	Masters' Degree	96	22.35%
	PhD	10	2.35%
Job experience	Less than 1 Year	108	25.10%
	1-5 Years	155	36.00%
	6-10 years	76	17.70%
	>10 years	91	21.2%

Regarding the level of knowledge on preventing PUs among nurses, **Figure 1** presents data on the average proportions of correct and incorrect responses from participants regarding PU prevention. The majority of participants, 65.61%, provided correct answers, reflecting significant knowledge or awareness in this area. In contrast, 34.39% of the responses were incorrect.

Table 2 Analyzes the frequency and percentages of correct and incorrect answers on PU knowledge among 430 participants, revealing a varied understanding of PU prevention and care.

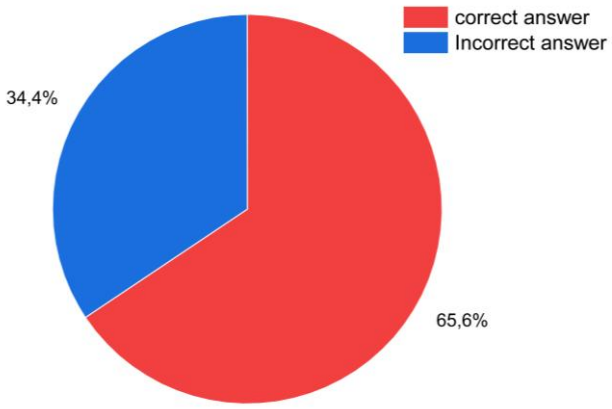

Figure 1. Average of correct and incorrect answers among participants toward the PUs prevention

Analyzing the frequency and percentages of correct and incorrect answers on PU knowledge among 430 participants reveals a varied understanding of PU prevention and care. The highest level of knowledge is shown in the recognition of risk factors for PUs, where 88.1% (379 individuals) correctly identified immobility, incontinence, impaired nutrition, and altered level of consciousness as contributing factors, with only 11.9% (51 individuals) answering incorrectly.

Conversely, the item with the lowest percentage of correct answers, and therefore the most significant misconception, is related to massaging over bony prominences. Only 38.4% (165 individuals) correctly recognized that this practice is not recommended, while a significant 61.6% (265 individuals) believed otherwise.

Other notable findings include a strong understanding of the importance of keeping the skin clean and dry to prevent PU development, with 76.7% (330 individuals) providing correct answers. In contrast, there is less certainty about the appropriate laboratory test for nutritional assessment in PU patients, with only 44.2% (190 individuals) answering correctly that serum albumin is the test of choice and a majority of 55.8% (240 individuals) providing incorrect answers.

Table 2. Frequency and percentages of each item Toward PU knowledge (n=430)

	Knowledge item	Correct Answer		Incorrect Answer	
		n	%	n	%
1.	Risk factors of pressure ulcers include immobility, incontinence, impaired nutrition, and altered level of consciousness.	379	88.1%	51	11.9%
2.	All hospitalized individuals at risk for pressure ulcers should have a systematic skin inspection at least daily and those in long-term care at least once a week.	338	78.6%	92	21.4%
3.	The first sign of pressure ulcer development is an open sore.	233	54.2%	197	45.8%
4.	Hot water and soap may dry the skin and increase the risk of pressure ulcers.	268	62.3%	162	37.7%
5.	It is important to massage over bony prominences.	165	38.4%	265	61.6%
6.	All individuals should be assessed on admission to a hospital for risk of pressure ulcer development.	279	64.9%	151	35.1%

7.	The patient's skin should be clean and dry to prevent the risk of pressure ulcer development.	330	76.7%	100	23.3%
8.	Adequate dietary intake of protein and calories should be maintained during illness.	304	70.7%	126	29.3%
9.	Vitamins C and E are important to maintain skin integrity.	232	54.0%	198	46.0%
10.	Serum albumin test is the appropriate laboratory test for nutritional assessment of pressure ulcer patients.	190	44.2%	240	55.8%
11.	Persons confined to bed should be repositioned every three hours.	266	61.9%	164	38.1%
12.	A turning schedule should be written and placed at the bedside.	311	72.3%	119	27.7%
13.	The head of the bed should be maintained at the lowest degree of elevation, consistent with medical conditions.	299	69.5%	131	30.5%
14.	A person who cannot move themselves should be repositioned every two hours while sitting in a chair.	311	72.3%	119	27.7%
15.	Heel ulcers are prevented by putting a pillow under the patient's legs.	301	70.0%	129	30.0%
16.	Friction may occur when moving a person up in bed.	297	69.1%	133	30.9%
17.	A Braden scale is a risk assessment tool used for assessing pressure ulcers.	239	55.6%	191	44.4%
18.	A low-humidity environment may predispose a person to pressure ulcers.	253	58.8%	177	41.2%
19.	Persons who have incontinence should be cleaned at the time of soiling and at routine intervals.	324	75.3%	106	24.7%
20.	Educational programs may reduce the incidence of pressure ulcers.	324	75.3%	106	24.7%
	Average (20 items)		65.61%		34.39%

Figure 2 details the levels of practice among nurses regarding preventing PUs. The data reveals that a majority of nurses exhibit a good level of practice, with 55.3% falling into this category. A substantial portion, 41.6%, demonstrate a fair level of practice. Notably, only a small minority, 3%, are categorized with a poor level of practice.

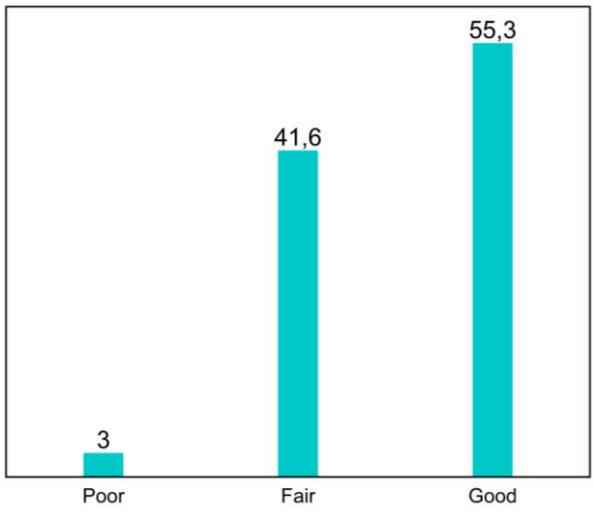

Figure 2. Level of practice on prevention of PUs among nurses

The practice with the highest mean score is "Turning the patient's position every two hours," which achieved a mean of 2.50 and falls within the 'Good' status category. Conversely, the lowest mean score is observed in "Attending seminars for pressure ulcer prevention," with a mean of 1.99, classified under the 'Fair' status. Most of the practices, such as observing how nurses assess risk factors, documenting data related to PU assessment, and using special mattresses, scored within the 'Good' range (mean scores ranging from 2.38 to 2.50). A few items, including performing skin assessment guided by standard care, using an assessment scale, using creams or oils for skin protection, and providing vitamins and food for malnourished patients, fell into the 'Fair' category (mean scores ranging from 2.19 to 2.33).

The overall mean score for the 20 items is 2.37, which is considered 'Good,' indicating that, on average, the nursing practices towards PU prevention are commendable.

Table 3. Mean score for each item toward the practice on prevention of PUs among nurses (n=430)

Practice	Mean	SD	Status
1. Observing how nurses assess risk factors for pressure ulcer development.	2.48	.597	Good
2. Identifying common contributing factors for pressure ulcer development through periodical assessment of the patient's skin.	2.41	.619	Good
3. Performing skin assessment guided by standard nursing care available in the hospital.	2.25	.712	Fair
4. Using an assessment scale to assess pressure ulcers.	2.19	.712	Fair
5. Documenting all data related to pressure ulcer assessment.	2.45	.666	Good
6. Assessing and providing management of pain in patients who experienced pain.	2.46	.638	Good
7. Performing skin care as a routine work of the unit.	2.44	.648	Good
8. Placing the pillow under patients' legs to prevent heel ulcer.	2.44	.640	Good
9. Using or advising caregivers to use creams or oils on patients' skin to prevent damage from urine, stool, or wound drainage.	2.33	.664	Fair
10. Paying more attention to pressure points during cleansing.	2.43	.643	Good
11. Performing lab tests for assessing nutritional status following physicians' instructions.	2.39	.627	Good
12. Providing vitamins and food for malnourished patients.	2.27	.672	Fair
13. Monitoring a protein and calorie diet in bedridden patients.	2.27	.636	Fair
14. Avoiding dragging patients during repositioning.	2.43	.653	Good
15. Using special mattresses to prevent pressure loadings, such as foam or air.	2.39	.651	Good
16. Avoiding massage over bony prominences to prevent pressure ulcer formation.	2.38	.665	Good
17. Turning the patient's position every two hours.	2.50	.621	Good
18. Using air beds for patients who are at high risk for pressure ulcer formation, following a physician’s prescription.	2.46	.638	Good
19. Attending seminars for pressure ulcer prevention.	1.99	.797	Fair
20. Giving advice to the patient or caregiver regarding pressure ulcer preventive care before discharging the patient from the hospital.	2.38	.699	Good
Total Mean Score (20 items)	2.37	.390	Good

Higher mean score means higher good practice
Mean score over 3

Table 4 shows the difference between nurses' demographic variables in terms of knowledge and practice scores. In an examination of 430 nurses, the study measured differences in knowledge and practice regarding PU prevention, revealing significant variances across various demographic categories. Male nurses demonstrated higher knowledge and practice than female nurses, with mean scores of 13.86 and 2.42, respectively, and these differences were statistically significant. When considering marital status, single nurses scored higher in both knowledge and practice than their married, divorced, or widowed peers, and these results were significant as well. Divorced and widowed nurses had notably lower scores in both areas, with widowed nurses scoring the lowest.

Looking at age groups, the youngest (20-25 years old) and the oldest nurses (>40 years old) scored the highest, suggesting that the extremes of the age spectrum were either more knowledgeable or practiced better preventive care. The highest scores were observed in nurses over 40 years old.

Educational qualifications are also correlated with knowledge and practice scores. Nurses with a diploma had the highest practice scores, which was statistically significant compared to those with bachelor's degrees, master's degrees, or PhDs. For knowledge, the trend was similar with diploma holders scoring the highest.

Regarding job experience, nurses with more than 10 years of experience scored higher in both knowledge and practice, with significant differences noted compared to those with less experience.

Table 4. Difference between demographic variables of nurses in terms of both knowledge and practice scores (n=430)

Variable			Knowledge			Practice		
		n	Mean	SD	P-value	Mean	SD	P-value
Gender	Male	229	13.86	4.646	.001*	2.42	.379	.002*
	Female	201	12.28	5.210		2.30	.395	
Marital status	Single	172	13.59	4.477	.001*	2.41	.334	.001*
	Married	220	13.47	5.049		2.39	.402	
	Divorced	26	9.38	5.396		2.04	.418	
	Widowed	12	8.08	3.629		1.94	.310	
Age group	20-25 years old	157	13.44	4.368	.001*	2.42	.334	.001*
	26-30 years old	106	11.47	5.567		2.24	.424	
	31-35 years old	73	12.34	5.475		2.30	.424	
	36-40 years old	63	15.03	4.059		2.46	.350	
	>40 years old	31	15.09	4.109		2.54	.389	
Qualification of the participants	Diploma	108	14.48	3.868	.001*	2.45	.309	.005*
	Bachelor's Degree	216	13.15	4.983		2.37	.388	
	Master Degree	96	11.65	5.628		2.26	.443	
	PhD	10	11.90	5.237		2.32	.497	

Job experience	Less than 1 Year	108	13.17	4.633	.001*	2.39	.383	.001*
	1-5 Years	155	12.87	5.104		2.35	.391	
	6-10 years	76	11.50	5.742		2.24	.415	
	>10 years	91	14.83	3.885		2.49	.343	

Independent t test and One-Way ANOVA

**Significant at p<0.05*

4. Discussion

Even though most nurses demonstrated a good level of knowledge, representing 65.61%, the 34.39% who demonstrated a poor level of knowledge regarding PU prevention can't be considered a small fraction. It's quite a lot, as they are registered nurses and are expected to possess a high level of knowledge. These findings are consistent with results from an Ethiopian study, which found that 54.4% of nurses had good knowledge of preventing PUs. In comparison, 45.6% had poor knowledge (Nuru et al., 2015), and results from a Chinese study found 59% had good knowledge of the subject (Jiang et al., 2020). These findings contradict other studies; for example, a 2014 study in Jordan reported that 73% of nurses lacked knowledge of PUs prevention (Qaddumi & Khawaldeh, 2014). Another study in Egypt found that 63% of nurses had poor knowledge regarding PUs prevention (El Enein & Zaghloul, 2011), while another study in Pakistan revealed that 80% of nurses had poor knowledge regarding PUs prevention (Nasreen et al., 2017). Compared to previous surveys conducted in the region, Palestinian nurses scored among the highest levels of expertise in the Middle East.

According to the survey's results, the majority of nurses practice well; this group included 55.3% of participants and had a mean score of 2.37. These findings are in agreement with other studies conducted in Ethiopia, where 58.5% of nurses had good practice towards PUs prevention and possessed a high degree of expertise in preventing PUs (Tesfa Mengist et al., 2022). This can be attributed to the simulation courses and practical training Palestinian universities utilize to teach nursing students about patient daily care, including skin care and PU care, during their learning years at nursing school. A study on pressure ulcer prevention revealed that nurses with formal training had higher levels of knowledge and practice than those who didn't (Nuru et al., 2015).

These findings are incongruent with another study conducted in Nigeria by Ingwu et al. (2019) and a study in Ethiopia by Nuru et al. (2015), which found that the majority—51% and 51.6% of nurses, respectively—had poor practice levels.

The level of knowledge is quite higher than the level of practice, which was not as expected. This is similar to a study conducted in Pakistan, which revealed the level of knowledge is higher than the level of practice towards PU prevention (Arshad et al., 2022). This particular finding highlights an important point of view that suggests there are barriers preventing nurses from implementing the knowledge they have, which must be investigated. A study conducted in Sweden revealed more than 12 barriers preventing nurses from implementing good pressure ulcer prevention, with lack of time being the leading barrier (Strand & Lindgren, 2010).

The overall mean score for the 20 items is 2.37, which is considered 'Good,' indicating that, on average, the nursing practices towards PU prevention are commendable. However, there remains room for improvement, particularly in enhancing participation in educational programs, which is critical for maintaining high standards of care.

Apparently, there is a significant relationship between nurses' knowledge and practice on preventing PUs and all demographic data mentioned in this study. In terms of gender, the findings show that males demonstrated higher levels of both knowledge and practice on PU prevention. This result is in accord with studies conducted in Palestine and Jordan, where they found a significant relationship between gender and the level of PU knowledge, with male nurses scoring higher than females (Qaddumi & Khawaldeh, 2014; Radwan et al., 2023). In terms of practice, these findings contradict another study conducted in Greece, where they found that the gender of nurses shows no statistically significant difference in terms of knowledge and

practice (Avgerinou et al., 2022). The significant relationship between nurses' knowledge and practice on the prevention of PUs and gender, where males demonstrated higher levels, may be attributed to differences in educational opportunities, workplace roles, and professional development resources.

When considering marital status, in this study, single nurses scored higher in both knowledge and practice compared to their married, divorced, or widowed peers, and these results were significant. Divorced and widowed nurses scored the lowest, with divorced nurses scoring higher than widowed nurses, the least knowledgeable and practiced. This is in accord with another study done in Ethiopia (Tesfa Mengist et al., 2022). This can be attributed to the social challenges they face in their daily lives, as well as the loneliness and loss of emotional support they used to get from their partners. A study conducted in Spain revealed that widowed nurses have higher burnout rates than others, clarifying that a lack of an intimate and supportive marital relationship is detrimental to mental health. On the other hand, marital partners' protection and healing support seem to be beneficial in reducing the emotional stress and anxiety that nursing staff members face when providing patient care. Also, being divorced or widowed as a nurse makes one more prone to emotional exhaustion and burnout (Cañadas-De la Fuente et al., 2018).

In terms of educational qualification, this study has shown that it's correlated with both knowledge and practice, where nurses with diplomas had the highest practice and knowledge scores. These findings are in line with another study conducted in Palestine-Gaza, where diploma holders scored higher than nurses with higher qualifications in terms of knowledge (Radwan et al., 2023). This can be attributed to diploma holders graduating within two years and practicing their job as nurses earlier. Also, being the weakest link and often asked by their colleagues with higher qualifications to do most of the work, they gained experience and were pushed forward to learn more. This finding is incongruent with another study conducted in Ethiopia that showed higher qualifications mean higher knowledge and practice levels (Tesfa Mengist et al., 2022).

On the other hand, findings indicate that there is a relationship between age groups and the knowledge and practice of the prevention of PUs. Nurses over 40 years old demonstrated higher knowledge and practice. Also, nurses with more than 10 years of experience scored higher in practice and knowledge. These findings are in accord with a study conducted in Ethiopia, which indicated that nurses with more than 10 years of experience scored higher knowledge and practice levels than those with less experience (Nuru et al., 2015). Another study conducted in Nigeria indicated that there is a significant correlation between years of experience and levels of knowledge and practice (Ilesanmi & Olabisi, 2014). This could be due to their chances of dealing with different cases with different professionals, pushing them to learn more from them and on their own. This indicates that the more nurses deal with the PUs and the more cases they manage, the amount of knowledge and practice experience they gain increases significantly. As stated in a study conducted in Ethiopia, more years of experience allow nurses to learn even from their own mistakes, making them better at preventing PUs (Nuru et al., 2015).

5. Conclusion

The overall level of knowledge and practice among Palestinian nurses was found to be good; however, there is room for improvement in several aspects, in both knowledge and practice. Variables such as gender, age, marital status, qualification, and job experience were found to have a significant correlation with the level of knowledge and practice among nurses. Further investigation into the cause of the decreased level of knowledge among nurses who scored poorly and the barriers to practice among nurses who scored poorly in practice is needed and remains an area of concern.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request. The datasets generated and analyzed during the current study are not publicly available due to privacy and ethical restrictions but are available from the corresponding author on reasonable request.

For further inquiries or access to the data, please contact:

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Conflicts of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Funding Statement

The authors did not receive support from any funding agencies for the submitted work.

Acknowledgments

To all nurses who participated in the study and data collection facilitators at their respective hospitals, thank you for your significant contributions in facilitating data collection.

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