International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 24s, 2025
https://theaspd.com/index.php

Attitude Of Nurses Regarding Pressure Ulcers In Diyala Governorate Hospitals

Ahmed K. Ahmed [1], Ahmed Hasan Radhi [2], Aqeel Abbas Noaman [3]
[1]MSc, Community Health Techniques Department / College of Health and Medical Techniques/ Middle Technical University/Iraq, eac0043@mtu.edu.iq
[2]Ph.D. Community Health Techniques Department/ College of Health and Medical Techniques/ Middle Technical University/Iraq.
[3]Ph. D Baquba Technical Institute, Middle Technical University/Iraq

Abstract
Aim*: This study aimed to evaluate identify nurses' attitudes regarding pressure ulcers.*
Methods: *A cross-sectional study was conducted in the Diyala Governorate Hospitals, to evaluate nurses' attitude regarding pressure ulcers using APuP instrument, involving (252) nurses selected by proportional random sampling, over the course of five months, beginning December 10th 2024, and ending May 1st, 2025. Implementing descriptive statistics, including the independent t-test, ANOVA, the chi-square test, and the Fisher exact test, were utilized for data analysis in SPSS software, version 29.0, at P<0.05*
Results*: nurses with mean age 28.9 ± 6.2 year ranging from 20 to 49 year. Females represent 52.4% of the studied sample. The majority of the study sample held a diploma degree 57.1% and had 1-4 years of experience 50.8%. Relating to workplace, the highest percentage was 31.0% working at general wards. The overall nurses' attitude was 76.80% regarding pressure ulcers prevention.*
Conclusion: *The attitude of nurses toward pressure ulcer prevention was generally favorable, with a total score of 76.8%. High scores were observed in sub dimensions such as impact (85.01%) and responsibility (78.12%), while the competence sub dimension scored lower (68.94%), indicating a possible gap between belief and practice.*
Keywords: *pressure ulcers, attitude, nurses, prevention, iraq, diyala city*

INTRODUCTION

Pressure ulcers, also known as pressure injuries, or bedsores, is defined as localized damage to the skin and/or underlying tissue, as a result of pressure or pressure in combination with shear. Pressure ulcer PUs usually occur over a bony prominence but may also be related to a medical device or other object [1]. The most recent National Pressure Ulcer Advisory Panel (NPUAP) guidelines indicate that shear and friction, particularly when positioned at an inclination, might impact local capillary beds and are thought to contribute to tissue hypoxia, a critical element in the formation of pressure ulcers (PUs) [2].

Evidence indicates a robust correlation among advanced age, disease-associated sedentary behaviors, and poor dietary practices. Moreover, direct dermal contact with a bed or chair, along with infrequent repositioning, can lead to pressure ulcers. Urinary and fecal incontinence, diabetes, and injuries that limit body positioning and nutrition are recognized risk factors [3, 4].

The EPUAP/NPIAP classification system delineates six categories for the classification of existing pressure ulcers (PUs), with higher categories signifying more profound damage to the skin and/or underlying tissue[1]. The stages with the highest frequency were stage I (43.5%) and stage II (28.0%). The most impacted anatomical regions were the sacrum, heels, and hip [5].

A recent systematic review and meta-analysis indicates that the prevalence of pressure ulcers (PUs) in hospitalized patients ranges from 11.8% to 13.9%, whereas the incidence rate varies from 3.4% to 7.8% [5]. In affluent nations, including the United States, the overall prevalence of pressure ulcers among hospitalized patients is believed to be between 5% and 15%, although it may be considerably greater in intensive care units and specific long-term care facilities [2]. In Iraq, minimal local data on the incidence of pressure ulcers in hospitals exist. According to rare studies, the frequency of pressure ulcers in hospital populations is estimated to range from 4.7% to 32.1%, varying by location [6-8]. While in neighbouring countries, according to a meta-analysis conducted in Iran, pressure ulcer PUs incidence was 57% in ICUs [9]. Similarly, a Saudi study indicated a prevalence of pressure ulcers (PUs) in critical care units of 44.4% and an incidence of 38.6% [10].

Nurses have a crucial role and bear significant responsibility in the identification and prevention of pressure ulcers [11]. Ensuring adequate education and promoting positive behavior are crucial elements in enhancing nursing staff's awareness and implementation of pressure ulcer prevention strategies [12].

According to the theory of planned behavior an individual with favorable attitudes towards a behavior is likely to engage in that behavior, while an individual with unfavorable attitudes is unlikely to do so [13]. Thus, nurses' attitudes toward PU prevention will likely affect their pressure ulcer PUs practices [14].

Objectives of the Study

1. To determine the attitudes of nurses towards pressure ulcer prevention and management.
2. Exploring the relationships between demographic characteristics and attitudes.
3. To identify the factors influencing nurses' attitude regarding pressure ulcers.

METHODOLOGY

Study Design

A cross sectional study.

Duration of the study

The data collection and analysis continued for the period five months, beginning December 10th 2024, and ending May 1st, 2025.

Place of Study

The place of this study was performed in the Diyala governorate hospitals in units of ICU, RCU, NRCU, general, internal, surgical, specialized surgeries and oncology wards.

Inclusion Criteria

Nurses from both sexes who work at governmental hospitals in Diyala governorate, in wards of (ICU, RCU, specialized surgeries ward, general wards, internal ward, surgical ward & oncology ward).

Exclusion Criteria

Newly employed nurses who have work experience less than 1 year, and other healthcare workers, medical and paramedical stuff. Nurses working in other than the desired wards, and nurses who were doing administrative work.

Instrument of the Study

The first part of the questionnaire was the demographical part, which includes general information of the respondents such as age, sex, marital status, educational attainment, clinical unit, years of experience, and if any pressure ulcer training attended.

Attitude towards pressure ulcer prevention (APuP) Instrument. The APuP scale was developed by [15]. The tool has 13 questions, nurses indicated their attitude using a 4-point Likert scale (1=strongly disagree, 2=disagree, 3=agree, 4=strongly agree). The questionnaire has 5 subscales: Personal competence to prevent PU, priority of PU prevention, impact of PU, responsibility in PU prevention, and confidence in the effectiveness of prevention.

Statistical data analysis

Analysis of data carried out using the available statistical package of SPSS-29 (Statistical Packages for Social Sciences- version 29). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range.

The significance of differences in means (quantitative data) was tested using the Student's t-test for comparisons between two independent means, or the ANOVA test for comparisons among more than two independent means. The significance of difference of different percentages (qualitative data) were tested using Pearson Chi-square test (χ^2-test) with application of Yate's correction or Fisher Exact test whenever applicable. Statistical significance was considered whenever the P value was equal or less than 0.05

Ethical Considerations

Ethical approval was gained from the Middle Technical University / Medical Ethics Committee with the reference number (MEC 74). Protecting the values and dignity of participants is one of the most basic principles before collecting data.

RESULTS

Table 1: Demographic characteristics of study sample

Demographic Characteristics (n=252)		**No.**	**%**
Age (years)	20-29	181	71.8
	30-39	45	17.9
	40-49	26	10.3
	Mean ± SD (Range)	28.9 ± 6.2 (21-49)	

	Total	**252**	**100%**
Sex	Male	120	47.6%
	Female	132	52.4%
	Total	**252**	**100%**
Hospital	Ba'qubah Teaching Hospital	138	54.8%
	Al-Batool Obstetrics and Gynaecology Hospital	19	7.5%
	Al-Khalis General Hospital	20	7.9%
	Al-Muqdadiya General Hospital	15	6.0%
	Al-Zahraa Obstetrics and Gynaecology Hospital	5	2.0%
	Jalawlaa General Hospital	18	7.1%
	Khanaqeen General Hospital	21	8.3%
	Baladroz General Hospital	16	6.3%
	Total	**252**	**100%**
Marital Status	Married	135	53.6%
	Single	112	44.4%
	divorced/widow	5	2.0%
	Total	**252**	**100%**
Education Level	Preparatory	36	14.3%
	Diploma	144	57.1%
	Bachelor	65	25.8%
	Master	7	2.8%
	Total	**252**	**100%**
Ward	ICU	25	9.9%
	NRCU	26	10.3%
	RCU	32	12.7%
	Specialized surgery ward	17	6.7%
	General ward	78	31.0%
	Internal ward	40	15.9%
	Surgical ward	28	11.1%
	Oncology ward	6	2.4%
	Total	**252**	**100%**
Experience, y	1-4	128	50.8
	5-9	75	29.8
	10-14	23	9.1
	15-19	12	4.8
	=>20years	14	5.6
	Mean ± SD (Range)	6.3±5.4 (1-24)	
	Total	**252**	**100%**

Table 1 presents the characteristics of the 252 nurses involved in the study, whose ages range from 20 to 49 years, with a mean age of 28.9 ± 6.2 years. The biggest percentage of nurses, 71.8%, was in the 20-29 age group, while the lowest percentage, 10.3%, was in the 40-49 age group. The sample comprised 53.6% married nurses, while merely 2.0% were divorced or widowed nurses. Females constituted over half of the study sample, accounting for 52.4%. The majority of the study sample possessed a diploma degree, accounting for 57.1%, and had 1-4 years of experience, comprising 50.8%.

The predominant portion of the examined sample originated from Baqubah Teaching Hospital, including 54.8%, while the minimal proportion was 2.0% from Al-Zahraa Obstetrics and Gynecology Hospital. Nurses in the general ward comprised the largest proportion (31.0%) of the study group, followed by those in the internal ward (15.9%) and the RCU (12.7%), which ranked second and third, respectively. The remaining percentages were allocated as follows: surgical ward 11.1%, NRCU 10.3%, ICU 9.9%, specialized surgery 6.7%, and oncology wards 2.4%, respectively.

Table 2: Nurses' Total Attitude Dimension & Subdimensions Scores

Attitude Subdimensions	No. of Items	Mean ± SD	Range	%	Overall Attitude
Competence	3	8.27 ± 1.27	5–11	68.94%	**Unfavourable**
Priority	3	9.04 ± 1.32	4-12	75.36%	Favourable
Impact	3	10.20 ± 1.51	4-12	85.01%	Favourable
Responsibility	2	6.25 ± 1.13	2-8	78.12%	Favourable
Effectiveness of prevention	2	6.17 ± 0.97	4-8	77.13%	Favourable
Total scale score	**13**	**39.93 ± 3.63**	**28–48**	**76.80%**	**Favourable**

The highest attainable attitude score is 52. The mean attitude score of nurses was 39.93, reflecting a good attitude of 76.80%. The sub dimension of competence in preventing pressure ulcers was the sole negative sub dimension, with a percentage of 68.94%. In contrast, the greatest impact of PU on patients was recorded at 85.01%. A summary of attitude scores, both overall and per sub dimensions, is presented in Table 2 and illustrated in Figure 1.

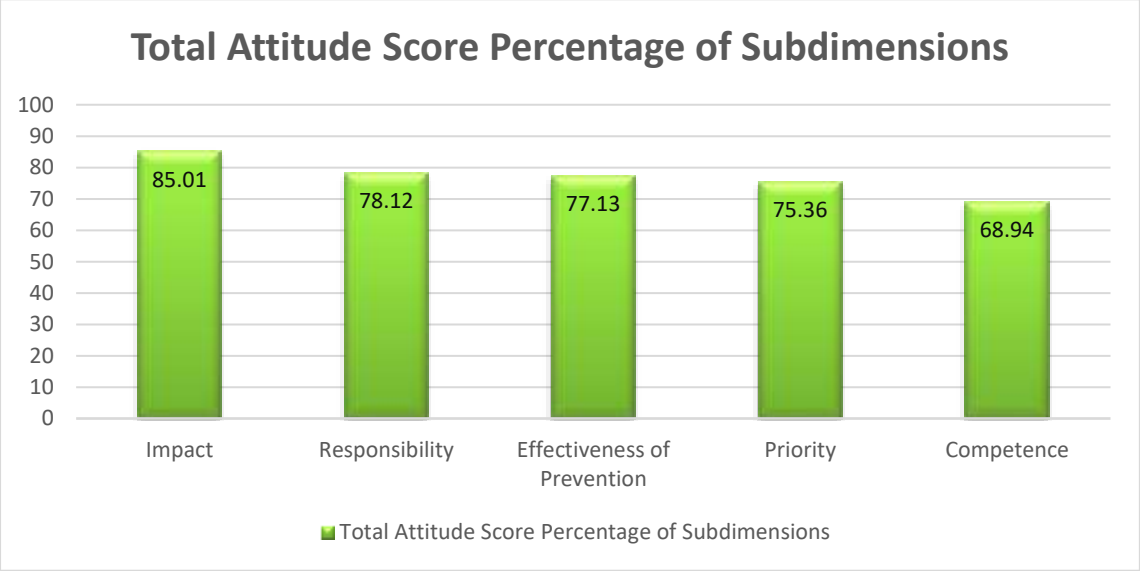

Figure 1. Total attitude score percentage of each subdimension

The overall proportion of nurses' attitudes towards pressure ulcer prevention was good, with 39 individuals (75% and higher) reflecting a percentage of 76.80%. Two-thirds (66.3%, n=167) exhibited a positive attitude, whereas one-third (33.7%, n=85) shown an unfavorable attitude. Figure 2 depicts the proportions of nurses' attitudes about pressure ulcer prevention.

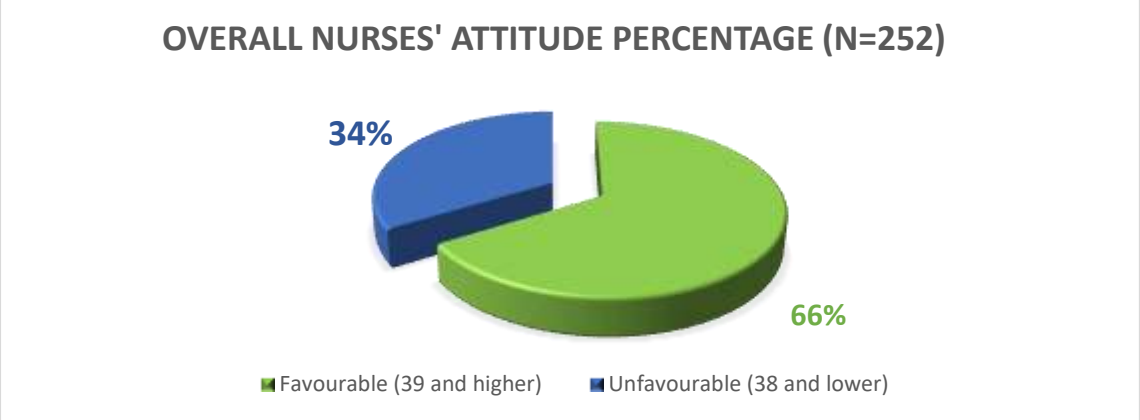

Figure 2. Overall attitude score percentage of nurses

Table 3: Relationship Between Demographic Characteristics and Attitude

Variables		No.	Attitude score Mean ± SD
Age (years)	20-29	181	40.0±3.5
	30-39	45	40.5±4.3
	40-49	26	38.2±3.2
	P value		0.021^
Sex	Male	120	40.0±3.6
	Female	132	39.9±3.6
	P value		0.832
Marital status	Married	135	39.8±3.6
	Single	112	40.0±3.6
	Divorced/ Widowed	5	42.2±4.1
	P value		0.357
Level of education	Preparatory	36	38.3±3.4
	Institute/ Diploma	144	40.2±3.4
	Bachelor	65	40.2±4.0
	Master	7	41.3±4.4
	P value		0.020^
Ward type	ICU	25	41.5±2.9
	NRCU	26	40.2±3.0
	RCU	32	40.0±3.8
	Special surgery ward	17	41.9±4.9
	General ward	78	38.8±3.5
	Internal ward	40	40.1±3.8
	Surgical ward	28	39.6±3.4
	Oncology	6	41.7±2.3
	P value		0.0001^
Years of experience	1-4	128	39.8±3.5
	5-9	75	40.3±3.9
	10-14	23	41.4±3.4
	15-19	12	39.9±2.7
	=>20	14	36.7±3.0
	P value		0.003^

Table 3 indicates that age and educational level exhibited statistically significant correlations with attitude scores for PUs avoidance (p=0.021 and p=0.020, respectively). No substantial differences were observed in attitude scores based on sex and marital status. Significant disparities in nurses' attitudes towards pressure ulcer prevention were observed concerning ward types and years of experience, with statistically significant differences among groups (p=0.0001 and p=0.003, respectively).

Table 4: Post Hoc Analysis (LSD Test) for Attitude Significant Variables

Attitude	LSD Comparisons		Mean Difference	P value
Age Group, y	20-29	40-49	1.896	0.013#
	30-39	40-49	2.379	0.008#
Level of Education	Preparatory	Institute/ Diploma	-1.951	0.004#
		Bachelor	-1.904	0.011#
		Master	-3.036	0.042#
Wards Type	ICU	General Ward	2.699	0.001*
	Specialized Surgery	General Ward	3.062	0.001*

		Surgical Ward	2.275	0.038#
Experience, Years	1-4	10-14	-1.630	0.044#
		>=20	3.090	0.002#
	5-9	>=20	3.606	0.001*
	10-14	>=20	4.720	0.0001*
	15-19	>=20	3.202	0.023#
#Significant at a p<=0.05 level				
*Significant at a p<=0.001 level				

Table 4 displays the post-hoc comparisons utilizing the LSD test to evaluate the significant correlations. Nurses aged 40–49 years exhibited substantially higher attitude scores compared to the 20–29 (p=0.013) and 30–39 years' groups (p=0.008).

Nurses with a preparatory level of education exhibited substantially lower attitude scores than those with a diploma/institute (p=0.004), bachelor's degree (p=0.011), and master's degree (p=0.042). Nurses in ICUs, specialized surgery, and surgical wards had considerably more favorable attitudes compared to those in general wards, with p=0.01. Nurses with ≥20 years of experience consistently exhibited considerably more favorable opinions than practically all other experience groups, including those with 1–4 years (p=0.002), 5–9 years (p=0.001), 10–14 years (p=0.0001), and 15–19 years (p=0.023). Nurses with 10–14 years of experience achieved substantially higher scores than those with 1–4 years (p=0.044).

Table 5: Association Between Nurses' Demographic Characteristics Attitude Scores Regarding PUs

Variables		Attitude score			
		Unfavorable (n=85)		Favorable (n=167)	
		No.	%	No.	%
Age (years)	20-29	57	67.0	124	74.3
	30-39	14	16.5	31	18.5
	40-49	14	16.5	12	7.2
	P value	0.072			
Gender	Male	39	45.9	81	48.5
	Female	46	54.1	86	51.5
	P value	0.694			
Marital status	Married	47	55.3	88	52.7
	Single	37	43.5	75	44.9
	Divorced/ Widowed	1	1.2	4	2.4
	P value	0.772			
Level of education	Preparatory	21	24.7	15	9.0
	Institute/ Diploma	44	51.7	100	59.9
	Bachelor	18	21.2	47	28.1
	Master	2	2.4	5	3.0
	P value	0.009*			
Ward type	ICU	3	3.5	22	13.2
	NRCU	7	8.2	19	11.4
	RCU	11	12.9	21	12.5
	Specialized surgeries ward	2	2.4	15	9.0
	General ward	39	45.9	39	23.4
	Internal ward	10	11.8	30	18.0
	Surgical ward	12	14.1	16	9.5
	Oncology	1	1.2	5	3.0
	P value	0.003*			

Years of experience (years)	1-4	45	52.9	83	49.7
	5-9	22	25.9	53	31.7
	10-14	4	4.7	19	11.4
	15-19	4	4.7	8	4.8
	=>20	10	11.8	4	2.4
	P value	0.015*			

Table 5 indicates that nurses exhibiting a positive attitude were primarily aged 20–29 years (74.3%), predominantly female (51.5%), and possessed either an institute/diploma (59.9%) or bachelor's degree (28.1%). A correlation of statistical significance was identified between attitude and educational attainment (p = 0.009). The majority were employed in the ICU (13.2%), RCU (12.5%), and internal wards (18.0%). The majority possessed 1–4 years (49.7%) or 5–9 years (31.7%) of experience.

DISCUSSION

The present study indicates that the general disposition of nurses regarding pressure ulcer prevention is good, with 76.8% exhibiting a positive attitude. This corresponds with findings from a UK survey, which indicated a comparable good attitude rate of 75.6% [16].

Conversely, a research performed in Basra, Iraq, indicated a markedly lower favourable attitude of 57.76%, while employing the identical questionnaire instrument [17] An Iranian study revealed intermediate outcomes, with 69.3% of nurses exhibiting a good attitude; still, this was deemed below the satisfactory criterion [18].

The inconsistencies may stem from methodological variations—particularly, the Basra study utilised virtual data collecting through WhatsApp groups, potentially affecting nurses' involvement and the precision of their responses.

The present investigation demonstrated a generally positive attitude towards the prevention of pressure ulcers, with all subdimensions exceeding the midpoint score. The greatest score was achieved in Impact (85.01%), followed by Responsibility (78.12%), Effectiveness of Prevention (77.13%), Priority (75.36%), and Competence (68.94%).

Significant discrepancies are evident when juxtaposing these findings with both international and national literature. A Belgian study revealed that the highest subdimension was Priority (81.7%), followed by Responsibility (76.7%), Competence (74.6%), Effectiveness of preventive (70.3%), and Impact (68.0%) [19]. Despite modest variations in structure among the subdimensions, the nurses in the current study had higher scores, notably in acknowledging the impact of pressure ulcers, indicating a heightened awareness of the repercussions these ulcers have on patients' quality of life.

An Indonesian study revealed positive attitudes with somewhat balanced scores across subdimensions: Impact (2.95/3), Priority (2.87/3), Competence (2.69/3), Responsibility (2.63/3), and Effectiveness (2.56/3) [20]. This corresponds effectively with the current findings, especially regarding the significant knowledge of PU impact and prioritisation, indicating a collective cultural focus on patient outcomes and care prioritisation in Eastern contexts.

An Iranian study including ICU nurses revealed consistently lower ratings across all subdimensions, with the highest being Effectiveness of Prevention (72.00%) and Priority (69.55%), while the lowest scores were for Impact (45.79%) and Competence (49.92%) [18]. This disparity may stem from the ICU-centric population, where nurses might address PU cases differently and prioritise acute illnesses above the prevention of chronic wounds. Furthermore, restricted in-service training and workload in critical care environments may affect these impressions.

A countrywide study in Basrah, Iraq, indicated predominantly negative sentiments, yielding a mean score of 57.76%, with notably low ratings for Impact (45.79%) and Competence (49.92%) [17]. Although the same evaluation tool was employed, these discrepancies may stem from methodological changes; for instance, the Basrah study utilised virtual data collection through WhatsApp, potentially influencing participant involvement and response accuracy.

The elevated scores in all attitude aspects seen in the current study may indicate enhanced engagement with bedside care, greater exposure to pressure ulcer cases, or a more equitable nurse-patient ratio in the general wards of Diyala. Moreover, the comparatively younger nursing personnel and their receptiveness to novel protocols and methodologies may significantly enhance this positive attitude profile.

Relationships Between Demographic Characteristics and Nurses' Attitude Regarding PUs

The present study revealed notable disparities in attitudes towards pressure ulcer prevention based on age, educational attainment, ward assignment, and years of experience. Nurses aged 30–39 and 20–29 demonstrated markedly more positive attitudes than their 40–49 counterparts, indicating that younger personnel may be more amenable to principles of pressure ulcer prevention. Likewise, elevated educational achievement was associated with more favourable opinions, as individuals possessing diplomas, bachelor's, or master's degrees markedly surpassed those with preparatory-levelqualifications. The work environment also surfaced as a significant issue. Nurses in ICU and specialized surgical units exhibited markedly higher attitude scores compared to their counterparts in general and surgical wards, suggesting that personnel in critical or specialized care settings may priorities PU prevention more, likely due to increased exposure to high-risk patients.

Differences based on experience further solidified this pattern. Nurses with 20 or more years of experience exhibited markedly less favorable sentiments than all other experience cohorts. Conversely, mid-career nurses (5–14 years) exhibited the most favorable opinions, likely due to their increased practical involvement and potential continuous professional development.

findings are similar to international and national trends. For instance, [19] reported that nurses with more clinical exposure and updated education showed more proactive attitudes toward PU prevention. Likewise, [20] reported higher attitude scores among nurses with recent training and moderate experience levels in Indonesia. Locally, [21] found that nurses in specialized settings and those with university-level education were more committed to PU prevention.

Conversely, the lower attitude observed among senior nurses in the current study align with [17], who indicated opposition to the updated standards and minimal involvement from senior personnel. This may indicate burnout, obsolete training, or a diversion from chronic wound care in advanced career phases.

These findings underscore the necessity for customised in-service training, especially for senior nurses and those in general wards, to maintain a consistently high attitude towards pressure ulcer prevention across all nursing demographics.

CONCLUSION

The attitude of nurses toward pressure ulcers prevention was generally favourable, with a total score of 76.8%. High scores were observed in subdimensions such as impact (85.01%) and responsibility (78.12%), while the competence subdimension scored lower (68.94%), indicating a possible gap between belief and practice.

Recommendations: Develop targeted training programs to strengthen nurses' practical competence in pressure ulcer prevention, bridging the gap between attitude and clinical application.

Ethical Clearance: Ethical approval was gained from the Middle Technical University / Medical Ethics Committee with the reference number (MEC 74). Protecting the values and dignity of participants is one of the most basic principles before collecting data.

Conflict of Interest: None

Funding: No funding

REFERENCES

1. EPUAP/NPIAP/PPPIA, Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. 2019: European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance.
2. Mervis, J.S. and T.J. Phillips, Pressure ulcers: Pathophysiology, epidemiology, risk factors, and presentation. Journal of the American Academy of Dermatology, 2019. **81**(4): p. 881-890.
3. Fergus, P., et al., Pressure ulcer categorization and reporting in domiciliary settings using deep learning and mobile devices: A clinical trial to evaluate end-to-end performance. IEEE Access, 2023. **11**: p. 65138-65152.
4. AlKareem, D.A., A Comparative Study of Iraqi Patients with Bedsore and other Inpatients as a Control Group. Iraqi Journal of Science, 2022.
5. Li, Z., et al., Global prevalence and incidence of pressure injuries in hospitalised adult patients: A systematic review and meta-analysis. International journal of nursing studies, 2020. **105**: p. 103546.
6. Saud, A.T. and A.J. Kadhim, Caregivers' Performance towards Pressure Ulcer Preventive Measures for Spinal Cord Injury Patients. Kufa Journal for Nursing Sciences, 2024. **14**(2): p. 21-29.
7. Al-Bedri1, K., S.I.R.a. , and Z.A.M. , Pressure Ulcers in a Sample of Iraqi Patients with Spinal Cord Injury. Indian Journal of Public Health Research & Development, 2020: p. 815-820.
8. Al-Shadedi, A.M., Prevalence of pressure ulcers in orthopaedic patients. Iraq. Postgrad. Med. J, 2012. **11**: p. 529-535.
9. Akhkand, S.S., et al., Prevalence of pressure ulcer in Iran's intensive care units: A systematic review and meta-analysis. Nursing Practice Today, 2020. **7**(1): p. 21-29.

10. Isfahani, P., et al., Prevalence of hospital-acquired pressure injuries in intensive care units of the Eastern Mediterranean region: a systematic review and meta-analysis. Patient safety in surgery, 2024. **18**(1): p. 1.
11. Neziraj, M., et al., Prevalence of risk for pressure ulcers, malnutrition, poor oral health and falls–a register study among older persons receiving municipal health care in southern Sweden. BMC geriatrics, 2021. **21**: p. 1-10.
12. Majeed, H.M., et al., Protective Health Behaviors among Critical Care Nurses Concerning Pressure Ulcer Prevention for Hospitalized Patients at Baghdad Teaching Hospitals. Al-Rafidain Journal of Medical Sciences (ISSN 2789-3219), 2023. **5**: p. 205-210.
13. Ajzen, I. and N.G. Cote, Attitudes and the prediction of behavior. Attitudes and attitude change, 2008. **13**: p. 289-305.
14. Charalambous, C., et al., Knowledge and attitudes of nurses in a major public hospital in Cyprus towards pressure ulcer prevention. Journal of tissue viability, 2019. **28**(1): p. 40-45.
15. Beeckman, D., et al., Pressure ulcers: development and psychometric evaluation of the attitude towards pressure ulcer prevention instrument (APuP). International journal of nursing studies, 2010. **47**(11): p. 1432-1441.
16. Liu, L.Q., et al., The knowledge and attitudes regarding pressure ulcer prevention among healthcare support workers in the UK: a cross-sectional study. Journal of tissue viability, 2023. **32**(1): p. 130-135.
17. Hafedh Ahmed, S., et al., Knowledge, Attitude, and Practice of Iraqi Intensive Care Nursing Staff Regarding Pressure Ulcer Prevention. Journal of Client-Centered Nursing Care, 2024. **10**(2): p. 91-100.
18. Tirgari, B., L. Mirshekari, and M.A. Forouzi, Pressure injury prevention: knowledge and attitudes of Iranian intensive care nurses. Advances in skin & wound care, 2018. **31**(4): p. 1-8.
19. Beeckman, D., et al., Knowledge and attitudes of nurses on pressure ulcer prevention: a cross-sectional multicenter study in Belgian hospitals. Worldviews on Evidence-Based Nursing, 2011. **8**(3): p. 166-176.
20. Sari, S.P., et al., Knowledge and Attitude of Community Nurses on Pressure Injury Prevention: A Cross-sectional Study in an Indonesian City. International wound journal, 2021. **18**(4): p. 422-431.
21. Al-Khazali, A., Nurses' knowledge and barriers to perform pressure ulcer prevention practices. Hiv Nursing, 2023. **23**(1): p. 285-293.