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Understanding the relationship between professional values and caring behavior among nurses in intensive care units: a cross-sectional study from Palestine

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Abstract

Objective This study aimed to evaluate the level of commitment of intensive care unit (ICU) nurses in Palestine to professional values, investigate the relationship between professional values and caring behavior, and determine the effect of sociodemographic characteristics on these constructs.

Design A descriptive cross-sectional study was utilized.

Setting and participants The study was conducted between July 10 and September 15, 2024, among 205 ICU nurses working in hospitals across Palestine.

Methods Data were collected using a self-administered questionnaire that included the Nursing Professional Values Scale-3 (NPVS-3) and the Caring Behaviors Assessment Tool Nursing Version-Short Form (CBAN-SF).

Results The overall mean score for commitment to professional values across all seven domains among nurses was 104.1 ± 16.6 , with the highest mean score was related to the domain of "Caring". The mean score of caring behavior was 98.5 ± 12.9 , and the "supportive/protective/corrective environment" domain had the highest score. Pearson correlation analysis indicated a moderate positive relationship ($r = 0.40$, $p = 0.038$) between professional values and caring behavior, with significant correlations between the subscales of both constructs ($p < 0.05$). Multiple linear regression analysis indicated that professional values, work experience in nursing, and work experience in ICUs were significant predictors of caring behavior ($p < 0.01$).

Conclusion ICU nurses in Palestine demonstrated a high commitment to professional values, which was positively associated with their caring behaviors.

Implications These findings highlight the importance of fostering professional values in ICU nurses to improve the quality of patient care in critical care units.

Keywords Nurses, Intensive care unit, Professionalism, Nursing care

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Background

Professional values are beliefs that guide behaviors within a profession, providing purpose to clinical activities in nursing. Internalizing these values is a key factor in enhancing the quality of professional service delivery [1]. Professionalism is essential to effective nursing practice, encompassing the attitudes and behaviors expected of nurses [2]. These qualities are influenced by personal values and professional training. By embracing professional values, nurses reinforce their professional identity and enhance their performance [3]. Professional nursing demands a strong educational foundation, a compassionate approach to patient care, a genuine desire to help others, strong organizational skills, adherence to ethical principles, and the ability to take responsibility and make sound decisions [4].

Professional values not only shape how nurses provide care, make decisions, and resolve ethical dilemmas but also determine how nurses communicate with both healthy and sick individuals [5]. They serve as the foundation for people's moral and ethical convictions, inspiring actions in certain social and professional contexts [6]. Strong emotional bonds help shape professional values, which are subsequently reflected in the code of ethics. These abstract and generalized principles of behavior establish baseline standards for evaluating actions and goals [7]. Professional values are regarded as norms that define appropriate conduct for nurses, as well as the values and principles that shape moral judgment. They also provide a philosophical foundation for nursing practices, offering direction and meaning to clinical practice [3, 6].

Research on the professional values of nurses reveals a strong correlation between these values and career advancement, compassion satisfaction, burnout, and motivation [8–11]. Professional values, influence nursing practice and can create healthier work environments, enhancing patient experiences [12]. The concept of caring is one of the fundamental aspects of nursing practice, universally acknowledged as essential for providing patient care [13]. Nursing's core value is care, making it a fundamental component of the field [14, 15]. Although care can be a vague concept, it becomes visible and meaningful when directed toward someone or something. This distinction leads to two categories of care: expressive care and technical care [16, 17]. Interactions that demonstrate trust, hope, and emotional support—such as showing respect for patients, addressing their needs, and actively listening to them—are key components of expressive care. In contrast, technical care focuses on the skills required to maintain the physical well-being and comfort of the patient [17]. In high-stress environments like the Intensive Care Units (ICUs), the complexity of patients' conditions and advanced technology negatively

impact nurses' caring behaviors [18]. As part of their professional duties, nurses must deliver services that demonstrate their expertise in ensuring patient safety, high-quality care, and satisfaction with the hospital experience [19].

Strategies to increase nurses' awareness of their professional responsibilities and enhance their performance must ensure a broader understanding of all their roles, including not only patient care but also other aspects of their profession [20]. Professional values are accepted guidelines for behavior that offer a framework for evaluating the attitudes and beliefs influencing actions [21]. Consequently, nurses' judgments on patient care are shaped by their professional values. In Palestine, care is provided by nurses with diverse educational backgrounds, professional identities, competencies, and beliefs [22]. This may lead to disparities in the professional values of nurses, with personal experiences, cultural backgrounds, and work settings also influencing their judgments of care behaviors [23]. Enhancing professional values in nurses will significantly improve the quality of nursing care, as professional values and care practices are directly interconnected [24]. In an intensive care setting, caring is a comprehensive process where ICU nurses address all patient needs while being skilled in using advanced technical equipment [25]. Many patients with various illnesses may require intensive care, and during these times, emotional distress can impede their recovery [26]. Nurses who are attuned to these emotional states and provide compassionate care can aid in a smoother recovery. Care behaviors include being sensitive, calm, attentive, honest, and non-judgmental [27]. Perceptions, individual and cultural traits of nurses and patients, illness diagnosis, institutional structure, and nursing workload can all influence nurses' care practices [28]. Additionally, factors such as limited time and support, as well as personal traits like conscience, religion, philosophy, and a sense of duty and sacrifice, can affect their care behaviors [29]. ICU nurses are the healthcare professionals who spend the most time interacting with patients in critical care [30]. Consequently, their care practices are crucial for providing high-quality patient care and enhancing patient satisfaction [31].

The variability in professional values among nurses, especially within ICUs in Palestine, poses a significant challenge to the consistency and quality of patient care [22, 32]. Differences in educational backgrounds, cultural influences, and personal experiences may contribute to disparities in how nurses perceive and apply their professional values, potentially impacting their caregiving behaviors and moral judgments [22, 33]. The current study aims to evaluate the professional values of ICU nurses and assess their alignments with caregiving

practices, and determine the effect of sociodemographic characteristics on these constructs. By focussing on these objectives, the study aims to enhance knowledge of the relationship between professional values and nursing practices, ultimately contributing to better patient outcomes in critical care settings.

Methods

Design, setting, population, and sample

The targeted population for this descriptive cross-sectional study consists of nurses working in ICUs in Palestinian regions, with data collection occurring between July 10 and September 15, 2024. The sample size was calculated using Raosoft software, based on an overall population of 400, a 50% response distribution, a 5% margin of error, and a 95% confidence interval.

The predicted sample size was 197. To account for potential attrition, a convenience sample of 220 nurses was initially selected from 20 hospitals across Palestine. Ultimately, 205 nurses completed and provided the surveys. The participants included ICU nurses working in 20 governmental hospitals across Palestine. The study employed a convenience sampling technique to select participants.

All full-time nurses with at least 6 months of experience working in the relevant ICUs and the ability to read and write in English were included in this study. Exclusion criteria included those on leave or unavailable throughout the data collection duration.

Instruments of the study

The instrument of the study consists of three parts. The first part consisted of sociodemographic characteristics such as age, gender, educational level, nursing work experience, ICU experience, and involvement in professional values education. The second part consists of the Nursing Professional Values Scale-3 (NPVS-3), which includes 28 statements in a Likert-scale format with ratings ranging from 1 “not important” to 5 “most important”. Scores range from 28 to 140, where higher scores indicate stronger adherence to professional values [34]. The NPVS-3 measures three dimensions of professional values: caring, activism, and professionalism, with 10 items each for caring and activism, while professionalism consists of 8 items. The scale is valid and reliable where Cronbach’s alpha for the total scale was 0.94; the caring domain was 0.89; the activism domain 0.91, and professionalism 0.80 [34].

The third section utilized the Caring Behaviors Assessment Tool Nursing Version-Short Form (CBAN-SF) developed by Akgün et al. [35]. The CBAN-SF was developed from the CBAP-SF by Akgün et al. [36], which, in turn, was derived from the CBA scale originally

developed by Cronin and Harrison [37]. The 27-items CBAN-SF allows nurses to evaluate their care behaviors in seven distinct domains: “humanism/faith-hope/sensitivity (4 items), helping/trust (4 items), expression of positive/negative feelings (3 items), supportive/protective/corrective environment (6 items), teaching/learning (4 items), human needs assistance (3 items), and existential/phenomenological/spiritual forces (3 items)”. The 5-point Likert-type scale is used to assess the importance of various caring behaviors as perceived by nurses, with 1 representing “least important” and 5 “most important”. Higher CBAN-SF scores indicate more satisfaction with nurses’ care behaviors, with scores ranging from 27 to 135 points.

The scale demonstrated high reliability, with a total Cronbach’s alpha coefficient of 0.97 [35]. The scale is valid and reliable where Cronbach’s alpha for the total scale was 0.97; the humanism/faith-hope/sensitivity domain was 0.85, the helping/trust domain 0.79; expression of positive/negative feelings domain 0.81; supportive/protective/corrective environment domain 0.90; teaching/learning domain 0.89, human needs assistance domain 0.85; and existential/phenomenological/spiritual forces domain 0.85 [35].

For both scales, the questionnaire scores were calculated by summing the responses for each item within the respective instruments, providing total scores for each domain as well as an overall score. Five experts were consulted to validate both instruments, including three researchers with PhD in nursing and two nurses specializing in critical care nursing.

The experts reviewed the instruments, their feedback confirmed agreement on their content validity after assessing them for clarity, relevance, and significance. Furthermore, 20 ICU nurses took part in a pilot study to evaluate usability and lucidity of the surveys and were excluded from the main study. In this study, Cronbach’s alpha was 0.91 for the CBAN-SF scale and 0.89 for the NPVS-3 scale, indicating high reliability for both instruments.

Data collection

After obtaining IRB approval, and the researchers contacted the head nurses in charge of the ICU, visiting hospitals for this purpose. During these visits, the researchers explained the objective of the study and requested lists of nurses, including their work schedules, to assist with the recruitment process. The study objectives and methodology were then presented in face-to-face sessions with the nurses. Participation was entirely voluntary, and only those who provided written informed consent were included in the study. The researchers subsequently distributed the surveys durictley during these

meetings. As English is the second official teaching language of instruction in nursing schools in Palestine, the questionnaire was administered in English as registered nurses are proficient in the language.

Ethical consideration

This study was approved by the Ethical Committee at Palestine Ahliya University (IRB: CAMS/BSN/ 4/9726), and administrative authorization for data collection was approved by the Ministry of Health, and was conducted in accordance with the Declaration of Helsinki. Before handing out the consent forms, the researcher informed the nurses about the purpose of the study and their right to withdraw at any time. Nurses who signed the informed consent form agreed to participate. Finally, participants' identities were kept confidential, and any personal or identifying information, including personal history, was not disclosed. The study participants were explicitly informed that their involvement was strictly voluntary.

Data analysis

The data was analyzed using the SPSS version 23 statistical package. A normality check was conducted using the Kolmogorov- Smirnov test to ensure the suitability of the variables for parametric tests. The results indicated that the data were normally distributed. To summarize the data, descriptive statistics such as percentages, frequencies, means, and standard deviations were utilized. The correlation between nurses' professional values and caring behaviors was examined using the Pearson correlation test, with a significance level of 0.05.

Results

Participants' Sociodemographic characteristics

The study was conducted with a total of 220 nurses with a response rate of 93.2% ($n = 205$). There were 205 participants available for analysis, of whom 145 (70.7%) were aged 21–30 years old, and 109(53.2%) were male. Of the respondents, 151 (73.7%) had a bachelor's degree. Additionally, 111 nurses (54.1%) had less than 5 years of experience. In the ICU, respondents were 117 (57.1%) with <5 years. Interestingly enough, 199 (97.1%) nurses reported being taught professional values. Further details are presented in Table 1.

Table 2 illustrates that the average score of nurses regarding their professional value was determined to be 104.1 ± 16.6 (the total score varies from 28–140), indicating a rather high degree of professional dedication. The overall mean score of caring behaviour was 98.5 ± 12.9 . The study focused on evaluating the different components of nurses' professional value with the most ranked performing component being caring, which received a mean score of 38.0 ± 6.0 . Further, the study also evaluated

Table 1 Sociodemographic characteristics of ICU nurses ($n = 205$)

Variables		N	(%)
Age	21–30 years	145	70.7
	31–40 years	44	21.5
	41–60 years	16	7.8
Gender	Male	109	53.2
	Female	96	46.8
Educational level	Diploma	26	12.7
	Bachelor	151	73.7
	Master and above	28	13.7
Work experience in nursing	Less than 5 years	111	54.1
	5–10 years	56	27.3
	more than 10 years	38	18.5
ICU experience	Less than 5 years	117	57.1
	5–10 years	52	25.4
	more than 10 years	36	17.6
Involvement in professional values education	Yes	199	97.1
	No	6	2.9

Table 2 Descriptive statistics for nurses' professional values and caring behaviors ($n = 205$)

Variable	M	SD
Nurses professional value	104.1	16.6
Caring (10 items)	38.0	6.0
Activism (10 items)	36.9	6.0
Professionalism (8 items)	29.1	5.3
Caring behavior (27 items)	98.5	12.9
"Humanism/ faith-hope/ sensitivity" (4 items)	14.3	2.7
"Helping/ trust" (4 items)	13.9	2.8
"Expression of positive/ negative feelings" (3 items)	11.2	1.7
"Teaching/ learning" (4 items)	14.6	2.1
"Supportive/ protective/ corrective environment" (6 items)	22.5	2.8
"Human needs assistance" (3 items)	11.0	1.9
"Existential/ phenomenological/ spiritual forces" (3 items)	11.0	1.5

the different components of caring behavior, with the 'supporting, protecting, and corrective environment' contributing the highest mean score of 22.5 ± 2.8 . This was followed by 'teaching and learning' ($M = 14.6 \pm 2.1$) and 'humanism, faith, hope, and sensitivity' ($M = 14.3 \pm 2.7$).

As indicated in Table 3, a Pearson correlation test was used to examine the connection between nurses' professional values and caring behavior. The analysis revealed that nurses' professional values were moderately and positively related to caring behavior ($r = 0.40$, $p < 0.001$). Moreover, the subscales of nurses' professional values showed a moderate positive correlation with the subscales of caring behavior ($P < 0.05$).

Table 3 The relationship between professional values and caring behavior among ICU nurses ($n = 205$)

Variable	Caring value $r(p. value)$	Activism value $r(p. value)$	Professionalism value $r(p. value)$	Total professional value $r(p. value)$
Caring behavior	.441(<0.001)	.371(<0.001)	.335(<0.001)	.401(<0.001)
Humanism/ faith-hope/ sensitivity	.419(<0.001)	.354(<0.001)	.326(<0.001)	.384(<0.001)
Helping/ trust	.320(<0.001)	.233(.001)	.203(<0.001)	.265(<0.001)
Expression of positive/ negative feelings	.374(<0.001)	.314(<0.001)	.277(<0.001)	.338(<0.001)
Teaching/ learning	.389(<0.001)	.356(<0.001)	.313(<0.001)	.370(<0.001)
Supportive/ protective/ corrective environment	.366(<0.001)	.303(<0.001)	.272(<0.001)	.329(<0.001)
Human needs assistance (3 items)	.342(<0.001)	.304(<0.001)	.289(<0.001)	.326(<0.001)
Existential/ phenomenological/ spiritual forces	.349(<0.001)	.304(<0.001)	.286(<0.001)	.327(<0.001)

Table 4 presents the multiple linear regression analysis identifying the predictors of caring behavior among nurses. The model, including age, gender, education, work experience, ICU experience, professional values education, and professional value. The overall model was statistically significant ($p < 0.001$, $R = 0.453$, $R^2 = 0.205$, adjusted $R^2 = 0.177$), indicating that 20.5% of the variance in caring behaviors was explained by these variables. The analysis revealed that professional value was a significant predictor of caring behavior ($\beta = 0.287$, $p < 0.01$). Additionally, nursing experience ($\beta = 9.122$, $p < 0.05$) and ICU experience ($\beta = 9.445$, $p < 0.01$) were significant predictors of caring behavior.

Discussion

This study reinforces the understanding that professional values are fundamental to nursing care, serving as the foundation for both technical and expressive caring

behaviors. Care, a core components of nursing practice, is a multifaceted phenomenon widely recognized as essential for patient care [13, 38]. Nurses rely on professional values to guide their activities in providing patient care, contributing to the community, solving problems, making ethical decisions, and collaborating with other team members [22]. Accordingly, this study aims to investigate the professional values of nurses in ICUs and assess how these values align with their caregiving practices.

ICU nurses' professional values and caring behaviors

The findings indicate that ICU nurses in Palestine exhibit a high level of professional value, consistent with prior research highlighting the importance of internalizing professional values to foster positive work attitudes and enhance the quality of patient care [8, 10, 22]. Professional values are crucial in guiding nurses' moral and ethical decision-making, especially in complex clinical

Table 4 Predictors of caring behavior among ICU nurses

Model	B	Beta	t	p. Value	95.0% Confidence Interval	
					Lower Bound	Upper Bound
Age	.980	.048	.443	.658	-3.386	5.346
Gender	.986	.038	.562	.575	-2.473	4.445
Educational level	-2.121	-.085	-1.281	.202	-5.385	1.143
Work experience in nursing (more than 10 years)	9.122	.549	2.525	.012	1.996	16.247
Work experience ICU (more than 10 years)	9.445	.564	2.640	.009	2.388	16.501
Involvement in professional values education	5.863	.077	1.174	.242	-3.984	15.711
Professional value	.287	.370	5.647	.000	.187	.387

environments like ICUs, where patient safety, quality of care, and technical expertise are critical [3, 6, 22]. Furthermore, the highest-ranked component of professional values was caring, succeeded by activism and professionalism. This aligns with previous studies, where caring was the most highly perceived value [3, 22]. The lower score in professionalism can be attributed to the demanding nature of care in critical care environments, which often shifts focus toward daily clinical work rather than professional conduct [22]. This contrasts with a study conducted by Basie et al. [1], which found that nurses exhibited a low valuation of trust as a professional value. The difference may be due to variations in the domains assessed within the respective scales; in our study, the domain was activism was evaluated, whereas trust was not addressed. This highlights the need for future studies to include trust as a domain, addressing this gap and exploring how ICU nurses prioritize trust within their professional role. The current study revealed that the means of caring behavior among nurses was high.

Caring behavior, a central aspect of nursing, was similarly highlighted in a previous study conducted in critical care units in Saudi Arabia, where most critical care nurses rated their caring behavior as high [39]. Prior research describes care as a fundamental element of nursing practice, encompassing both expressive and technical components that contribute to patient-centered, high-quality care [14, 15, 17]. In ICUs, this dual approach to care—integrating emotional support with physical care—is essential for building trust and fostering satisfaction among patients and their families. These findings align with studies highlighting the critical role of nurses demonstrating both compassionate and technical competence in their care [19, 22].

In this study, the subscale analysis indicated that ICU nurses in Palestine ranked the need to facilitate a supportive, protective, and corrective environment as the highest domain, underscoring its importance for the patient's well-being. This finding suggests that Palestinian ICU nurses place significant emphasis on creating such an environment, likely influenced by the current political and social context, where providing safety and protection is crucial [40]. Furthermore, this focus may reflect nurses' familiarity with the vulnerability of critically ill patients and the critical importance of ensuring patients' safety in a highly sophisticated, challenging, and stressful ICU environment [41, 42]. These findings align with previous studies conducted by Ayed et al. [22], Basit et al. [1], and Majait et al. [43]. However, this contrasts with findings from a study in Egypt, where "humanism/faith/hope/sensitivity" ranked highest [44], and a study in Saudi Arabia, where the highest-ranked category was "human needs assistance" [39]. Notably, in our study

"human needs assistance", and "existential/ phenomenological/ spiritual forces" were rated as the lowest domains of caring behavior among ICU nurses. This emphasizes the need to improve these aspects of care. Implementing targeted programs to enhance these domains could help ICU nurses develop a more holistic approach to patient care [44].

The relationship between nurses' professional value and caring behavior

The significant moderate positive relationship found between nurses' professional values and their caring behavior highlights that these values not only guide clinical decision-making but also shape interpersonal relationships with patients, colleagues, and the community [5]. These findings align with previous research conducted by Can and Acaroglu [45], which identified a significant correlation between nurses' professional values and their caring behavior. Similarly, Basit et al. [1] reported that nurses with a strong commitment to professional values and ethics are more likely to recognize the importance of evaluating caring behaviors in healthcare. Understanding this relationship can inform the development of interventions aimed at improving patient care and nurse satisfaction, especially in ICU settings [22]. Professional values serve as a framework for guiding care behaviors, particularly in critical care environments where interactions are time-sensitive and demand a balance between rapport-building and advanced clinical skills. The interplay between values and caring behaviors is particularly relevant in Palestine, where nurses' diverse educational and cultural backgrounds shape their professional identities and caregiving practices [22, 46]. Such variation highlights the importance of standardizing professional values and caring behaviors through education and practice, fostering continuity in career development and consistency in care quality [22, 44].

Predictors of caring behaviors

The multiple linear regression analysis revealed that professional values significantly predict caring behaviors among ICU nurses. This finding aligns with previous studies demonstrating a strong and significant relationship between professional values and caring behaviors [22, 45]. These results highlight the importance of professional values as a critical factor influencing care quality in ICUs. Therefore, emphasizing professionalism among ICU nurses may potentially contribute to the development of a therapeutic caring environment and improve patient outcomes.

Additionally, the results indicated that both overall work experience in nursing and specific work experience in ICUs were predictors of caring behavior. This aligns

with the findings of Shalaby et al. [39], who reported a positive and significant relationship between nurses' ICU experience and their caring behaviors. These findings highlight the importance of nursing experience in developing key qualities such as fostering a supportive environment, demonstrating faith, and engaging in teaching and learning qualities that are necessary for addressing the complexities of patient-centered care in critical care environments. Furthermore, retaining experienced nurses and encouraging them to mentor less experienced staff can further improve caring behaviors, ultimately leading to improved patient care outcomes. However, the study found that age, gender, and educational level were not significant predictors of caring behaviors. This can be explained by the fact that nurses working in high-stress, complex environments such as ICUs demonstrate fair and equitable care for patients, regardless of their personal characteristics or educational background. In contrast to our findings, a study conducted by Ahmed et al. [47], reported that gender (female nurse) and educational level were significant predictors of caring behaviors among ICU nurses in both Jordan and the AUE. These differences may be due to variations in sample size and cultural contexts, emphasizing the need for future research to clarify these discrepancies. Qualitative studies could provide deeper insights into the factors influencing caring behaviors in diverse ICU settings.

Limitations

Limitations of our study include the use of a self-administered questionnaire, which could bias the results and threaten the reliability and validity. Additionally, the cross-sectional study design does not allow proper inferences regarding the long-term effects of professional values on caring behaviors. Furthermore, the study did not account for certain latent variables that may influence professional values and caring behaviors, including burnout, nursing quality of care, stress, and job satisfaction. These factors warrant further investigation in future research. The moderate association observed between professional values and caring behaviors suggests the potential influence of additional factors not considered in this study. Finally, cultural background was not addressed in this study. Future studies employing qualitative approaches are recommended to provide a more holistic understanding of the factors shaping caring behaviors in the Palestinian context.

Conclusion

The present study examined the correlation between professional values and caring behavior among nurses working ICUs and found a moderate positive correlation between two important dimensions of nursing

practice. Results showed that ICU nurses as a group expressed a high commitment to their professional values — informed by literature findings about behavior — correlating significantly with high rates of caring behavior observed in daily practice. These types of professional values (i.e., ethical principles, empathy, and patient-centered care) that are well-documented as foundational to nurses will help them guide their interactions, decision-making, and caregiving practices. These findings emphasize the importance of ongoing attention to developing professional values so that ICU nurses can deliver compassionate, patient-centered care in the context of their unique work environment.

The paper highlights the need for education, personal reflection, mentorship, and organizational support to strengthen these values in order to improve the consistency and quality of care provided in ICUs. Aligning professional values and caring behavior ultimately produces better patient outcomes, creates a better work environment, and maintains the moral integrity of the nursing profession in the critical care environment.

Abbreviations

ICU	Intensive Care Unit
NPVS-3	Nursing Professional Values-3
CBAN-SF	Caring Behaviors Assessment Tool Nursing Version-Short Form

Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12912-025-02903-6>.

Supplementary Material 1

Acknowledgements

We would like to express our thanks to all ICU nurses who participated in the study.

Clinical trial number

Not applicable.

Authors' contributions

M.A.E, A.A, B.S designed the study. M.A.E, A.B, W.J.S.A collected the data. A.A, M.A, B.S analyzed the data. M.A.E, A.A, B.S, A.B, A.M, S.A, W.J.S.A prepared the manuscript. M.A.E, A.A, B.S, A.B, A.M, S.A, W.J, S.A approved the final version for submission. Corresponding author: Basma Salameh. Email: basma.salameh@aaup.edu.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data availability

The data utilized to support the results of the research are accessible to the corresponding author upon request.

Declarations

Ethics approval and consent to participate

This study was approved by the Ethical Committee at Palestine Ahliya University (IRB: CAMS/BSN/ 4/9726), and administrative authorization for data collection was approved by the Ministry of Health, and was conducted in

accordance with the Declaration of Helsinki. Before handing out the consent forms, the researcher informed the nurses about the purpose of the study and their right to withdraw at any time. Nurses who signed the informed consent form agreed to participate. Finally, participants' identities were kept confidential, and any personal or identifying information, including personal history, was not disclosed. The study participants were explicitly informed that their involvement was strictly voluntary.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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Received: 11 November 2024 Accepted: 26 February 2025

Published online: 18 March 2025

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