Emotional intelligence and quality of nursing care among Jordanian critical care nurses

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Abstract

***Objective*: The study of emotional intelligence in critical care nursing is crucial. In high-pressure environments like critical care units, nurses not only provide vital medical care but also emotional support to patients and their families. Understanding and managing their own emotions, as well as empathetically responding to others, can significantly improve patient outcomes and the overall quality of care. This study was conducted to explore the relationship between emotional intelligence and the quality of nursing care among critical care nurses in Jordan.**

***Design*: A cross-sectional design was used with the Assessing Emotions Scale and Quality of Nursing Care instrument.**

***Setting*: Ministry of Health, AL-Bashir, Prince Hamza, and Jordan Hospitals.**

***Patient and participants*: One hundred eighty-five nurses from different hospitals participated in the study.**

***Results*: Of the participants, 65.4% were female (n=121), 37.3% were working in intensive care units (n=69), and the mean age of participants was 30.54 years (SD=4.73). A positive relationship between emotional intelligence and quality of nursing care (r=0.785, p=0.001) was found. Furthermore, the study revealed positive correlations between nurses' age, years of experience, and emotional intelligence, with correlation coefficients (r) of 0.715 and 0.731, respectively, and p-values of less than 0.5.**

***Conclusion*: These results will help administrators develop strategies and educational programs to improve the quality of nursing care in hospitals.**

Key words: Emotional intelligence, quality of nursing care, critical care units, Jordan.

Introduction

Numerous studies have explored various facets of intelligence, including general, specific subtypes, and social intelligence. Before the 1990s, combining emotions with intelligence was a topic of interest, particularly among psychologists. This interest culminated in 1990 with Salovey and Mayer's research on how individual emotions affect personal performance and thought processes, leading to the concept of emotional intelligence (EI). This concept, which links emotions and cognitive skills, was foundational to the field and was detailed in their landmark publication, "Emotional Intelligence," in March 1990. (1)

The interest in EI significantly increased, especially after Goleman popularized it in his 1995 book. (2) As Bar-on (2007) describes, EI involves the capacity to comprehend and manage one's own and others' emotions. This encompasses four key abilities: emotional self-awareness, emotional self-management, social awareness, and relationship management. (3) These abilities are essential for effective communication, problem-solving, decision-making, and understanding the drivers behind emotions. In 2011, Goleman expanded on EI, defining it as

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comprising two main competencies: personal (encompassing self-awareness, self-management, and motivation) and social (including empathy and social skills). (4)

EI is a crucial competency in nursing, significantly enhancing job satisfaction and enjoyment and creating a safer work environment while reducing negative behaviors among nurses, as noted by Heydari and colleagues. (5) It also plays a key role in the decision-making process of clinical nurses, fostering trust and strong therapeutic relationships with patients and promoting the delivery of quality care, as highlighted by Raghubir (2018). (6) Nurses proficient in EI are skilled communicators with physicians, colleagues, and patients, which in turn positively impacts patient satisfaction, according to Raeissi et al. (7) Studies, including those by Adams and Iseler (2014), have shown that high EI in nurses directly improves care quality and their commitment to patient care. (8) Furthermore, the ability to regulate emotions, a component of EI, is linked to enhanced team performance, thereby elevating the overall quality of nursing care provided, as identified by Quoidbach et al. (9)

In a study by Saeed, Javadi, and Noouri (2013), the EI of nurses in a military hospital in Tehran was evaluated, comparing EI levels between general ward and intensive care unit nurses. (10) Results indicated higher EI in general ward nurses compared to those in intensive care, with a noted need for EI improvement in the latter, especially in emergency department nurses. A separate study in Jordan by Alfaouri, Al-Ali, and Al-Shorman (2014) revealed that Jordanian nurses possessed moderate levels of EI. (11) Al-Hamdan, Oweidat, AlFaouri, and Codier (2016) expanded this research, finding that emotional self-awareness and self-management were strengths among nurses, but understanding others' emotions was less developed. (12) Approximately 60% of nurses exhibited middle-range EI, with 20% displaying high levels. This study also linked high EI to improved job performance in clinical settings. Further research by Al-Hamdan, Al-Ta'amneh, Rayan, and Bawadi (2019) focused on nurse managers, noting similar trends in EI levels. (13) Most nurse managers had moderate EI, excelling in self-management but showing lower capabilities in managing others' emotions and self-expression. Additionally, a 2019 study by Al-Hamdan et al. found that nurses' highest EI subscale was understanding their own emotions. Nurses in private hospitals in Jordan showed higher EI levels than those in governmental and educational institutions. This body of research underscores EI's varying levels and impacts across different nursing roles and settings. (13)

Critical care units present unique challenges, requiring nurses to manage high-stress situations while providing compassionate care. Studies by McQueen have highlighted that EI in critical care nurses is crucial for maintaining patient safety, managing crises, and offering emotional support to families. (14) However, research like that of Nightingale noted that EI levels in critical care nurses can vary, impacting the care quality. (15) Research indicates a positive correlation between nurses' EI and the quality of care they provide. High EI in nurses is associated with better patient outcomes, increased patient satisfaction, and improved therapeutic communication. A study by Beauvais et al. found that nurses with higher EI scores were more adept at handling complex patient situations and demonstrating empathy. (16)

Despite the established importance of EI in nursing, there is a gap in focused research within critical care settings. Given the high-pressure environment of these units, understanding how EI specifically influences care quality here is vital. Future studies could explore the impact of EI on nurse burnout, patient outcomes in critical care, and the efficacy of targeted EI training programs for critical care nurses.

Aim

This study was conducted to explore the relationship between EI and the quality of nursing care among critical care nurses in Jordan.

Methods

A descriptive cross-sectional research design was used to collect data at one specific time and explore the association between the study's variables. The current study was conducted in three main hospitals in Jordan, which varied between governmental and private hospitals. Participants for the study were chosen using convenience sampling, a non-probability method, which facilitated easy access to nurses in critical care units willing to participate. After consenting, participants completed the questionnaires. The sample size was calculated using the power analysis. The calculation resulted in a sample size of 185, accounting for a 10% attrition rate.

The study received approval from the Ministry of Health. Recruitment involved meetings with head nurses at AL-Bashir, Prince Hamza, and Jordan Hospitals to explain the study and gain access to potential participants. Recruitment was preceded by screening for eligibility based on inclusion and exclusion criteria. Before signing consent forms, participants were informed about the study's purpose and procedures. Eligible participants were Jordanian nurses who (1) worked in hospitals; (2) pro-

vided direct patient care; (3) were registered nurses; (4) had at least one year of experience in critical care units; (5) agreed to participate in the study; and (6) were either male or female.

Study instruments

This study collected sociodemographic data encompassing various factors such as age, gender, marital status, and educational attainment. Other details gathered included the specific wards or units where participants worked, their work schedules, any postgraduate training they received, the type of hospital they were employed in, and their years of professional experience. The following valid and reliable instruments were used in the current study. All of these instruments were written in English, as English is the language in which nursing curricula are taught in universities. It is the language of communication and work among healthcare teams in Jordanian hospitals.

Emotional intelligence

EI was measured by the Assessing Emotions Scale, also called the Self-Report Emotional Intelligence Test, which was developed in 1998. (17) It consisted of 33 items that were scored on a five-point Likert scale: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree. Total scores ranged from 33-165. The Assessing Emotions Scale has four dimensions, which include: (1) perception of emotions, (2) managing one's own emotions, (3) perception of others' emotions, and (4) utilizing emotions. Perception of emotions consisted of 10 items, managing others' emotions consisted of 9 items, perception of others' emotions consisted of 8 items, and utilizing emotions consisted of 6 items. Internal consistency of the scale was measured by Schutte, Malouff, and Bhullar (2009), Cronbach's alpha was equal to 0.90, and the test-retest reliability was equal to 0.78. Permission to use the instrument in this study was obtained, and the time needed to complete this self-report scale was five minutes.

Quality of nursing care

According to nurses' perception, the quality of care was measured using the quality of nursing care instrument developed by Martins, Gonçalves, Ribeiro, and Tronchin (2016). It consisted of 25 items, each scored on a four-point Likert scale: (1) never, (2) rarely, (3) often, and (4) always. The instrument consisted of seven dimensions: (1) nurse's responsibility, (2) nursing care organization, (3) well-being and self-care, (4) avoiding complications, (5) health promotion, (6) patient satisfaction, and (7) functional readaptation. Nurse's responsibility consisted of 6 items, nursing care organization consisted of 2 items, well-being and self-care consisted of four items, avoiding complications consisted of 3 items, health promotion consisted of 3 items, patient satisfaction consisted of 3 items, and functional readaptation consisted of 4 items. The scale was valid and reliable, with a Cronbach's alpha 0.94. The instrument was accessible online. (18)

Data analysis

Descriptive analysis, including mean (M), standard deviation (SD), frequency, and percentages (%), was performed to describe the sample characteristics. Pearson's product-moment correlation coefficient (Pearson's r) was used to identify correlations between these variables.

Results

Characteristics of the sample

A total of 185 registered nurses completed and returned the questionnaire out of 205 distributed questionnaires, giving a 90% response rate. Of the participants, 65.4% were female (n=121), 37.3% were working in intensive care units (n=69), and the mean age of participants was 30.54 years (SD=4.73). **Table 1** details these results.

Quality of Nursing Care Scale (QNCS)

The current study showed that nurses' responsibility for decision-making and delegation was highest among the participants (M=20.11, SD=3.27) in contrast to nursing care organization being the lowest (M=7.14, SD=1.13). Critical care nurses reported providing patients high-quality care (M=81.00, SD=12.21). **Table 2** shows more details of the quality of nursing care results.

Emotional Intelligence Scale (EIS)

Perception of emotions was the highest dimension (M=37.34, SD=5.55), whereas utilizing emotions was the lowest dimension (M=25.21, SD=3.20). Critical care nurses reported that they had high levels of EI (M=127.62, SD=16.18). **Table 3** shows more details of the Emotional Intelligence Scale results.

Bivariate results

The findings indicated a significant positive correlation between EI and the quality of nursing care, with a correlation coefficient (r) of 0.785 and a p-value of less than 0.5. Furthermore, the study revealed positive correlations between nurses' age, years of experience, and their EI, with correlation coefficients (r) of 0.715 and 0.731, respectively, and

p-values of less than 0.5.
In addition, one-way ANOVA results indicated that there was a significant difference in EI. The results showed that female nurses had significantly higher EI scores than male nurses ($p<0.05$). Similarly, nurses with doctorate degrees had significantly higher EI scores for educational attainment than nurses with a bachelor's or master's degree ($p<0.05$).

Discussion

Critical care nurses often report high EI, aligning with findings from a South African study among intensive care unit nurses. This study indicated that EI improved well-being, self-esteem, and better control and expression of emotions. (19) However, an Iranian study focusing primarily on emergency, neonatal intensive care, and intensive care units in military hospitals found EI levels among nurses were below average. (20) This discrepancy might be attributed to the specific hospital settings of the study. In Jordan, research by Alfaouri, Al-Ali, and Al-Shorman (2014) revealed that nurses generally possessed moderate EI levels. The study highlighted that nurses with higher EI were more adept at facing job challenges, communicating effectively, regulating emotions, self-motivation, and enhancing overall job satisfaction. (11) Further, a Jordanian study by Al-Hamdan, Al-Ta'amneh, Rayan, and Bawadi (2018) found that nurse managers also exhibited moderate EI levels. Their EI capabilities were particularly effective in managing team conflicts and adapting conflict management strategies to different situations. In Jordan, critical care nurses displayed a particularly high ability to perceive emotions, as evidenced in studies by Al-Hamdan, Oweidat, AlFaouri, and Codier (2016) and Al-Hamdan et al. (2019). This skill pertains to the nurses' capacity to recognize their emotions and origins. Conversely, the lowest scored dimension was utilizing emotions, aligning with findings from Al-Hamdan, Al-Ta'amneh, Rayan, and Bawadi (2019). This suggests that nurse managers in these studies showed less proficiency in discerning the causes behind nurses' emotions and other affective states. The present study found that critical care nurses self-reported delivering high-quality patient care. This aligns with Mrayyan's 2006 study in Jordan, which observed that intensive care unit nurses not only offer high levels of care but also effectively collaborate with physicians, complete assigned tasks proficiently, administer medication and treatment competently, and utilize well-maintained supplies and equipment. Additionally, the current study's findings highlighted that decision-making responsibility and delegation were the most prominent roles among the participating nurses. (21)

A positive relationship was found between nurses' EI and quality of nursing care. This result was consistent with a cross-sectional study conducted in Iran in which researchers found that EI had a positive relationship with the level of the quality of care provided to the patients. A high level of EI helped nurses provide professional care, increased productivity and ability to manage different situations in the ward, determined priorities, and improved nurse leadership skills, which led to improved patient care and patient satisfaction. (22) Improving EI among critical care nurses and other nurses who work in general wards is cardinal in practice; nurse managers should join nurses in training and education programs to improve this type of intelligence. EI improves a nurse's satisfaction and overall general health level, which can increase the quality of nursing care provided to patients.

The relationship between age and EI in critical care nursing is an intriguing study area. Understanding how EI varies with age among nurses can provide insights into workforce dynamics, training needs, and patient care quality in critical care settings. As conceptualized by Salovey and Lopes, EI involves recognizing, understanding, managing, and using emotions in oneself and others. (23) Theoretically, EI can improve with age and experience, as older individuals often have more life experiences to draw emotional understanding and regulation skills. This notion is supported by the work of researchers, who suggest that emotional maturity is a lifelong process. (24) Research in critical care nursing has produced mixed results regarding the relationship between age and EI. Some studies, like those conducted by Freshwater and Stickley, found that older nurses often exhibit higher levels of empathy and emotional management, likely due to their extensive professional and personal experiences. (25) In contrast, other research, such as those conducted by Mayer et al., indicated that younger nurses may have high EI due to recent training programs emphasizing these skills. (26)

Experience in nursing, correlated with age, can influence EI. Veteran nurses often have developed coping mechanisms and emotional regulation strategies that allow for effective patient care and team collaboration. However, the stress and burnout experienced in critical care settings can also impact EI negatively, as found in the previous studies. (15,19,27,28) The level of EI in nurses of different ages can significantly impact patient care. Higher EI is associated with better patient outcomes, communication, and care quality, regardless of the nurse's

age. This was highlighted in research by Oyur on adherence, examining patient satisfaction in relation to nurses' EI. (29)

Exploring the relationship between gender, educational level, and EI in critical care nurses offers valuable insights into workforce dynamics and potential areas for targeted training and development. Studies have shown varying results regarding the impact of gender on EI. Research by Mandell and Pherwani suggested that women often score higher in measures of empathy and interpersonal sensitivity, key components of EI (30). However, other studies, like those by Brackett and Mayer, indicated that while there were gender differences in certain aspects of EI, such as emotional expression, the overall EI levels may not significantly differ between male and female nurses. (31)

The role of educational level in developing EI is an important consideration. Advanced education often provides more opportunities for nurses to engage with EI concepts through both formal training and practical experiences. Research by Akerjordet and Severinsson highlighted that higher education in nursing was associated with improved emotional awareness and management skills, which are essential in critical care settings. (32) The interplay of gender and educational level can influence how nurses perceive and manage emotions in the workplace. A study by McQueen found that while higher education was correlated with better emotional management strategies, gender influenced the types of emotional responses and interpersonal interactions in nursing practice. (14)

Conclusion

EI is not an optional soft skill but a core component of professional nursing practice. Its significant impact on the quality of nursing care makes it an essential area for continuous development and research, promising to shape the future of nursing and patient care in the healthcare industry. This body of research highlights the need for integrating EI training into nursing education and professional development programs. By focusing on developing EI competencies, healthcare institutions can enhance the quality of care, improve patient outcomes, and support the well-being of their nursing staff.

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Table 1. Characteristics of the sample (n=185)

Variable	Mean (M)	Standard deviation (SD)	Number (n)	Percentage (%)
Gender				
- Male			64	34.6
- Female			121	65.4
Marital status				
- Single			48	25.9
- Married			131	70.8
- Widow			4	2.2
- Divorced			2	1.1
Education level				
- Bachelor's degree			170	91.9
- Master's degree			12	6.5
- Doctoral degree			3	1.6
Ward				
- Emergency Department			66	35.7
- Intensive Care Unit (ICU)			69	37.3
- Paediatric/Neonate ICU			27	14.6
- Coronary Care Unit			23	12.4
Fixed schedule				
- Yes			40	21.6
- No			145	78.4
Post-graduate training				
- Yes			34	18.4
- No			151	81.6
Type of hospital				
- Governmental			139	75.1
- Private			46	24.9
Age (years)	30.55	4.73		
Years of experience (years)	7.36	4.86		

Table 2. Descriptive analysis of quality of nursing care (n=185)

Dimension	Item	Mean (M)	Standard deviation (SD)	Minimum	Maximum	Range
Health promotion	3	9.24	1.79	3	12	3-12
Patient satisfaction	3	9.89	1.71	3	12	3-12
Prevention of complications	3	9.29	1.76	3	12	3-12
Well-being & self- care	4	12.74	2.22	4	16	4-16
Functional readaptation	4	12.6	2.37	4	16	4-16
Responsibility	6	20.11	3.27	6	24	6-24
Ng care organisation	2	7.14	1.13	2	8	2-8
Total stress	25	81.00	12.21	25	100	25-100

Table 3. Descriptive analysis of Emotional Intelligence Scale (n=185)

Dimension	Item	Mean (M)	Standard deviation (SD)	Minimum	Maximum	Range
Perception of emotions	10	37.34	5.55	21	49	10-50
Managing own emotions	9	35.64	4.92	21	44	9-45
Managing others' emotions	8	29.53	4.87	17	39	8-40
Utilizing of emotions	6	25.21	3.20	13	30	6-30
Total emotional intelligence	33	127.63	16.18	80	161	33-165

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