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Original Research Article

The Relationship Between the Emotional Intelligence and Clinical Decision-Making Among Nurses in Neonatal Intensive Care Units

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Abstract

Introduction: Emotional intelligence (EI) is crucial for managing stress, enhancing well-being, and improving clinical decision-making (CDM). In neonatal intensive care units (NICUs), where rapid decisions, emotional demands, and complex interactions are common, understanding how EI supports CDM is key to ensuring high-quality care and effective outcomes.
Objective: This study aimed to explore the relationship between EI and CDM among NICU nurses.
Methods: The study was cross-sectional in design and used a convenience sample of 178 NICU nurses. Data collection gathered by paper-based between 10 January and 10 April 2024, employing the "Schutte Self-Report Emotional Intelligence Test" and the "CDM Scale."
Results: The analysis revealed that the average EI score among participants was 151.9 ± 1.7 (range: 33–165, CI = 151.613–152.096), reflecting a high level of EI. High EI in the NICU context is characterized by nurses' ability to manage their own stress effectively, empathize with families facing emotional distress, and maintain composure in high-pressure situations. Similarly, participants demonstrated a high level of CDM, with an average score of 179.6 ± 8.6 (range: 40–200, CI = 178.349–180.770). High CDM involves making accurate and timely clinical decisions, such as assessing neonatal conditions, prioritizing interventions, and collaborating with interdisciplinary teams to ensure optimal outcomes. A significant positive relationship was found between EI and CDM ($r = 0.53$, $p < .001$, effect size = 0.8). Furthermore, EI was a significant predictor of enhanced accuracy, timeliness, and prioritization in CDM ($p < .001$, CI = 1.991–3.337).
Conclusion: Nurses in NICUs demonstrated both high EI and strong CDM skills. A positive association between these two variables was evident.

Keywords

nurses, neonatal care unit, clinical decision-making, emotional intelligence

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Introduction

Survival rates in neonatal intensive care units (NICUs) have significantly improved over recent decades, with current survival rates for infants born at 28 weeks gestation or later reaching over 90% in high-resource settings (Rysavy et al., 2015; Stoll et al., 2015). However, for extremely preterm infants born before 25 weeks, survival rates vary widely between countries, ranging from 50% to 80%, influenced by differences in medical practices and resources (Costeloe et al., 2012; Fellman et al., 2010).

The clinical decision-making (CDM) process involves identifying clinical cues, forming judgments, and evaluating outcomes to deliver effective care (Tanner, 2006). Yet, many newly graduated nurses lack the advanced CDM skills necessary to manage the unique complexities of NICU settings (Benner, 2015; Kavanagh & Sharpnack, 2021). This gap in preparedness can lead to challenges in making timely and accurate decisions under pressure.

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In these high-stress environments, emotional intelligence (EI) emerges as a critical skill that bridges this gap. EI—the ability to perceive, understand, and regulate emotions—enhances CDM by equipping nurses to manage stress, communicate clearly, and respond empathetically to distressed families (Dehnavi et al., 2022; Salovey & Mayer, 1990). By fostering emotional regulation and resilience, high EI allows nurses to approach decision-making with greater clarity and confidence, even in ethically complex situations.

Ultimately, integrating EI into nursing practice helps nurses handle the demands of NICU care more effectively. Nurses with high EI are better able to prioritize care, maintain composure during emergencies, and collaborate with interdisciplinary teams, leading to improved clinical performance and patient outcomes (Codier & Codier, 2017; Fitzpatrick & Alfes, 2022).

Literature Review

EI and CDM in Healthcare

Research consistently indicates that low levels of EI negatively impact the quality of care, while higher EI is crucial for managing difficult decisions, resolving conflicts, and fostering effective communication within interprofessional teams (Cleary et al., 2018; Najafpour et al., 2020; Noquez, 2019). In healthcare, emotions significantly influence CDM and problem-solving, alongside environmental and human factors (Ali & Nageeb, 2020). Nurses must balance emotional and cognitive processes to deliver safe, high-quality care, as emotions play a pivotal role in shaping care outcomes (Alsufyani et al., 2020; Aqtam et al., 2023; Dou et al., 2022; Toqan et al., 2022). A lack of EI may impair a nurse's ability to navigate emotional challenges, leading to poor clinical judgment and adverse patient outcomes (Black, 2019).

Evidence Supporting the Role of EI in CDM

Studies underline the importance of EI in enhancing CDM capabilities among nurses. For instance, Masoudi and Alavi (2021) found a significant positive correlation between EI and CDM ($r = 0.273$, $p < .001$) in a study of 269 nurses, indicating that higher EI supports better decision-making. Similarly, Al Btoush et al. (2024) identified EI, self-efficacy, age, and marital status as predictors of improved CDM among 407 critical care nurses. These findings suggest that emotional, personal, and professional factors collectively enhance decision-making in critical care environments.

EI and CDM in NICU Settings

In NICUs, where emotionally charged scenarios and rapid decision-making are routine, fostering EI is particularly crucial. NICU nurses must manage stress, engage effectively with families, and navigate ethical complexities unique to neonatal care. Higher EI enables nurses to regulate emotions, manage stress, and communicate effectively, thus supporting better CDM.

Gaps in NICU Research in Palestine

Despite the recognized importance of EI in healthcare, the relationship between EI and CDM has not been thoroughly explored within NICUs in Palestine. Palestinian NICU nurses face unique challenges, including limited resources, high patient-to-nurse ratios, and emotionally intense situations involving critically ill neonates and their families. These conditions create a high-pressure environment where nurses must make rapid, complex decisions while managing their emotional responses.

The socio-political and resource-related constraints prevalent in Palestine exacerbate these challenges, potentially amplifying the need for higher EI. For example, limited access to advanced medical technologies and inconsistent staffing levels may force nurses to rely more heavily on emotional regulation and interpersonal communication skills to deliver optimal care. Additionally, frequent exposure to emotionally charged situations, such as parental distress and ethical dilemmas, requires nurses to balance their emotional responses with sound clinical judgment. Therefore, in this context, nurses with higher EI are likely to be better equipped to navigate these challenges, enabling more effective decision-making and better patient outcomes.

Implications for Palestinian Healthcare

Examining EI and CDM within the Palestinian NICU context is critical for addressing this local research gap and informing culturally appropriate interventions. Insights gained could help develop targeted training programs to enhance decision-making, nurse well-being, and patient outcomes. By contributing to the global discourse on EI and CDM, this research addresses the specific needs and challenges of Palestinian healthcare systems.

Methods

Study Design

This study employed a descriptive cross-sectional design.

Research Question

How does EI influence CDM among NICU nurses?

Participants and Setting

The study focused on nurses working in NICUs in Palestine. Data collection occurred between 10 January and 10 April

2024, at level 2 and level 3 NICUs within hospitals in the West Bank. These hospitals are part of a network that includes 12 neonatal units in governmental hospitals, with a combined capacity of 150 incubators.

The sample size was calculated using Raosoft software based on a population of 320 NICU nurses, yielding a target sample size of 175 with a 95% confidence level. To account for potential nonresponses, a convenience sample of 203 nurses was initially selected. Of these, 178 nurses returned completed questionnaires, resulting in an 88% response rate. A convenience sampling approach was used for this study, primarily due to practical constraints and the need to ensure timely and feasible data collection. NICU nurses often work in high-stress, time-sensitive environments, making it difficult for them to commit to participating during working hours. To address this, data collection was conducted during shifts when nurses had short breaks.

Demographic diversity was carefully considered in participant selection to ensure the sample accurately reflects the range of nurses working in NICUs in the study context. The sample included nurses across various age groups and educational diversity. By including participants from diverse demographic and educational backgrounds, the study enhances its ability to provide a comprehensive understanding of these dynamics within the NICU context.

Inclusion and Exclusion Criteria

The study included full-time nurses with a minimum of 6 months of experience working in the selected NICUs. The 6-month experience requirement was implemented to ensure that participants had sufficient hands-on experience in NICU settings to effectively engage in CDM and demonstrate EI in practice. This minimum period allows nurses to become familiar with the complexities of neonatal care, including high-stress situations, ethical dilemmas, and the need for swift, informed decisions. Eligible participants had to be willing to participate and literate in reading and writing. Nurses who were unavailable during the data collection period were excluded.

To account for nurses who left or transferred during the data collection period, nurse managers provided updated lists of eligible participants, which were periodically reviewed. If any nurses became unavailable, they were replaced with other eligible nurses who met the inclusion criteria, ensuring the sample remained representative of the NICU nursing population.

Instruments

The first section of the questionnaire gathered demographic information, such as age, gender, education level, and NICU experience.

To assess EI, the study used the Schutte Self-Report Emotional Intelligence Test (SSEIT) (Schutte et al., 1998). The SSEIT consists of 33 items across four domains: "perception of emotions," "social skills," "self-management of emotions," and "emotion utilization." Responses are rated on a five-point Likert scale, with higher scores indicating greater EI. Total scores range from 33 to 165. The instrument has demonstrated high validity and reliability, with a reported Cronbach's alpha of ranged 0.84–0.90 (Ciarrochi et al., 2001; Jonker & Vosloo, 2008; Schutte et al., 1998). In this study, Cronbach's alpha was 0.88. The scale was used in Palestinian context in several previous studies and a reported Cronbach's alpha was 0.84 and 0.86 (Batran, 2024; Jawabreh, 2024). The SSEIT was chosen for its well-established reliability and validity in assessing EI across various healthcare settings, making it suitable for evaluating the emotional skills of NICU nurses.

To measure CDM, the Nursing Clinical Decision-Making Scale (CDMNS), developed by Jenkins (1983), was used. This tool consists of 40 items divided into four domains: "search for alternatives or options," "evaluation and reevaluation of consequences," "canvasing of objectives and values," and "search for and unbiased assimilation of new information." Each domain contains 10 items rated on a five-point Likert scale. The total score range between 40 and 200 with higher scores indicating stronger CDM abilities. The original scale by Jenkins reported a Cronbach's alpha of 0.83, and in various studies, reliability has been consistently strong, with alpha values above 0.78 (Abu Arra et al., 2023; Ayed et al., 2023; Batran et al., 2022). In this study, Cronbach's alpha was 0.92. The scale was used in Palestinian context in several previous studies (Abu Arra et al., 2023; Ayed et al., 2023; Batran et al., 2022).

The CDMNS was selected for its focus on the specific decision-making processes relevant to nursing practice, ensuring a targeted and accurate measure of CDM in the context of neonatal care.

The tools used to measure EI and CDM in this study were previously validated within the Palestinian nursing context, enhancing their cultural sensitivity and contextual appropriateness. This prior use suggests the metrics are generally reliable for assessing these constructs among Palestinian nurses (Abu Arra et al., 2023; Ayed et al., 2023; Batran et al., 2022).

Data Collection Procedure

After securing institutional review board approval, the researcher approached hospitals and met with the NICU head nurses to explain the study's objectives and obtain lists of nurses along with their schedules to facilitate recruitment. The head nurses served solely as liaisons in the recruitment process and did not participate in data collection. To ensure data quality and minimize potential bias, standardized instruments were used for all participants, and strict confidentiality protocols were followed. Face-to-face meetings were held with the nurses to explain the study's purpose and procedures. Nurses willing to participate signed consent forms,

confirming their voluntary involvement. Since all participants were proficient in English, the paper-based questionnaires were administered in English. Additionally, participants were encouraged to ask for clarification if they encountered any language-related difficulties, ensuring they fully understood the content of the questionnaires. To address potential social desirability bias during data collection, several measures were implemented. Nurses were assured of confidentiality and anonymity, emphasizing that their responses would not be linked to their identities or shared with supervisors. The researcher maintained a neutral and nonjudgmental stance during face-to-face meetings to minimize any pressure to provide socially acceptable answers. Additionally, participants completed the questionnaires independently without the researcher's direct presence, reducing the likelihood of response bias due to observation or perceived expectations.

Ethical Considerations

Ethical approval was obtained from Arab American University before the study commenced. The purpose of the study was clearly explained to the nurses, who were informed that they could withdraw at any time without consequences. Participation was voluntary, and nurses signed consent forms to confirm their understanding. They were assured that participation would not affect their employment or professional standing. No ethical conflicts occurred during the study. To ensure ethical integrity, all procedures adhered to established research guidelines, including obtaining informed consent from participants and ensuring their voluntary participation. While NICU head nurses facilitated communication with potential participants, they were not involved in the data collection process, preventing any potential conflicts of interest or coercion. Additionally, confidentiality and anonymity were strictly maintained to protect participants' identities and responses.

Data Analysis

Data were entered and analyzed using SPSS version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize study variables. Pearson correlation and multiple linear regression analyses were conducted to assess the relationships between variables and identify predictors of CDM. To ensure data accuracy during entry and analysis, double data entry was performed, and discrepancies were cross-checked and resolved to minimize errors. Pearson correlation was chosen because it is appropriate for measuring the strength and direction of the relationship between two continuous variables, such as EI and CDM, assuming the data met normality criteria. Assumptions of normality, linearity, multicollinearity, and homoscedasticity were tested using graphical methods and statistical tests. The dependent variable (CDM) showed a normal distribution, and the final model met all regression assumptions, allowing for reliable interpretation of the predictors' effects on CDM.

Results

Participants' Characteristics

Out of the initial sample of 203 nurses, 178 completed the study, resulting in an 88% response rate. The analysis showed that the majority of participants, 128 nurses (71.9%), were aged between 21 and 30 years, with 146 (82.0%) being female. Additionally, 125 nurses (70.2%) held a bachelor's degree. More than half of the respondents, 106 nurses (59.6%), had fewer than 5 years of NICU experience (Table 1).

The findings indicated that participants had a high average EI score of 151.9 ± 1.7 (out of 165). Among the EI subscales, "perception of emotions" had the highest average score (47.2 ± 1.2). In terms of CDM, the overall mean score was also high, at 179.6 ± 8.6. Of the subscales, "search for alternatives or options" achieved the highest score (48.6 ± 1.4), as shown in Table 2.

A Pearson correlation analysis was performed to explore the association between EI and CDM among the nurses. The findings revealed a strong positive correlation between EI and CDM ($r = 0.528$, $p < .05$), as outlined in Table 3.

A multiple linear regression analysis was conducted to identify predictors of CDM among nurses. The overall model was statistically significant ($p < .001$, $R^2 = 0.289$, adjusted $R^2 = 0.268$), meaning that 28.9% of the variance in CDM was explained by these variables. The analysis revealed that EI was a significant predictor of CDM ($\beta = 2.7$, $p < .01$), as shown in Table 4.

Discussion

The current study revealed that nurses in NICUs demonstrated high levels of EI, particularly in understanding and

Table 1. Demographic Characteristics of the Participants ($N = 178$).

Characteristics		*N*	%
Age	21–30 years	128	71.9
	31–40 years	34	19.1
	41–60 years	16	9.0
Gender	Male	32	18.0
	Female	146	82.0
Educational level	Diploma	25	14.0
	Bachelor	125	70.2
	Master and above	28	15.7
Work experience in NICU	Less than 5 years	106	59.6
	5–10 years	42	23.6
	More than 10 years	30	16.9

managing their own emotions as well as those of others. This ability is critical for navigating the unique challenges of NICU work and aligns with previous research. For example, Turjuman and Alilyyani (2023) reported high EI levels among Saudi nurses at the Madinah Cardiac Center, while Alonazi (2020) found similar results among ICU and NICU nurses. Alsufyani et al. (2022) also highlighted how higher EI enhances workload management and overall care quality. Cultural norms may partly explain these findings. In Saudi Arabia, the collectivist culture emphasizes family and community support, fostering emotional awareness and empathy in caregiving roles. Similarly, in Palestine, socio-political challenges may cultivate resilience and emotional regulation, which are essential for managing complex patient interactions in NICUs. The observed high EI among Palestinian NICU nurses suggests alignment between their emotional competencies and the demands of their caregiving roles. These findings are notably higher than those of Mehralian et al. (2024), who reported moderate EI levels among nurses in Iran, likely reflecting contextual and cultural differences.

The study also found that nurses demonstrated strong CDM abilities, reflecting improvements in nursing education and training that emphasize critical thinking and problem-solving. These skills are crucial in high-stakes environments like NICUs and align with findings from Abu Arra et al. (2023) and Jawabreh (2024).

A key finding was the strong positive correlation between EI and CDM, with EI emerging as a significant predictor of CDM. This aligns with Ragab et al. (2022), who reported a significant relationship between EI and problem-solving, and Meyer (2023), who identified a positive correlation between EI and clinical reasoning. However, some variability exists in the literature. For instance, Masoudi and Alavi (2021) reported only moderate correlations ($r = 0.273$, $p < .001$) between EI and CDM, possibly due to differences in clinical environments, measurement tools, and contextual

Table 2. Distribution of EI and CDM ($N = 178$).

Variable	*M*	SD	95.0% confidence interval	
			Lower bound	Upper bound
Total "emotional intelligence"	151.9	1.7	151.613	152.096
"Perception of emotions"	47.2	1.2	47.039	47.382
"Social skills or managing others' emotions"	41.2	1.2	40.989	41.315
"Managing emotions in the self"	36.1	1.0	35.994	36.286
"Utilizing emotions"	27.7	0.7	27.579	27.775
"Clinical decision-making"	179.6	8.6	178.349	180.770
"Search for alternatives or options"	48.6	1.4	48.354	48.747
"Canvasing of objectives and values	42.1	6.8	41.119	43.034
"Evaluation and reevaluation of consequences"	45.1	2.0	44.764	45.360
"Search for information and unbiased assimilation of new information"	43.8	2.4	43.483	44.197

Table 3. The Relationship Between EI and CDM ($N = 178$).

Variable	"Search for alternatives or options"	"Canvasing of objectives and values"	"Evaluation and reevaluation of consequences"	"Search for information and unbiased assimilation of new information"	Decision-making
	"*r*(*p*. value)"	"*r*(*p*. value)"	"*r*(*p*. value)"	"*r*(*p*. value)"	"*r*(*p*. value)"
Perception of emotions	.04	.15*	.52**	.38**	.34**
Effect size	0.2	0.2	0.8	0.2	0.2
Social skills or managing others' emotions	.06	.17*	.46**	.39**	.34**
Effect size	0.2	0.2	0.2	0.2	0.2
Managing emotions in the self	.05	.06	.21**	.23**	.17*
Effect size	0.2	0.2	0.2	0.2	0.2
Utilizing emotions	.09**	.26**	.38**	.35**	.38
Effect size	0.2	0.5	0.2	0.2	0.2
Total emotional intelligence	.08	.32**	.60**	.53**	.53**
Effect size	0.2	0.5	0.8	0.8	0.8

*Correlation is significant at level of 0.05.
**Correlation is significant at the 0.01.

Table 4. Predictors of CDM: Multiple Linear Regression.

Model	*B*	Beta	*t*	*p* value	95.0% confidence interval	
					Lower bound	Upper bound
Emotional intelligence	2.664	0.512	7.817	.001	1.991	3.337
Age	0.259	0.019	0.173	.863	2.699	3.216
Gender	.478	0.021	0.326	.745	2.417	3.373
Educational level	1.488	0.095	1.393	.165	0.620	3.596
Work experience/ NICU	0.100	0.009	0.081	.936	2.359	2.560

factors. Their study included a broader population across various settings, where decision-making may rely more on technical expertise and standardized protocols than on emotional insight.

These findings underscore the critical role of EI in healthcare, particularly in NICU settings where quick and informed decisions are essential. High EI supports effective decision-making and enhances team dynamics in multidisciplinary environments. As healthcare systems shift towards holistic, patient-centered care, integrating EI training into nursing education and professional development becomes increasingly important to improve job satisfaction, reduce burnout, and enhance patient outcomes.

Limitations

Several limitations could have influenced the study's outcomes. The reliance on self-reported surveys raises the risk of reporting bias, as individuals may perceive and interpret items differently. Additionally, the cross-sectional design only captures data at a single point in time, limiting the ability to track changes in EI and CDM over time. A longitudinal approach would provide more insight into the dynamics of these constructs.

Recommendations

Enhancing CDM among nursing graduates requires integrating EI into nursing curricula. This can be achieved through dedicated courses, clinical simulations, and tailored workshops addressing NICU-specific challenges. Ongoing professional development, including refresher courses and mentorship programs, should also be prioritized. Team-based EI training, incorporating interprofessional collaboration and simulations, can improve communication and decision-making in high-pressure environments. Additionally, fostering an emotionally supportive work culture through leadership development and peer support networks can further enhance EI across organizations. Regular self-assessments and feedback mechanisms are essential to monitor progress and sustain EI training initiatives. Evidence-based protocols and interventions can also support nurses in strengthening their EI and CDM skills. Future research should include diverse samples and longitudinal designs to ensure broader applicability of findings. Integrating EI into nursing education and practice will ultimately improve care quality and enhance the well-being of NICU staff.

Conclusions

This study found that NICU nurses demonstrated high levels of EI and CDM, with a strong association between the two. EI emerged as a significant predictor of CDM, highlighting the need to prioritize EI training to enhance nurses' decision-making abilities and professional effectiveness. To implement EI training, workshops on emotional regulation, communication, and stress management can be integrated into NICU staff development. Simulation-based training can provide realistic scenarios to practice EI, while peer support groups and mentorship programs can foster emotional resilience. In nursing education, EI can be incorporated through dedicated modules and team-based training to strengthen collaboration. Ongoing professional development with periodic EI assessments can ensure nurses continue to refine these skills throughout their careers.

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Consent for Publication

We affirm that this work is original and has not been published elsewhere, except as noted in the manuscript.

Data Availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics Approval and Consent to Participate

Ethical approval was obtained from the Arab American University Palestine (R-2024/A/163/N). Written informed consent was obtained from all subjects before the study.

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Supplemental Material

Supplemental material for this article is available online.

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