Original Article

Role of Emotional Intelligence, in Relationship Between Compassion Satisfaction, Compassion Fatigue and Quality of Life Among Nurses Working in ICU

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ABSTRACT

Background: Intensive Care Unit (ICU) nurses encounter emotionally taxing situations that can affect their well-being, making the examination of factors such as emotional intelligence (EI), compassion satisfaction, and fatigue crucial in understanding their quality of life.

Objective: This study aimed to explore the interplay between EI, compassion satisfaction, compassion fatigue, and quality of life among ICU nurses, and to examine the mediating role of EI in these relationships.

Methods: A convenience sampling method was employed to collect data from 167 ICU nurses using a structured online questionnaire. Demographic data and measures for compassion satisfaction, fatigue, EI, and quality of life were analyzed using SPSS version 25. Path coefficients and mediation analysis were conducted using Partial Least Squares (PLS).

Results: The majority of participants were below 30 years (76.2%) and female (67.9%). EI positively correlated with quality of life (path coefficient = 0.139, p = 0.007) and was a partial mediator between compassion satisfaction and quality of life. Higher compassion satisfaction was significantly associated with increased EI and quality of life (path coefficients = 0.264 and 0.628, respectively, p < 0.001). Gender-based analysis revealed differences in quality of life (Males: M = 100.65, SD = 7.98; Females: M = 96.58, SD = 12.59; p = 0.035) and compassion fatigue (Males: M = 65.24, SD = 7.77; Females: M = 61.42, SD = 8.59; p = 0.007).

Conclusion: Emotional intelligence is instrumental in enhancing quality of life by mediating the effects of compassion satisfaction and fatigue among ICU nurses. These insights suggest that interventions aimed at increasing EI may be beneficial for nurses facing the demanding conditions of ICU environments.

Keywords: Emotional Intelligence, Compassion Satisfaction, Compassion Fatigue, Quality of Life, ICU Nurses, Mediation Analysis, Healthcare Workforce.

INTRODUCTION

Within the high-stress environment of Intensive Care Units (ICUs), nurses are tasked with providing care to patients in severe health crises, exposing them to a range of emotionally charged situations that can significantly affect their personal well-being. This study aims to explore the complex interrelationships between emotional intelligence, compassion satisfaction, compassion fatigue, and the overall quality of life of nurses working in ICUs. Nurses in these settings frequently encounter patient suffering, make critical decisions under pressure, and deal with the deaths of patients, factors that may lead to both positive and negative outcomes. Compassion satisfaction, which is the fulfillment derived from helping others, has been shown to enhance job satisfaction and life quality among nurses. In contrast, compassion fatigue—characterized by emotional exhaustion and depersonalization—negatively impacts their psychological health and job satisfaction.

Emotional intelligence, which involves the ability to understand and manage one's own emotions as well as those of others, is increasingly recognized as a crucial skill in managing the emotional demands of ICU nursing. Higher levels of emotional intelligence may help nurses navigate these challenges more effectively, increasing resilience and improving quality of life. Additionally, the emotional state of nurses can directly influence patient outcomes, as it affects their ability to provide compassionate care.

This research builds upon findings from various studies, including those by Arimon et al. (2022) who noted that emotional support from peers and superiors could mitigate emotional strain among nurses in high-risk units. Similarly, Xiaoyi et al. (2018) found that social support, empathy, resilience, and coping strategies play significant roles in managing compassion fatigue and enhancing compassion satisfaction among nursing students. Furthermore, Joana et al. (2017) highlighted the lack of formal emotional management training among nurses across various units and pointed to the potential benefits of such training in improving psychological welfare and job satisfaction. The systematic review by Van et al. (2015) underscored the prevalence of compassion fatigue and burnout in healthcare professionals in ICUs, suggesting the effectiveness of interventions like mindfulness and education in reducing these issues.

The primary objectives of this study are to determine the levels of compassion satisfaction and emotional intelligence among ICU nurses, assess the impact of compassion fatigue and satisfaction on their quality of life, and explore how emotional intelligence might moderate these relationships. It also aims to examine demographic differences in these variables among the nurses. The hypotheses posit significant relationships between compassion fatigue, compassion satisfaction, emotional intelligence, and quality of life, with emotional regulation potentially moderating the effects of compassion fatigue and satisfaction on quality of life. This research could offer valuable insights into the emotional dynamics within ICU nursing, informing strategies to support nurses in managing the emotional challenges of their work environment, ultimately benefiting both the caregivers and their patients.

MATERIAL AND METHODS

In this study, data were collected using a questionnaire-based survey employing a convenience sampling technique, a common approach in preliminary healthcare research when random sampling is not feasible (Rule of Thumb). The sample size calculation was based on the rule of thumb, whereby the sum of items in the questionnaire was multiplied by five to estimate the minimum number of participants required. Initially, a target sample size of 200 was set; however, only 167 nurses participated in the study.

The demographic data collected included age, gender, marital status, and educational background. The questionnaire comprised four scales: the Compassion Satisfaction and Compassion Fatigue Scale, the Emotional Intelligence Scale, the Coping Scale, and the WHO Quality of Life Scale. These instruments were selected to comprehensively assess the variables of interest in line with the study objectives.

The data collection process was conducted online, utilizing platforms such as Facebook, Instagram, and WhatsApp to distribute the survey link across various universities in Multan. Prior to participation, respondents were provided with general instructions and an informed consent form, which explained the purpose of the study, the confidentiality of their responses, and their right to withdraw from the study at any time without penalty. This procedure was in accordance with the ethical guidelines outlined in the Declaration of Helsinki, ensuring that all participants were informed and voluntary consent was obtained.

After participants reviewed the instructions and consented to participate, they proceeded to complete the questionnaire. Upon completion, the data were submitted online and later extracted for analysis. Statistical analysis was performed using SPSS version 25, which facilitated the detailed examination of the relationships between emotional intelligence, compassion satisfaction, compassion fatigue, and quality of life.

This methodological approach ensured the ethical integrity of the study while allowing for a detailed exploration of the complex interactions among the key variables of interest among ICU nurses. This analysis aims to provide insights that could inform strategies to enhance nurse well-being and patient care outcomes in high-stress healthcare environments.

RESULTS

In an extensive study exploring the dynamics of compassion and emotional intelligence among ICU nurses, a substantial sample size of 167 participants was scrutinized, revealing that the majority of the nurses were below the age of 30 (76.2%), with female nurses constituting 67.9% of the total cohort. In terms of marital status, the majority were unmarried (58.3%). A significant portion of the sample held a graduation degree (69.9%), with only a smaller fraction having completed a master's degree (19.0%) or a diploma (10.7%). Regarding work experience, most nurses had between 1-5 years under their belt, with a minority (1.2%) possessing over 11 years of experience in the field. The nurses were employed across various sectors, with semi-governmental positions being the most common (44.6%), followed by private (30.4%) and governmental (24.4%) sectors (Table 1).

When examining the constructs of interest, the study revealed notable findings. Emotional intelligence was positively associated with the quality of life, as evidenced by a path coefficient of 0.139 and a statistically significant T-statistic of 2.697, indicating a clear influence (Table 3). Compassion satisfaction was found to have a robust direct effect on both emotional intelligence and quality of life, with path coefficients of 0.264 and 0.628, respectively, underscoring its significant bearing on the psychological health of nurses.

Notably, compassion satisfaction had a substantial indirect effect on the quality of life through emotional intelligence, with a sample path coefficient of 0.037 (Table 4).

Diving deeper into the lived experiences of the nurses, an independent samples t-test revealed gender differences in quality of life and compassion fatigue. Males reported a higher mean quality of life (M=100.65, SD=7.98) compared to females (M=96.58, SD=12.59), and this difference was statistically significant. Similarly, compassion fatigue levels were also significantly different, with males experiencing higher fatigue (M=65.24, SD=7.77) than females (M=61.42, SD=8.59), further highlighting the gender-specific challenges faced in the nursing profession.

Table 1 Demographic Characteristics

Demographic Variable	f	%
Age		
Below 30	128	76.2
Above 30	39	23.2
Gender		
Male	53	31.5
Female	114	67.9
Marital Status		
Married	69	41.1
Unmarried	98	58.3
Education Status		
Graduation	117	69.9
Masters	32	19.0
Diploma	18	10.7
Work Experience		
No experience	39	23.2
1-2 years	53	31.5
3-5 years	58	34.5
6-10 years	15	8.9
11 years and above	02	1.2
Service Sector		
Private	51	30.4
Government	41	24.4
Semi Government	75	44.6

	Range	
Variable	K	A
Emotional Intelligence	50	.741
Quality of Life	28	.837
Compassion Satisfaction and fatigue	30	.810

Table 2: Path coefficients and mediation analysis using Partial Least Squares (PLS)

Path coefficient	Original sample (O)		Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values		
EI total-> QL total	0.139		0.137	0.051	2.697	0.007	0.038	**0.239**

Path coefficient	Original sample (O)		Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values		
Satis total -> EI total	0.264		0.263	0.071	3.697	0.000	0.117	**0.393**
Satis total -> QL total	0.628		0.623	0.066	9.576	0.000	0.484	0.738

Table 3: Specific indirect effect

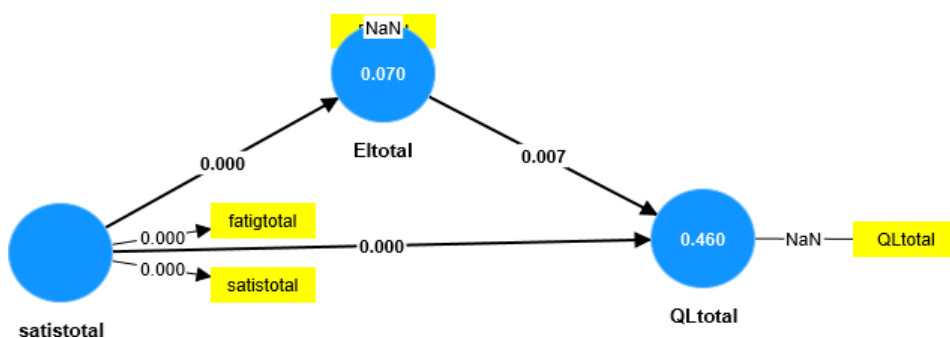| Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values		
Satis total-> EI total->QL total	0.037	0.036	0.017	2.176	0.030	0.007	**0.073**

Figure 1 Path coefficients and mediation analysis using Partial Least Squares (PLS)

Table 4: Independent sample t-test of Quality of life between male and female

Variable	Male N=52		Female N=106		t	P	LL	UL	Cohen's d
	M	SD	M	SD					
Q.L	100.6538	7.98008	96.5849	12.58939	2.128	.035	.29275	7.84513	.386051

Table 5: Independent sample t-test of compassion fatigue between male and female

Variable	Male N=52		Female N=106		t	P	LL	UL	Cohen's d
	M	SD	M	SD					
Fatigue	65.2453	7.7680	61.4206	8.58920	2.734	.007	1.0619	6.58754	.467058

Table 6: Analysis of Variance across education

Variables	Graduation		Masters		Diploma		F	P	Partial n²
	M	SD	M	SD	M	SD			
Satis	32.28	5.294	34.5484	4.17803	34.2778	2.630	3.387	.036	**0.034**
Fatig	61.214	8.413	66.3871	8.81165	65.6471	5.44221	6.011	.003	0.058

Table 7: Analysis of Variance across sector

Variables	Private		Govt.		Semi govt.		F	P	Partial n²
	M	SD	M	SD	M	SD			
Satis	32.8958	4.75009	31.0732	6.60072	33.9733	3.62414	4.756	.010	**0.019**
Fatig	60.3750	7.15371	61.4103	11.17732	64.8904	7.11915	4.902	009	**0.020**
EItotal	160.607	7.10233	155.536	9.55274	157.880	6.68188	5.136	.007	**0.021**
QLtotal	96.5333	8.33285	94.0000	16.70253	100.931	8.47272	5.530	005	0.023

Education also played a pivotal role, as revealed by an Analysis of Variance (ANOVA). The results indicated significant differences in both satisfaction and fatigue levels among the educational groups, with those holding a master's degree reporting higher levels of compassion satisfaction and fatigue than their peers with graduation degrees or diplomas, signaling the nuanced ways in which educational attainment intersects with the emotional dimensions of nursing work.

Lastly, the sector in which nurses were employed was related to variations in emotional intelligence and quality of life, with those in semi-governmental positions reporting the highest levels of both, as compared to their counterparts in private or governmental settings. This suggests that the institutional environment can significantly affect the well-being and emotional capabilities of ICU nurses.

DISCUSSION

The results of the study, involving a majority of participants under the age of 30, suggest an inclination towards the younger demographic of nurses within the ICU setting. This over-representation of younger nurses provides a crucial perspective on the development of emotional intelligence and its role in managing compassion fatigue, which is of particular concern due to the relatively limited professional experience of this group (Chan et al., 2021). Additionally, the prevalence of female participants over male may reflect upon nuanced gender differences in the expression and handling of emotional intelligence, although research indicates that such differences are typically minor.

The mediating role of emotional intelligence in the relationship between compassion satisfaction and quality of life among ICU nurses was evidenced, aligning with the body of literature underscoring the interplay of these factors in healthcare contexts (Goleman, 1995; Salovey & Mayer, 1990). In the study by Sinclair and Raffin (2017), emotional intelligence was seen not only as instrumental in fostering compassion satisfaction but also as a protective factor against compassion fatigue. This underscores the potential of emotional skills in mitigating the negative impacts of job-related stress and promoting mental health in emergency nursing.

The investigation into the relationships among emotional intelligence, compassion satisfaction, and fatigue, and quality of life brought forth valuable insights into the experiences of nurses in high-pressure ICU environments. The study recognized the pivotal role healthcare professionals play in patient care and the reciprocal effect of these demanding roles on the nurses' own well-being. However, the scope of this research was limited by its cross-sectional nature and the use of self-report measures, which may give rise to response bias or socially desirable answers. These factors potentially restrict the accuracy and generalizability of the findings (Chan et al., 2021). To mitigate these limitations, future research could benefit from incorporating a longitudinal design, allowing for a deeper understanding of how these variables interact over time. Multicenter studies involving a wider array of healthcare settings could enhance the generalizability of the results.

The implications of this research are significant for developing targeted interventions tailored to different healthcare environments. Longitudinal monitoring could elucidate the evolution of emotional intelligence, compassion satisfaction, and fatigue among healthcare workers. Broadening the research to include diverse samples would strengthen the generalizability of the findings. Further, exploring the human and organizational factors contributing to resilience against compassion fatigue remains an important avenue for ongoing research.

CONCLUSION

The study concludes that emotional intelligence is a key moderator in the relationship between compassion satisfaction and quality of life among ICU nurses, suggesting that enhancing emotional skills could be vital in supporting nurses' well-being in high-stress environments. These findings carry significant implications for healthcare systems, indicating the need for targeted emotional

intelligence training and support mechanisms that could mitigate compassion fatigue and foster a sustainable, high-quality healthcare workforce.

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