Investigating the Interplay of Stress, Emotional Intelligence, and Work-life Balance among the Ambulance Personnel

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Abstract

Purpose: The purpose of this study is to investigate the interplay of stress, emotional intelligence, and work-life balance among ambulance personnel.

Methods: This study is a descriptive-correlational involving 120 ambulance paramedics personnel with at least 2 years of experience and were recruited from two regional ambulance services. Online self-assessment questionnaires were administered from April through June 2023.   Descriptive statistics (i.e. frequency distribution, mean, SD) and inferential statistics to explore relationships between variables.

Results: Ambulance personnel work long, demanding hours (often exceeding 10 hours daily) with frequent night calls and weekend duties, leading to fatigue and moderate stress (average score 87.07). Though they display high emotional intelligence, their work-life balance suffers (score 41.26), particularly due to work intruding on their personal life. Higher emotional intelligence is linked to slightly increased stress but also slightly better work-life balance.

Conclusions: Despite having a high emotional intelligence, ambulance personnel struggle with considerable stress and fatigue due to their busy schedules and poor work-life balance. Although there are links between these parameters, more study is still required. It is still essential for their performance and general well-being to prioritize sleep, breaks, and healthier work habits.

Keywords: Stress, Work-Life Balance, Emotional Intelligence, Ambulance personnel, Paramedics

Introduction

Ambulance personnel face challenging circumstances when responding to crises, including possibly dangerous situations or circumstances that are exceedingly physically and mentally taxing. According to Aasland et al. [1] and Jackson et al. [2], there is a natural risk to their well-being in this particular work environment, which raises worries about rising stress, burnout, and compromised mental health. Both their emotional and physical health may be impacted by this. According to Lawn et al. [3], ambulance workers who are under stress at work often feel let down by their superiors, colleagues, and the organization itself. This is especially true when they are unwell and coming to work. This contributes to work-related stress in the emergency medical industry including shift work, recurrent exposure to traumatic events, and stressors related to leadership and organization [4]. As a result, there is a risk that their specific work environment may have a negative impact on their mental health and lead to increased stress, burnout, and diminished well-being. As such, there is a need to enhance their well-being and job longevity by cultivating emotional intelligence [5] addressing stress and maintaining their work-life balance.

The American Psychological Association (APA) [6], defined stress as the "body's response to any demand". In this case, the ambulance personnel could experience different forms of stress as they are dealing with emergency cases and distressing accidents. According to Hanes and Shalev [7], long-term stress can cause a host of detrimental health effects, such as anxiety, depression, burnout, and even physical conditions like cardiovascular disease. On the other hand, Salovey and Mayer [8] defined emotional intelligence (EI) as "the ability to perceive, understand, use, and manage one's own emotions in positive ways to achieve one's goals", EI equips individuals with the skills to cope with stress effectively. These skills include self-awareness, emotional regulation, empathy, and social awareness, allowing them to manage their own emotional responses, build rapport with patients and colleagues, and navigate interpersonal dynamics effectively [9]. On the other context, the demands of the work of the ambulance personnel could lead to erratic equilibrium which had an adverse effect with the balance creating an imbalance between work and personal life. Work-life balance refers to the "integration of the various roles that an individual has, such as those of worker, family member, friend, and citizen, in a way that he or she finds personally fulfilling and satisfying" [10]. For ambulance personnel, long hours, irregular schedules, and emotional toll can erode this balance, leading to decreased job satisfaction, family conflict, and impaired personal well-being [11].

The capacity to comprehend and regulate not just our own feelings but also those of people around us is what is known as emotional intelligence, or emotional intelligence (EI). Self-awareness, self-regulation, motivation, empathy, and social skills are the five elements that make up emotional intelligence. Being fully cognizant of one's own personality, including its motivations, ideas, feelings, and strengths and shortcomings, is the definition of self-awareness. Understanding oneself enables one to comprehend others as well, including how they see you, your attitude toward them, and your immediate reactions [12]. Resilience, which has to do with a person's capacity to handle stress, is another crucial component of the well-being of emergency personnel. Organizational support, informal support, use of humor, and individual ways to cope such as detachment and external supports are some of the well-being needs expressed by ambulance staff [13]. Inadequate leadership is one of the most stressful aspects of the job for ambulance personnel [14].

For ambulance workers, work-life balance is a "context-sensitive and subjective concept" that varies according on personal preferences, life phases, and situations [15]. As such, it cannot be adequately defined. The specific elements of ambulance job pose substantial hurdles to work-life balance [16]. Working long hours, having erratic schedules, working shifts, experiencing trauma, and making difficult decisions under pressure can often cause personal life disruption and make it difficult to distinguish between work and personal life. Work-life balance is a dynamic process that requires constant modification and effort rather than a static destination [17]. This comprehension enables flexibility in identifying unique demands and considering multiple options to preserve equilibrium throughout an emergency medical professional's career.

Understanding the complex interplay between these factors is crucial to promoting the well-being and resilience of ambulance personnel. This study delves into this intricate web, investigating how stress, emotional intelligence, and work-life balance interact and influence the professional and personal lives of these vital members of the emergency medical services. Through this exploration, this study identifies strategies and interventions that can empower ambulance personnel to navigate the challenges of their work while maintaining their mental and physical health, achieving a sense of fulfilment in both their professional and personal domains. To this end, this study aimed to investigate the interplay of stress, emotional intelligence, and work-life balance among ambulance personnel.

Materials and methods

Research Design

A descriptive correlational study was adopted to investigate the interplay of stress, emotional intelligence, and work-life balance among the Ambulance Personnel through a convenient sampling technique using a survey approach.

Participants

Participants were paramedics from two regional ambulance services of Saudi Arabia (i.e. Najran and Qunfudah region of Meccah province).   Inclusion criteria include Saudi Nationality, male paramedics working in the ambulance for at least two years, and holding a paramedic license or equivalent. Excluded were those who had just joined the workforce and the ambulance drivers.

The number of samples was determined using Rao software's online sample calculator. The 95% confidence interval for the standard deviation was chosen. The response distribution was 50% and the margin of error was + 5%. The recommended sample size was 140. However, only 120 completed the questionnaire. The study was conducted over 3 months from April 2023 to June 2023. The data collection was done after obtaining ethical permission from the concerned authorities and the Institutional Ethics Committee of King Khalid University (ECM#2023-1906).

Questionnaire

A self-assessment questionnaire was administered online. Data were collected by using predetermined tools.

The perceived stress scale (PSS – 10) developed by Cohen, Kamarch, & Mermelstein,1983 was used for measuring stress. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived. Scores ranging from (0-13) would be considered low stress, (14-26) moderate stress, and (27-40) high perceived stress [18]. The Cronbach's alpha of the PSS-10 was 0.80.

The Schutte Self Report Emotional Intelligence Test (SSEIT 2011) by Schutte and Malouff [19] was also used in this study. It consisted of 33 items each with five responses such as strongly agree, agree, neutral, disagree, and strongly disagree, and rated from 1 to 5. There are four subcomponents: Perception of Emotion, (10-50), Managing own

Emotions (9-45) Managing others' Emotions (8-40), and Utilization of Emotion (6-30) with a total obtainable score of 33-165. The reliability of this questionnaire revealed a Cronbach's alpha of 0.89.

Lastly, the Work/Life Balance Self-Assessment scale developed by Smeltzer SC [20] has 15 items with total obtainable scores of 15-75, addresses three factors such as work interference with personal life (WIPL) (7-35) (personal life interference with work (PLIW) (4-20), and work/personal life enhancement (WPLE) (4-20). The content validity and reliability of the questionnaire were evaluated in a previous study [21] however, in this current study, the reliability test revealed a Cronbach's alpha of 0.85.

These three questionnaires were tested for validity by the three experts in the field. All of the experts agreed that the questionnaire is a strong and trustworthy tool for determining the interplay of stress, emotional intelligence, and work-life balance. Also, a pilot study was carried out with 15 ambulance staff (who were not included in the study sample) in order to assess the reliability of the questionnaires. The ambulance staff required fifteen to twenty minutes to complete the questionnaire.

The collected data were tabulated and analyzed using descriptive statistics like frequency distribution, mean, SD, and inferential statistics.

Research Ethics: Every procedure was completed in compliance with all applicable rules and regulations, including the Helsinki Declaration. The study was approved by the King Khalid University Ethical Review Board (ECM#2023-1906). The participants were made aware of the objectives, risks, and advantages of the study and gave their informed consent thereafter. Participants received the guarantee that their participation was completely voluntary and that they could withdraw at any time, for any reason. The anonymity and confidentiality of participants were maintained, and only aggregated data were utilized.

Results

Table 1. Sociodemographic Characteristics Among Ambulance Health Care Personnel (N=120)

Background Characteristics	f	%
Age in years		
≤ 25 years	12	10.0
26-30 Years	39	32.5

> 30 years	69	57.5
Gender		
Male	67	55.8
Female	53	44.2
Marital status		
Married	81	67.5
Unmarried	35	29.2
Separated	4	3.3
Total work experience		
$\leq$10 years	73	60.8
>10 years	47	39.2
Years of working in Ambulance		
<5 years	96	80.0
>5 years	24	20.0
Working hours per day		
$\leq$10 hours	61	50.8
>10 hours	59	49.2
Working hours per week		
$\leq$40 hours	-	-
>40 hours	120	100
Sleeping hours per day		
$\leq$6 hours	68	56.7
>6 hours	52	43.3
Night call/ weekend call duty hours per week		
$\leq$6 hours	82	68.3
>6 hours	38	31.7
Training Attended		
Yes	73	61.0
No	47	39.0

Table 1 shows that the majority (57.5%) of ambulance personnel in this study are seasoned professionals over 30 years old, with men slightly outnumbering women (55.8% vs. 44.2%). Most are married (67.5%), and while their experience is evident, with 60.8% having less than ten years of total work, though experienced overall (60.8% under ten years of work), most personnel are still new to ambulance services themselves, with 80% having less than five years in that specific role. Their dedication is undeniable, reflected in the long hours they commit: 49.2% clock over 10 hours daily, and everyone surpasses the 40-hour weekly mark. However, this dedication comes at a cost, with short sleep durations of 56.7% grab less than 6 hours – and significant night calls or weekend duty, exceeding 6 hours for 31.7%. Though 61% have participated in training, addressing the demanding schedules, and promoting

work-life balance remains crucial for this experienced but potentially fatigued workforce.

Table 2. Perceived Stress Scores among Ambulance Health Care Personnel

Components	Obtainable Score		Obtained Score		Mean	Mean %	SD
	Min	Max	Min	Max			
Perceived Stress Scores	25	125	70	115	87.07	69.56	13.85

Table 2 displays the level of perceived stress among ambulance healthcare personnel. The average perceived stress score among the 120 ambulance healthcare personnel was 87.07(SD-13.85), which suggests a significant moderate level of perceived stress within this group.

Table 3. Perceived Emotional Intelligence Scores among Ambulance Health Care Personnel

Components	Obtainable Score		Obtained Score		Mean	Mean %	SD
	Min	Max	Min	Max			
Perception of Emotion	10	50	24	39	32.29	64.58	3.95
Managing own Emotions	9	45	21	40	31.98	71.06	3.84
Managing others' Emotions	8	40	15	27	21.13	52.82	2.90
Utilization of Emotion	6	30	14	24	21.30	71.00	2.01
Global Score	**33**	**165**	**80**	**129**	**106.70**	**64.24**	**10.33**

Table 3 presents the level of perceived EI among ambulance healthcare personnel. Overall, the scores indicate that these study's ambulance healthcare personnel have relatively high emotional intelligence (Mean=64.2; SD: 10.33).

Table 4. Perceived Work-Life Balance Scores of Ambulance Health Care Personnel

Components	Obtainable Score		Obtained Score		Mean	Mean %	SD
	Min	Max	Min	Max			
Work-life interference with personal life	7	35	10	27	17.79	50.82	4.31
Personal life interference with work	4	20	8	16	12.24	61.20	2.45

Work/Personal life enhancement	4	20	7	16	11.23	56.15	3.03
Global Score	**15**	**75**	**28**	**58**	**41.26**	**55.01**	**7.26**

Table 4 shows the perceived work-life balance scores of ambulance healthcare personnel. The highest mean score (17.79) among the components is for "Work life interference with personal life," indicating that personnel are most concerned about the negative impact of their work on their personal lives. The lowest mean score (11.23) is for "Work/Personal life enhancement," suggesting that personnel perceive less positive influence of their personal lives on their work. The mean score (12.24) for "Personal life interference with work" falls in the middle, indicating a moderate level of perceived personal life interference with work. Overall work-life balance is perceived as below average, with a mean score of 41.26 and SD of 7.26, which suggests that ambulance healthcare personnel in this study perceive their work-life balance to be below average. It is important to note that these are just the average scores for a small sample of ambulance healthcare personnel. The results may only be generalizable to some ambulance healthcare personnel. Additionally, the survey only asked about the personnel's perceptions of their work-life balance rather than their actual work-life balance.

Table 5. Correlation between Perceived Stress, Emotional Intelligence, Work life balance among Ambulance Health Care Personnel

Variables		Perceived Stress	Emotional Intelligence	Work-life balance
Perceived Stress	**r**	1	-	-
	p	-	-	-
Emotional Intelligence	**r**	0.12	1	-
	p	0.18	-	-
Work-life balance	**r**	-0.12	0.07	1
	p	0.16	0.40	-

Table 5 presents the correlation between perceived stress, emotional intelligence, and work-life balance among ambulance healthcare personnel—the correlation coefficients in this table range from -0.12 to 0.18.

Perceived stress and emotional intelligence: The correlation coefficient 0.12 is positive but weak. This suggests a slight positive relationship between perceived stress and emotional intelligence. In other words, people who report higher levels of emotional intelligence may also report slightly levels of perceived stress.

Perceived stress and work-life balance: The correlation coefficient of -0.12 is negative but weak. This suggests a slight negative relationship between perceived stress and work-life balance. In other words, people who report higher levels of work-life balance may also report slightly lower levels of perceived stress.

Emotional intelligence and work-life balance: The coefficient of 0.18 is positive and slightly stronger than the other correlations in the table. This suggests a slight positive relationship between emotional intelligence and work-life balance. In other words, people who report higher levels of emotional intelligence may also report slightly higher levels of work-life balance.

Overall, the table suggests some weak relationships exist between perceived stress, emotional intelligence, and work-life balance among ambulance healthcare personnel. However, it is essential to note that these correlations are minor and do not necessarily mean that one variable causes change in the other.

Table 6. Correlations of perceived stress, Emotional Intelligence and work life Balance of Ambulance Healthcare Personnel and their Sociodemographic Profile

	Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Perceived Stress	Age in years	1.33	0.56	0.52	2.36	**0.02**
	Total work experience	-1.64	0.51	-0.66	-3.19	**0.002**
	Years of working in Ambulance	0.32	0.19	0.15	1.66	0.09
	Training attended after working in ambulance	-2.22	2.56	-0.08	-0.87	0.38
	working hours per day	-0.24	0.54	-0.04	-0.45	0.64
	working hours per week	0.002	0.11	0.002	0.01	0.98
	Sleeping hours, a day	-0.86	1.35	-0.06	-0.64	0.52
	Night call/ weekend call duty hours per week	0.01	0.10	0.01	0.14	0.88
Emotional Intelligence	Age in years	0.11	0.67	0.03	0.16	0.86
	Total work experience	-0.36	0.52	-0.16	-0.70	0.48
	Years of working in Ambulance	0.12	0.15	0.09	0.80	0.42
	Training attended after working in ambulance	1.01	2.61	0.04	0.38	0.69
	working hours per day	0.13	0.47	0.03	0.27	0.78
	Working hours per week	-0.13	0.10	-0.15	-1.31	0.19
	Sleeping hours, a day	1.93	1.21	0.20	1.60	0.11
	Night call/ weekend call duty hours per week	0.20	0.10	0.24	1.98	**0.05**

Work-life balance- Interference with work	Age in years	-0.41	0.15	-0.64	-2.75	0.008
	Total work experience	0.36	0.12	0.72	2.90	**0.005**
	Years of working in Ambulance	-0.01	0.03	-0.04	-0.35	0.72
	Training attended after working in ambulance	0.03	0.57	0.008	0.06	0.94
	working hours per day	0.07	0.10	0.08	0.68	0.49
	working hours per week	-0.02	0.02	-0.10	-0.85	0.39
	Sleeping hours, a day	-0.17	0.26	-0.08	-0.66	0.50
	Night call/ weekend call duty hours per week	0.01	0.02	0.08	0.70	0.48

Table 6 presents the correlations of perceived stress, emotional intelligence and work-life balance of ambulance healthcare personnel and their sociodemographic profile.

For age, there is a 0.11 increase in perceived stress, a 0.04 decrease in emotional intelligence, and a 0.16 decrease in work-life balance.

For total work experience, there is a 0.36 decrease in perceived stress, a 0.03 increase in emotional intelligence, and a 0.36 increase in work-life balance.

For years of working as an ambulance health personnel, there is a 0.32 decrease in perceived stress, a 0.12 increase in emotional intelligence, and a 0.01 decrease in work-life balance.

For attending training after working in an ambulance shows a 1.01 increase in emotional intelligence but is not associated with any significant changes in perceived stress or work-life balance.

For working hours per day is associated with a 0.24 decrease in perceived stress, a 0.13 increase in emotional intelligence, and a 0.07 increase in work-life balance. However, these changes are all very small and may not be statistically significant.

Working hours per week are associated with a 0.002 increase in perceived stress, a 0.01 decrease in emotional intelligence, and a 0.02 reduction in work-life balance. However, these changes are all minimal and may not be statistically significant. For sleeping hours per day is associated with a 0.86 decrease in perceived stress, a 1.93 increase in emotional intelligence, and a 0.000 increase in work-life balance.

For night call/weekend call duty per week is associated with a 0.01 increase in perceived stress, a 0.20 increase in emotional intelligence, and a 0.17 decrease in work-life balance. However, these changes are all minimal and may not be statistically significant.

Discussion

This study aimed to investigate the interplay of stress, emotional intelligence, and work-life balance among the Ambulance Personnel. As the first responders to crises including injuries, trauma, and long hours, ambulance personnel are the unsung heroes of emergency medical services. Our results demonstrate this commitment, as everyone exceeded the average weekly 40-hour mark and almost half worked more than 10 hours every day. Unfortunately, there is a high cost associated with this dedication, as shown by the severe sleep deprivation (56.7% obtaining less than 6 hours) and frequent weekend duties/night calls (31.7% surpassing 6 hours). These results are consistent with previous studies on the negative impacts of long hours and rigorous schedules on healthcare professionals. The research conducted [22, 1] indicates a correlation between these work environments and elevated levels of stress, burnout, and reduced well-being. The mental toll of handling emergencies and the possibility of being exposed to traumatic situations exacerbate this further [23]. It is nevertheless critical to address the issue of demanding schedules and promote work-life balance, even if our data indicates that 61% of participants had received training. This is vital for maintaining patient safety and good performance, as well as for the employee's well-being. Prolonged sleep deprivation can impair reaction times, cognitive function, and decision-making—all of which are crucial in emergency scenarios [245].

In this current study, the ambulance healthcare personnel experience a moderate level of perceived stress. This highlights the significant emotional and mental strain placed on them by frequent critical emergencies, life-or-death decisions, and regular exposure to accidents, injuries, and death, which can take a toll on mental well-being and lead to post-traumatic stress symptoms. Such an observed moderate level of perceived stress aligns with previous research wherein it was highlighted the link between stress in ambulance personnel and factors like increased years of service [25], insufficient time for recovery between critical incidents [26], and frequent exposure to stressful events [27]. Both the hospital and ambulance personnel have roles to play in mitigating stress. For the hospital, implementing trauma-informed care protocols is crucial. This means training staff to recognize potential distress in ambulance personnel, using respectful communication, and offering prompt referrals for mental health support. Ambulance personnel can build resilience through healthy lifestyle habits. The hospital can support this by providing resources like on-site fitness facilities, nutritional workshops, and flexible scheduling. Additionally,

offering targeted stress management training, like cognitive behavioural therapy or mindfulness techniques, can equip personnel with practical tools to manage daily stress and the aftermath of critical incidents. By working together and focusing on specific, actionable steps, both institutions can create a supportive environment that prioritizes the well-being of ambulance personnel who face significant emotional and mental strain.

The perceived emotional intelligence among ambulance healthcare personnel is relatively high. Ambulance personnel's regular exposure to the intense emotions of emergencies and the need for quick, decisive action under pressure may contribute to developing strong emotional awareness. Additionally, the constant challenges they face on the job can foster well-honed coping mechanisms and adaptability, considered vital traits of high emotional intelligence. This recent finding is supported by the fact that ambulance personnel presented a high level of emotional intelligence [28]. It is recommended that the hospital institution implement a plan to recognize and cultivate leadership potential among personnel exhibiting high emotional intelligence. This plan could involve targeted leadership training to equip them with the skills to manage teams and navigate complex situations effectively. Such investments would ultimately contribute to more substantial capabilities, enhanced well-being, and a more resilient and effective ambulance service.

Ambulance healthcare personnel perceived that their work-life balance was below average. This indicates that their work schedule and demands significantly interfere with their personal lives and ability to have adequate leisure time. This finding is consistent with the statement that ambulance staff experience stress due to poor work-life balance [29]. It is recommended to healthcare institutions that improved scheduling options, adequate staffing, and supportive measures be implemented to protect these crucial healthcare heroes from burnout and ensure their continued service.

While a recent study has found a weak positive association between perceived stress and emotional intelligence in ambulance personnel. This suggests that individuals with higher emotional intelligence are generally more aware of their own emotions and the emotions of others. This means that they are also more attuned to the various stressors they face in their jobs, such as witnessing traumatic events, dealing with difficult patients and families, and working under pressure. This heightened awareness does not inherently cause more stress but can make them more conscious of the stressful situations they encounter. This recent study's findings diverge from a study found no significant

link between emotional intelligence and perceived stress in emergency doctors [30, 28]. However, another study supports the current results [31].

In this current study, there is a slight positive relationship between emotional intelligence and work-life balance. In other words, ambulance personnel with higher levels of emotional intelligence have a slightly higher work-life balance. This signifies that Individuals with high emotional intelligence are generally better at identifying, understanding, and regulating emotions. This could translate to more effective stress management in the face of demanding work schedules, allowing them to compartmentalize work stress and prioritize their personal lives. This recent finding aligns with the statement, suggesting that high emotional intelligence might contribute to a better work-life balance through improved stress management, stronger relationships, and better self-awareness [32].

Investing in emotional intelligence training programs for ambulance personnel holds immense promise. Such programs could equip them with essential skills for identifying, understanding, and regulating emotions. This, in turn, would empower them to manage stress more effectively and prioritize their personal lives, resulting in better work-life balance. By prioritizing the emotional well-being of ambulance personnel, the health institutions enrich their individual lives and elevate the quality of emergency medical services for all. Further research is also recommended by pinpointing the specific emotional intelligence skills most beneficial for stress management and work-life balance in this crucial profession.

The older ambulance personnel are susceptible to stress and have lower levels of emotional intelligence and work-life balance. This demonstrates that older ambulance personnel have accumulated more work-related and personal stressors over their careers. This could include exposure to traumatic events, dealing with difficult patients and families, and managing personal responsibilities alongside demanding work schedules. Also, ageing can bring physical changes that contribute to higher stress levels. For example, decreased sleep quality, changes in hormone levels, and slower response times can all heighten stress sensitivity [28]. It is stated that ambulance personnel aged 36 and beyond exhibit greater emotional intelligence than their younger colleagues.

For total work experience, there is a decrease in perceived stress, an increase in emotional intelligence, and an increase in work-life balance. This suggests that workers with more experience may be better equipped to deal with the demands of their jobs and have higher levels of emotional intelligence and work-life balance. This finding

regarding the relationship between work-life balance and work-related well-being aligns with the conclusions of a similar study [33].

With increasing years of working as an ambulance health personnel, there is a decrease in perceived stress, an increase in emotional intelligence, and a decrease in work-life balance. This suggests that workers who have more experience working in ambulances may be better equipped to deal with the challenges of their jobs and have higher levels of emotional intelligence. This recent finding aligns with the observation that staff not exposed to work-related stressors paradoxically experienced higher stress and an inability to tolerate negative emotions [13].

Attending training after ambulance work significantly increases emotional intelligence while not meaningfully impacting perceived stress or work-life balance. This finding aligns with research that showed increased emotional intelligence among personnel who completed training [28]. This suggests that training focused on emotional skills can be valuable for ambulance personnel, even if it doesn't directly address other job-related challenges.

Sleeping hours per day is associated with a decrease in perceived stress, an increase in emotional intelligence, and an increase in work-life balance. This suggests that getting enough sleep is essential for reducing stress and improving emotional intelligence, but it may not significantly impact work-life balance. Although existing research doesn't directly address these specific findings, a similar study revealed that 7% of emergency personnel experiencing a lack of sleep despite exceeding eight hours of sleep, exhibit stress that negatively impacts their mental and emotional well-being [34].

Study Limitations

This study offers important insights into the complex influences on the well-being of ambulance staff, even in light of the constraints associated with some statistically insignificant findings. Using a non-random sample might limit generalizability to the entire population of Saudi Arabian ambulance personnel. The final sample size (120) is smaller than the recommended sample size. This could affect the reliability and generalizability of findings.

Excluding other ambulance personnel roles (e.g., dispatchers, technicians) creates an incomplete picture. Future studies should include diverse roles for a more holistic understanding. Moreover, the design allows correlation identification but not causation. Longitudinal studies could establish causal relationships between variables. Relying solely on self-reporting introduces potential bias and misrepresentation. Future studies could incorporate objective

measures (e.g., work hours tracking, and stress biomarkers) for triangulation. The study focuses on individual-level factors. Including organizational factors (e.g., scheduling practices, and support systems) would provide a more comprehensive picture. It is recommended that for future studies, a longitudinal study may be conducted to explore the causal relationships between stress, emotional intelligence, and work-life balance over time including diverse ambulance personnel roles. Lastly, to expand research beyond paramedics to encompass the full range of personnel involved in ambulance services.

Study Implication

Understanding the interplay of stress, emotional intelligence, and work-life balance among ambulance personnel makes it easier to create focused interventions and support networks that promote these brave individuals' well-being. In the end, this leads to an improvement of the care they give. Organizations may foster a resilient workforce by prioritizing knowledge-sharing and mentoring programs because they understand the beneficial effects of experience on coping strategies and emotional awareness. Not to mention, the study's recommendation for additional research into the particulars of training programs emphasizes the necessity of developing a curriculum to improve emotional intelligence—a critical ability for acclimating to the emotional roller coaster in this line of work. Furthermore, realizing the critical role of sleep-in lowering stress and enhancing emotional intelligence encourages employers to support sleep hygiene practices and investigate flexible scheduling choices that prioritize appropriate rest. Furthermore, it is imperative to look into the subtle effects of night-call and weekend-call duties, as this could result in changes to staffing levels, workload distribution, or even the makeup of these on-call jobs.

Conclusion

Despite having a high emotional intelligence, ambulance workers struggle with considerable stress and fatigue as a result of their busy schedules and poor work-life balance. Although there are links between these parameters, more study is still required. It is still essential for their performance and general well-being to prioritize sleep, breaks, and healthier work habits. In order to support the well-being and maximize the performance of ambulance staff, this study highlights the obstacles they experience and highlights the necessity for interventions that promote healthy work practices and work-life balance.

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