Journal of Pioneering Medical Sciences
Received July 01, 2024 Accept August 10, 2024 Publish August 30, 2024.
Volume 13, Issue 5, Pages 104-110

DOI https://doi.org/10.61091/jpms202413519

Prevalence and Risk Factors of Compassion Satisfaction and Compassion Fatigue Among Emergency Medicine Professionals: A Cross-Sectional Study from Saudi Arabia

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Abstract **Introduction:** While compassion satisfaction (CS) and compassion fatigue (CF) have been extensively researched and reported all across the world, limited data is available on these parameters from the Emergency Departments (ED) of large hospitals in Saudi Arabia. Hence, this study was conducted to generate evidence on the prevalence and risk factors of CS and CF among ED professionals in a large tertiary care hospital in the country. **Methods:** This cross-sectional study employed a self-administered, survey-based demographic questionnaire. The Professional Quality of Life scale version 5 was used to assess the prevalence of CS and CF in the study population. CF was defined as a composite of Secondary Traumatic Stress (STS) and Burnout (BU). Multiple regression analysis was used to analyze the correlation of CS, STS and BU with demographic risk factors. **Results:** A total of 151 ED professionals participated in the study. The overall score of 37.7 ± 6.84, indicated a moderate level of CS, which increased with advancing age (younger age [25-29 years versus >40 years]; p=0.0344). The study also reported moderate levels of STS and BU scores, 24.4 ± 6.93 and 25.6 ± 6.25 respectively. Significantly lower CS and BU and higher STS levels were reported among females versus males; p=0.0023, p=0.0284 and p=0.0274 respectively. The BU levels significantly decreased with advancing age (p=0.0005). Nurses in the ED experienced higher BU versus doctors (p=0.0295). **Conclusion:** To the best of our knowledge, this is the first study from Saudi Arabia to assess CS, STS and BU, in a cohort of emergency doctors as well as nurses. The study highlights a trend of poor professional satisfaction, coupled with rising levels of fatigue and emotional drainage, among ED professionals in a large tertiary hospital in Saudi Arabia. This indicates a growing cause of concern, warranting urgent redressal and future research in the country.

Key Words compassion satisfaction, compassion fatigue, emergency department, healthcare professionals, professional quality of life, burnout

1. Introduction

Medical practice is a complex and demanding profession, with doctors and allied medical staff being at the center of this clinical ecosystem. Medical professionals constantly face the daunting challenges of patient care, unfavorable work environments and unmanageable workloads. Delivering optimum medical treatment and achieving desired clinical outcomes in the midst of such circumstances is an uphill road, that medical professionals learn to navigate through their years of clinical experience [1].

It is well-known and widely accepted that within the ambit of medical practice, professionals in the emergency department (ED) witness exceedingly high levels of pressures and demands from patients' families and hospital managements. Doctors and other staff in the ED often struggle with indiscriminate work volume and erratic schedules while constantly dealing with patient casualties. Shortages of manpower, poor infrastructure and skewed work-life balance can further compound the misery of emergency medical professionals [2], [3].

In the midst of such personal chaos, stress and anxiety, the emergency medical staff continues to work tirelessly to ensure patients are compassionately cared for, to save human lives and to mitigate morbidity as far as possible. Being compassionate towards patients is a basic tenet of medical practice and assumes greater importance, especially in the

setting of the ED where patients are often critical and battling serious conditions. Compassionate treatment of patients in the ED is an emotionally rewarding and satisfying experience for ED professionals too. However, there is also a flip side to this scenario. The constant demand and pressure to maintain compassion towards patients, under all circumstances, can render the ED medical professionals emotionally drained, fatigued, frustrated and demoralized [2].

In this context, it is essential to understand the terms "compassion satisfaction" (CS) and "compassion fatigue" (CF). The Professional Quality of Life (ProQOL) scale is a well-validated, widely employed and globally accepted index for measuring CS and CF in any given cohort [4]. The latest version (Ver.5) of the ProQOL refers to CS as a gratifying emotion and a sense of achievement arising from treating and caring for needy patients. It could arise from directly contributing towards the medical treatment and care of the patients or through indirect assistance in helping ED patients cope up better. On the contrary, the ProQOL version 5 describes CF as a negative feeling, a composite of secondary traumatic stress (STS) and burnout (BU), arising due to constantly dealing with traumatized and critically ill patients and the pressure to maintain compassionate demeanor towards them at all times. The personal and professional stressors of the ED can commonly lead to STS and BU among ED medical professionals. BU is defined as being emotionally and physically drained out, feeling detached from people, pessimistic and disillusioned about the surrounding environment. The individual facing BU suffers from low personal accomplishment, depersonalization and emotional exhaustion. BU is a well-known occupational hazard and a growing menace among ED professionals. CF is known to adversely impact the performance of ED medical professionals, leading to deterioration in the quality of patient care and deleterious effects on the personal and professional lives of ED staff [2], [3], [5], [6].

The prevalence and etiology of CS, CF and BU among ED professionals has been studied and reported from various parts of the world. However, we found a lack of data reporting the prevalence and etiology of CS, CF (STS and BU), in large tertiary care hospitals from Saudi Arabia. Hence, this cross-sectional study was planned and conducted, to generate evidence on the prevalence and risk factors of CS and CF among ED professionals, from one of Saudi Arabia's most reputed and urban tertiary care hospitals.

2. Methodology

A. Study Design and Objectives

This study was a cross-sectional design to assess the prevalence of CS and CF among emergency department staff at King Khalid University Hospital in Riyadh, Saudi Arabia. The study also aimed to assess the demographic and professional risk factors associated with CS, CF among ED professionals.

B. Study Population

The study included ED professionals (doctors and nurses) holding a valid license, having a minimum of six months of work experience in the ED of the hospital, those who were directly involved with patient care in the ED and provided informed consent to participate. The study excluded professionals outside the ED, those in the ED with less than six months of experience or those who were not directly taking care of ED patients.

C. Planned Sample Size

The planned sample size of this study was approximately 150 emergency medicine staff (physicians/nurses) from the hospital ED. The sample size was decided with the intention to ensure minimum 50% participation of the ED medical professionals in the study. This was done with a view to make the sample representative of the population in the ED and to facilitate adequate assessment of the study outcome measures.

D. Ethics

Written and signed informed consent was obtained from each participant before their inclusion in the study. Confidentiality was ensured, and all data collected was kept anonymous and stored securely to protect participants' privacy. The study was conducted in accordance with the guidelines and regulations set forth by the ethical review committee of the hospital.

E. Data Collection Tools and Statistical Analysis

The ProQOL scale (Ver. 5) was used to assess the prevalence of CS, CF (STS and BU) in the study population. The values on the ProQOL were expressed as descriptive statistics such as frequencies and percentages to determine the prevalence of CS, STS and BU. A demographic survey-based questionnaire was self-administered by the participants as a means to gather information about their age, gender, educational background, years of experience and other relevant demographic characteristics. Pearson chi-square test and exact probability test were employed to assess the correlation of these demographic and professional factors with the prevalence of CS, STS and BU. Multiple regression analysis was conducted to explore the relationships between the independent variables (demographic and work-related components) and the dependent variables (CS, STS and BU).

Statistical Package for Social Sciences software by IBM version 22 (SPSS, Inc. Chicago, IL) was used for analysis. All statistical analysis was done using two tailed tests. P value less than 0.05 was statistically significant. For CS, STS and BU, the overall score for each domain was categorized into low, average and high according to the reported cut-off points of the ProQOL scale version 5. The individual items on the ProQOL scale for CS, STS and BU were scored separately and tabulated, while the overall score for each of the three key parameters was presented as a range, with mean and standard deviation (SD).

Socio-demographics parameters	N (%)
Age in years	
. 25 - 29	83 (55.0%)
. 30 - 34	22 (14.6%)
. 35 - 39	20 (13.2%)
. More than 40	26 (17.2%)
Gender	
. Male	65 (43.0%)
. Female	86 (57.0%)
Marital status	
. Single	84 (55.6%)
. Married	64 (42.4%)
. Divorced	2 (1.3%)
. Widowed	1 (0.7%)
Family Status	
. Living Independent	65 (43.0%)
. Living with family	86 (57.0%)
Social support by	
. Family	110 (72.8%)
. Partner	15 (9.9%)
. Community member (Friends, colleagues)	26 (17.2%)
Area of working	
. Adult ED (ACU/Resuscitation)	106 (70.2%)
. Adult ED (Triage)	14 (9.3%)
. Pediatric ED	26 (17.2%)
. Pediatric ED (Triage)	1 (0.7%)
. Obstetrics and Gynecology ED	1 (0.7%)
. Fast track	3 (2.0%)
Job title	
. Senior Registrar	11 (7.3%)
. Consultant	17 (11.3%)
. Resident	61 (40.4%)
. Fellow	7 (4.6%)
. Registered Nurse	41 (27.2%)
. Charge Nurse	14 (9.3%)
Years of experience	
. 1-4 years	95 (62.9%)
. 5 or more years	56 (37.1%)
ACU Acute Care Unit; ED – Emergency Department	

Table 1: Socio-demographic characteristics of study participants from the emergency department

3. Results

The study included a total of 151 ED medical professionals, in the age group of 25 to 60 years (mean age of 27.2 ± 12.9 years). The majority of participants in the study sample were in the age group of 25-29 years (55%), single (55.6%), females (57%), had family support (72.8%), worked in the adult ED (70.2%) and had ED experience for the last 1—4 years (62.9%). The sample included 63.5% doctors versus 36.5% nurses. The summary of demographic characteristics of the study population is presented in Table 1.

As per ProQOL version 5, the overall score of CS was 37.7 ± 6.84, indicating a moderate level of CS. The STS and BU scores were 24.4 ± 6.93 and 25.6 ± 6.25 respectively, indicating borderline moderate levels of CF. Table 2 presents the summary of overall scores of CS, STS and BU.

The levels of CS, STS and BU were further correlated with each demographic variable to elucidate the demographic risk factors that significantly impacted CS and CF. In this context, Table 3 presents the correlation of CS with the demographic parameters of the study population. The CS levels significantly increased with advancing age (younger age [25-29 years versus >40 years]; p=0.0344). Significantly lower CS levels were reported among females versus males (p=0.0023). No other demographic factors had a significant correlation with CS.

The correlation of the levels of STS with demographic factors is presented in Table 4. Gender was the only factor that impacted STS. Significantly higher STS levels were reported among females versus males (p=0.0284).

Multiple demographic factors impacted the BU levels in the study population. Significantly lower BU levels were reported among females versus males (p=0.0274). The BU levels significantly increased with advancing age (p=0.0005). Nurses in the ED reported a significantly higher BU versus doctors (p=0.0295). No other demographic factors showed a significant correlation with BU, as summarized in Table 5.

4. Discussion

Past studies regarding CS, CF and BU among medical professionals in Saudi Arabia have focused mostly on nurses in hospital settings [7], [8]. We did not come across any previous study from Saudi Arabia that reported CS, BU and STS among emergency medicine professionals, except a study by Alshammari et al which reported only CF (without directly assessing CS) in a cohort of 125 Saudi emergency nurses [9]. We also did not find any past evidence reporting the levels of CS, BU and STS among emergency physicians in the country. Though a study from Dammam in Saudi Arabia, focused on emergency physicians, it assessed only BU (without including CS and STS) [10]. A study in the Makkah region did report all three parameters of CS, CF and BU among physicians in general across various medical specialties, but did not exclusively focus on emergency care consultants and residents [11] Therefore, we chose to conduct this study in a cohort of 151 emergency physicians and nurses, in a large tertiary care hospital in Saudi Arabia, as emergency medical professionals are highly vulnerable to deranged levels of CS, BU and STS [2]. To the best of our knowledge, this is the first study to provide an insight into the prevalence and risk factors for CS, BU and STS, among Saudi emergency physicians and nurses. We believe the results of this study shall prompt and encourage emergency care researchers across Saudi Arabia, to conduct similar studies, among emergency medicine teams elsewhere in the country as well.

As per the scoring criteria set by the ProQOL version 5, moderate levels of CS, STS and BU were reported in our study population. However, in comparison to the mean scores of STS and BU, the mean CS score was higher, indicating that physicians and nurses in our ED did derive some sense of gratification and satisfaction by caring for critically ill patients. However, as expected, the perpetual pressure of being compassionate towards patients, perhaps took its toll on their stress levels, causing a certain degree of emotional drainage and physical exhaustion. This is reflected in the moderate levels of STS (24.4 ± 6.93) and BU (25.6 ± 6.25) seen in our study.

			Compassion Satisfaction		Secondary Traumatic Stress		Burnout	
Socio-demographics parameters	Statistics	n	Statistics	p-value	Statistics	p-value	Statistics	p-value
Overall Score	Mean ± SD	151	37.7 ± 6.84	.	24.4 ± 6.93	.	25.6 ± 6.25	.
	Min, Max	151	11.0, 50.0	.	11.0, 43.0	.	11.0, 42.0	.

Table 2: Overall scores for compassion satisfaction, burnout and secondary traumatic stress among study participants from the emergency department

Socio-demographic parameters	Least Square Mean Estimates			Least Square Mean difference	
	Statistics*	p-value#	Comparison	Statistics*	p-value$
Age in years					
. 25 - 29	35.9 ± 1.99, [31.98, 39.85]	0.2107	25 - 29 Vs More than 40	-7.5 ± 3.49, [-14.36, -0.56]	0.0344
. 30 - 34	39.0 ± 1.58, [35.83, 42.07]	.	30 - 34 Vs More than 40	-4.4 ± 2.70, [-9.76, 0.92]	0.1039
. 35 - 39	41.6 ± 1.96, [37.74, 45.50]	.	35 - 39 Vs More than 40	-1.8 ± 2.17, [-6.04, 2.54]	0.4208
. More than 40	43.4 ± 2.16, [39.10, 47.65]	.			.
Gender					
. Male	41.8 ± 1.26, [39.29, 44.26]	0.0023	Male vs Female	4.0 ± 1.29, [1.45, 6.53]	0.0023
. Female	37.8 ± 0.95, [35.91, 39.66]	.			.
Marital status					
. Single	40.4 ± 1.33, [37.80, 43.05]	0.3888	Single Vs Non-Single	1.3 ± 1.49, [-1.66, 4.23]	0.3888
. Any other	39.1 ± 1.00, [37.16, 41.11]	.			.
Family Status					
. Independent	40.1 ± 1.02, [38.11, 42.13]	0.5663	Independent Vs Living with family	0.7 ± 1.20, [-1.69, 3.07]	0.5663
. Living with family	39.4 ± 1.16, [37.14, 41.73]	.			.
Social support by					
. Family	39.1 ± 0.92, [37.23, 40.87]	0.6701	Family Vs Community	-0.4 ± 1.63, [-3.62, 2.82]	0.8056
. Partner	40.8 ± 1.93, [37.01, 44.64]	.	Partner Vs Community	1.4 ± 2.45, [-3.47, 6.21]	0.5757
. Community member (Friends, colleagues)	39.5 ± 1.46, [36.56, 42.35]	.			.
Area of working					
. Adult Care	39.2 ± 0.97, [37.30, 41.16]	0.4869	Adult Care Vs Pediatric care	-1.1 ± 1.57, [-4.21, 2.01]	0.4869
. Pediatric care	40.3 ± 1.39, [37.57, 43.08]	.			.
Job title					
. Doctor	40.5 ± 1.06, [38.43, 42.61]	0.2753	Doctor Vs Nurse	1.5 ± 1.35, [-1.19, 4.14]	0.2753
. Nurse	39.0 ± 1.20, [36.66, 41.42]	.			.
Years of experience					
. 1-4 years	39.9 ± 1.73, [36.53, 43.35]	0.9010	1-4 years Vs 5 or more years	0.3 ± 2.58, [-4.78, 5.43]	0.9010
. 5 or more years	39.6 ± 1.42, [36.81, 42.42]	.			.

-* Estimate ± Standard Error, [Lower 95% CI, Upper 95% CI]
-# p-value was computed from F-Statistics
-$ p-value was computed from T-Statistics

Table 3: Multiple regression analysis: correlation of secondary traumatic stress score with demographic factors of the study population in the emergency department

In our review of the global literature, we came across varying patterns of CS, BU and STS among emergency care professionals, reported from different parts of the world. In an American cohort of emergency nurses, Hooper et al reported moderate-to-high levels of CF and BU in 86% and 82% participants respectively. The study also reported greater risk of low CS among emergency nurses [12]. In contrast to this, Hunsaker et al, reported low-to-moderate levels of CF and BU and high levels of CS, in a study involving 278 American nurses working in the ED [13]. In both these American studies, an inverse relationship can be clearly seen between the levels of CS and CF. In our study too, the score of CS was higher than STS and BU, however, all three parameters were still within the moderate ranges of the ProQOL scale.

The trend of moderate levels of CS and CF, as seen in our study, has been reported by other researchers as well. Graham et al studied a group of 100 emergency care professionals from an American academic ED and reported moderate CS and BU [14]. In a Chinese cohort of 342 ED physicians

Socio-demographic parameters	Least Square Mean Estimates			Least Square Mean difference	
	Statistics*	p-value#	Comparison	Statistics*	p-value$
Age in years					
. 25 - 29	26.2 ± 1.84, [22.51, 29.80]	0.5474	25 - 29 Vs More than 40	3.9 ± 3.25, [-2.49, 10.36]	0.2274
. 30 - 34	25.6 ± 1.63, [22.37, 28.83]	.	30 - 34 Vs More than 40	3.4 ± 2.69, [-1.93, 8.70]	0.2097
. 35 - 39	22.2 ± 2.07, [18.11, 26.30]	.	35 - 39 Vs More than 40	-0.0 ± 2.24, [-4.44, 4.43]	0.9972
. More than 40	22.2 ± 2.19, [17.89, 26.53]	.			.
Gender					
. Male	22.3 ± 1.26, [19.84, 24.84]	0.0284	Male vs Female	-3.0 ± 1.37, [-5.74, -0.33]	0.0284
. Female	25.4 ± 1.07, [23.25, 27.49]	.			.
Marital status					
. Single	24.5 ± 1.41, [21.67, 27.24]	0.5985	Single Vs Non-Single	0.8 ± 1.58, [-2.29, 3.95]	0.5985
. Any other	23.6 ± 1.06, [21.53, 25.72]	.			.
Family status					
. Independent	23.2 ± 1.08, [21.07, 25.33]	0.1867	Independent Vs Living with family	-1.7 ± 1.27, [-4.21, 0.83]	0.1867
. Living with family	24.9 ± 1.23, [22.46, 27.32]	.			.
Social support by					
. Family	24.2 ± 0.98, [22.23, 26.09]	0.1208	Family Vs Community	2.8 ± 1.72, [-0.64, 6.18]	0.1108
. Partner	26.6 ± 2.04, [22.53, 30.61]	.	Partner Vs Community	5.2 ± 2.59, [0.05, 10.30]	0.0478
. Community member (Friends, colleagues)	21.4 ± 1.55, [18.33, 24.46]	.			.
Area of working.					
. Adult Care	23.8 ± 1.03, [21.71, 25.80]	0.7331	Adult Care Vs Pediatric care	-0.6 ± 1.67, [-3.87, 2.73]	0.7331
. Pediatric care	24.3 ± 1.48, [21.41, 27.25]	.			.
Job title.					
. Doctor	23.1 ± 1.12, [20.87, 25.30]	0.1835	Doctor Vs Nurse	-1.9 ± 1.43, [-4.74, 0.92]	0.1835
. Nurse	25.0 ± 1.27, [22.48, 27.52]	.			.
Years of experience.					
. 1-4 years	23.0 ± 1.83, [19.38, 26.61]	0.4447	1-4 years Vs 5 or more years	-2.1 ± 2.74, [-7.51, 3.31]	0.4447
. 5 or more years	25.1 ± 1.50, [22.12, 28.06]	.			.

-* Estimate ± Standard Error, [Lower 95% CI, Upper 95% CI]
-# p-value was computed from F-Statistics
-$ p-value was computed from T-Statistics

Table 4: Multiple regression analysis: correlation of secondary traumatic stress score with demographic factors of the study population in the emergency department

and nurses, all participants manifested depressive symptoms, 27.8% had low CS, while the majority had moderate levels of CF and BU [15]. In a Turkish cohort of 150 emergency residents, Campbell et al demonstrated a high level of job dissatisfaction, accompanied by moderate levels of CS, BU and STS [16]. Dasan et al conducted a survey among 681 UK NHS emergency consultants, to assess the levels and associated factors of CS and CF. Nearly 80% emergency consultants in this study reported moderate CS and BU whereas 44.5% reported moderate STS [17]. However, in another Turkish study comprising a mix of 294 emergency care physicians and nurses, Sahan S et al demonstrated high levels of STS and BU and thus high levels of CF in 73.5% of the nurses and 67% of the physicians [18].

In our study, the majority of the participants worked in the adult ED. Therefore, we were unable to effectively estimate the CS and CF levels of professionals in pediatric or gynecological EDs, though in our study we did not find working in the pediatric ED as a significant risk factor impacting the levels of CS, STS and BU. However, past evidence has highlighted the high risk of poor CS and high CF levels among professionals in the pediatric ED. Nilan et al assessed the levels of CS, BU and STS among 177 physicians in the pediatric ED. Overall, 26% had low CS scores, 26% had high BU scores and 20% had high STS scores; thus, placing a significant number of pediatric ED professionals in the study, at a risk of CF [19]. Hence, we recommend that studies especially focused on pediatric ED professionals be conducted in hospitals in Saudi Arabia, to generate evidence on the levels of CS and CF among this important cohort. In our study, we included only ED doctors and nurses, excluding all other skeletal and supportive staff, as we wanted to measure the CS and CF levels only among professionals who were directly involved in delivering patient care. In a study conducted at the University of Chicago Medicine's ED, Bales M et al found average levels of CS, BU and STS in a cohort of 152 emergency care physicians, nurses, supportive ED teams and ancillary staff [20]. We recommend that ancillary ED teams, paramedics and other support staff be also be included in future studies on this topic from our country.

In an Iranian study on 300 residents, across various specialties in a training hospital, Jahanian et al reported the highest job-related BU among emergency residents [21]. In sharp contrast to this, in a study conducted at the Mayo Clinic College of Medicine, Bellolio et al surveyed 255 residents across various specialties including the ED and concluded that EM residents had similar levels of CS, BU and STS as compared to their peers from other departments [22].

In our opinion, past evidence does not show any uniform pattern or trend of CS, BU and STS across studies. Our literature review highlights the divergence of findings from past studies on this subject. We believe this is most likely due to multiple demographic factors that are known to affect the levels of CS, BU and STS, in varying degrees in any medical care setting. In our study, the levels of CS and BU significantly improved as the age of the ED professionals advanced from 25-29 years to >40 years. The levels of STS reduced with age, but the difference in the levels of STS between the younger and older age groups could not reach statistical significance. Also, females had lower CS and

Socio-demographic parameters	Least Square Mean Estimates			Least Square Mean difference	
	Statistics*	p-value#	Comparison	Statistics*	p-value$
Age in years					
. 25 - 29	28.8 ± 1.51, [25.87, 31.83]	0.0005	25 - 29 Vs More than 40	11.1 ± 2.66, [5.83, 16.35]	<.0001
. 30 - 34	26.1 ± 1.34, [23.49, 28.78]	.	30 - 34 Vs More than 40	8.4 ± 2.20, [4.02, 12.72]	0.0002
. 35 - 39	21.2 ± 1.70, [17.87, 24.58]	.	35 - 39 Vs More than 40	3.5 ± 1.84, [-0.17, 7.10]	0.0612
. More than 40	17.8 ± 1.79, [14.22, 21.30]	.			.
Gender					
. Male	22.2 ± 1.09, [20.09, 24.41]	0.0274	Male vs Female	-2.5 ± 1.12, [-4.69, -0.28]	0.0274
. Female	24.7 ± 0.82, [23.11, 26.37]	.			.
Marital status					
. Single	22.8 ± 1.15, [20.50, 25.06]	0.2693	Single Vs Non-Single	-1.4 ± 1.29, [-3.99, 1.12]	0.2693
. Any other	24.2 ± 0.87, [22.49, 25.93]	.			.
Family status					
. Independent	22.9 ± 0.88, [21.19, 24.68]	0.2830	Independent Vs Living with family	-1.1 ± 1.04, [-3.19, 0.94]	0.2830
. Living with family	24.1 ± 1.01, [22.07, 26.04]	.			.
Social support by					
. Family	24.4 ± 0.80, [22.78, 25.94]	0.5131	Family Vs Community	1.4 ± 1.41, [-1.37, 4.21]	0.3159
. Partner	23.2 ± 1.67, [19.87, 26.49]	.	Partner Vs Community	0.2 ± 2.12, [-3.96, 4.44]	0.9097
. Community member (Friends, colleagues)	22.9 ± 1.27, [20.43, 25.45]	.			.
Area of working					
. Adult Care	23.9 ± 0.85, [22.22, 25.57]	0.5562	Adult Care Vs Pediatric care	0.8 ± 1.37, [-1.90, 3.51]	0.5562
. Pediatric care	23.1 ± 1.21, [20.70, 25.48]	.			.
Job title					
. Doctor	22.2 ± 0.92, [20.39, 24.02]	0.0295	Doctor Vs Nurse	-2.6 ± 1.17, [-4.89, -0.26]	0.0295
. Nurse	24.8 ± 1.04, [22.72, 26.84]	.			.
Years of experience					
. 1-4 years	21.5 ± 1.50, [18.50, 24.43]	0.0723	1-4 years Vs 5 or more years	-4.1 ± 2.24, [-8.49, 0.37]	0.0723
. 5 or more years	25.5 ± 1.23, [23.09, 27.96]	.			.

-* Estimate ± Standard Error, [Lower 95% CI, Upper 95% CI]
-# p-value was computed from F-Statistics
-$ p-value was computed from T-Statistics

Table 5: Multiple regression analysis: correlation of burnout score with demographic factors of the study population in the emergency department

higher STS versus males in the study, which seems to be in congruence with the known inverse relationship between CS and STS. However, contrary to expectation, the females in the study had a significantly lower BU versus males. This can most likely be attributed to the higher resilience and tolerance levels among females, which helps them to better resist the impact of BU [23], [24]. Overall, these findings are in congruence with past evidence that has identified advancing age and female gender as factors influencing the levels of CS, BU and STS in emergency care. Past studies have also identified higher levels of BU among nurses in the ED versus doctors, a finding that was also reported in our study population [2].

Marital status, family and social support, income level, educational background, work-shifts and type of ED did seem to impact the levels of CS, BU and STS in our study, in varying degrees, but the impact was not statistically significant. However, these have been identified as significant influencing factors by past studies [2]. We believe that future studies from Saudi Arabia should investigate the impact of these factors in a larger study sample with a more balanced demographic mix.

5. Conclusion

Overall, the study highlights the need for improving the professional and personal satisfaction among ED professionals in large tertiary hospitals in Saudi Arabia. The study also raises concerns regarding the rising levels of fatigue and emotional drainage among ED professionals in the country. This is a growing cause of concern warranting immediate redressal through hospital authorities and the government, for improving the quality of life of ED professionals in the

country. It also highlights the need to conduct larger, country-wide studies to generate robust evidence on the levels of CS, BU and STS among ED professionals.

Conflict of interest

The authors declare no conflict of interests. All authors read and approved final version of the paper.

Authors Contribution

All authors contributed equally in this paper.

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