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ORIGINAL RESEARCH

Prevalence of burnout syndrome and coping factors among the staff of emergency department at the hospitals of Jazan, Saudi Arabia

Fahad Khan Azeez[1,*], Maseer Khan[1], Manal Almalki[1], Asim Mehmood[1], Mohd Shanawaz[1]

[1]Department of Public Health, College of Nursing and Health Sciences, Jazan University, 82726 Jazan, Saudi Arabia

***Correspondence**
fazeez@jazanu.edu.sa
(Fahad Khan Azeez)

Abstract

Emergency departments in hospitals are environments characterized by high levels of stress, presenting significant physical and emotional demands for the professionals employed. The staff could be exposed to various forms of burnout and should be highly efficient with traits of resiliency to cope with such stress. Burnout syndrome (BOS) is characterized by high levels of emotional exhaustion, a sense of depersonalization and a feeling of lack of personal achievement. The objective of the study was to find the prevalence of BOS and the coping mechanisms among emergency department staff at different hospitals of Jazan region in Saudi Arabia. A cross-sectional study was conducted using Maslach Burnout Inventory scale, a widely adopted tool for measuring burnout, to collect data from eight hospitals in Jazan. The modified Brief Coping Orientation to Problems Experienced (COPE) inventory was used to assess the coping mechanisms. Emergency department professionals including medical, nursing, administrative and paramedic staff were studied. Prevalence was calculated and multi-regression analysis was performed. BOS, with all the three characteristics, was prevalent among only 7 members (3.5%), with higher scores of emotional exhaustion and depersonalization among 40 (20%) and 125 (62.5%) respectively and low scores of personal accomplishments among 38 (19%). The highest coping mechanism adopted was religious coping, which was common among 92 members of staff (46%). The study found a low overall prevalence of the BOS among the emergency department staff. It was relatively higher among nurses, and the most used coping mechanism was religious coping. The higher depersonalization scores should be investigated further and addressed accordingly.

Keywords

Burnout syndrome; Coping; Emergency departments; Stress; Saudi Arabia

1. Introduction

Emergency department (ED) professionals offer care to patients in their most acute state of illnesses. Witnessing trauma or death of patients, or participating in resuscitation, can be emotionally and physically demanding. These professionals are exposed to burnout syndrome (BOS) due to the seemingly high workloads and demands for care. World Health Organization (WHO) in its 11th revision of the international classification of diseases, defined burnout as "a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed" [1].

Burnout is associated with risks that could affect physical and mental health of the professionals [2]. The clinical symptoms of burnout could be attributable in its generic form to include tiredness, headaches, eating problems, insomnia, irritability, emotional instability and complex relationships with other people [2–4]. Some potential consequences of workplace burnout can be attributed to absenteeism, reduced productivity, increased error rates, poor decision making, loss of motivation and commitment [5–7], and in some instances, depression and post-traumatic stress disorders (PTSD) [8, 9]. By assessing the prevalence of burnout and most beneficial coping strategies, the studies can inform targeted interventions to improve staff well-being, reduce turnover, and enhance the quality of patient care in the ED setting.

The most widely used and studied instrument in the literature for measuring burnout is the Maslach burnout inventory (MBI) [10]. This scale consists of three dimensions defining burnout in workers: emotional exhaustion (EE), depersonalization (DP) and lack of personal achievement (PA). Emotional exhaustion is characterized by fatigue, where the professionals feel they can no longer participate on an emotional level owing to lack of energy. Depersonalization involves the development

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of negative attitudes and feelings towards others for whom the services are rendered, with little or no empathy [11]. A low personal accomplishment is a tendency in professionals to negatively value their capacity to carry out tasks and interact with others and feel unhappy or dissatisfied with the results of those tasks [11]. Depersonalization has also been termed cynicism in the more recent reporting, whereas professional efficacy is the term used for describing personal accomplishment [5].

A chronic buildup of stress and the likelihood of its symptoms among the ED staff, warrants an exploration into the ways of coping with burnout. Coping has been identified as an individual's effort to manage internal and external stressors and psychological distress resulting from those stressors [12, 13]. Studies have broadly categorized the coping strategies into positive and negative ways using various terms, such as good versus bad cope, adaptive versus maladaptive [14], problem-focused versus emotion-focused [15], approach verses avoid coping [16]. Research indicated that positive coping strategies (such as positive reframing, active coping) effectively reduce psychological distress, whereas other techniques (such as self-blame, avoidance) could be considered maladaptive [16]. Some studies have suggested formal strategies for coping such as critical incident stress debriefing [17] which involves a structured facilitator led group session with the participating employees. Task-oriented coping was associated with decreased risk of burnout, as compared emotion-oriented coping [18].

This study aimed to assess the prevalence of BOS among the ED staff of the hospitals using MBI scale, and to examine the coping mechanisms and resilience of ED staff using modified Brief COPE Inventory, primarily to provide an insight on burnout dynamics and facilitate in the future, a practical guidance for implementing tailored interventions. Few studies in the kingdom have analyzed burnout and work stress among health professionals of other departments and in different regions, however they have not categorized the professionals to include administrative and paramedic staff, rather just the physicians and nurses.

2. Materials and methods

2.1 Study design and population

A cross-sectional study was conducted in the emergency department of eight secondary and tertiary hospitals in the Jazan region. These 8 hospitals were selected from among the 20 hospitals using stratified random sampling technique. The selection of hospitals was based on the eight densely populated areas of Jazan province. Jazan is the southern-most located province in the Kingdom of Saudi Arabia, that borders with Yemen. Primary health centers were not considered in the study as most of the emergency and casualty cases are directed to the secondary and tertiary hospitals. All professionals working in the EDs of the selected hospitals were considered in the sample and were invited to participate in the survey. The list of staff employed in EDs was obtained from the administration of all selected hospitals (n = 229) and all of them were provided with the survey forms. The participants were categorized into (a) Medical, (b) Nursing (c) Administrative (reception and documentation staff) and (d) Paramedic (ambulance and first responders).

2.2 Study instruments

The data was collected by distributing the paper-based questionnaire to the participants who consented to participate in the study. A total of 229 members were provided with the surveys and 204 responses were obtained, of which 200 were included in the analysis, giving us an 89 percent response rate. Excluded participants were those with incomplete forms.

Questionnaire was divided into 3 sections. First section covered sociodemographic data (age, sex), and a mix of professional and personal characteristics (preference of working in ED, physical activity and lifestyle, number of sick leaves, sleep disorders). The second section included MBI questionnaire to assess BOS and the third section included a modified Brief COPE inventory, assessing different coping dimensions.

The tool used to measure the Burnout data was the 22-item MBI scale that evaluates three domains. EE with 9-item subscales (depletion of emotional resources, feelings of strain, and chronic fatigue), DP with 5-item subscales (negative or cynical attitudes toward patients), and PA with 8-item subscales (loss of a feeling of personal accomplishment at work). The items are in the form of statements about personal feelings and attitudes and expressed on a 7-point scale (0—"never" to 6—"everyday"). Considering the previous studies and as a convention, the standard scoring criteria for health professionals working in the ED was used. Staff members with high scores on the emotional exhaustion ($\geq$26) and depersonalization ($\geq$9), with a low personal accomplishment ($\leq$33) subscales were categorized as having BOS.

For exploring the coping mechanisms, a modified version of the Carver Coping Orientation to Problems Experienced (COPE) Inventory was used [19]. This questionnaire consists of 28 questions on a four-point Likert scale, that includes "I haven't been doing this at all", "I've been doing this a little bit", "I've been doing this a medium amount" and "I've been doing this a lot". This instrument is used to detect coping mechanisms and divides responses into 14 subscales: active coping; planning; positive reframing; acceptance; humor; turning to religion; using emotional support; using instrumental support; self-distraction; denial; venting; substance use; behavioral disengagement; and self-blame. However, owing to a strict ban on alcohol and drugs in the region, the questions about them were consensually omitted from the questionnaire.

2.3 Analysis

The data was collected and analyzed using SPSS software (Version 23.0, IBM Corp., Armonk, NY, USA). Sociodemographic variables and personal characteristics of the staff were tabulated. Demographic variables were compared with degree of burnout (Emotional exhaustion, Depersonalization and Personal achievement). The normality of the variables tested by the Kolmogorov-Smirnov test criteria showed no significant difference between the original variables and normal distribution. The skewness of all variables depicts negative values and Kurtosis showing >2 and histogram of the variables also captures non normality, thus Multilogistic linear

regression analysis was applied for the 3 domains of BOS (emotional exhaustion, degree of depersonalization and degree of personal achievement). Mean and standard deviation were extracted to show the variation in the percentage of study subjects practicing coping techniques. Kendall's-Tau test was used for assessing the relation between coping factors and degree of BOS.

3. Results

Out of the 229 participants, 204 responses were received, and 4 incomplete forms were excluded. The study provided the levels of emotional exhaustion, depersonalization, and personal achievement subscales of MBI, and the coping mechanisms prevalent among staff using modified Brief COPE inventory in the EDs of the selected hospitals. Results are presented in following three sections.

3.1 Sociodemographic factors and personal characteristics (Table 1)

The study included 86 males (43%) and 114 females (57%) (as shown in Table 1). There were 99 nurses (49.5%) representing about half of the study participants and 54 were medical doctors (27%). Among the study participants, 74 (37%) had trouble sleeping, 84 (42%) were involved in some form of physical activity while 116 (58%) of them did not prefer to be posted in the emergency department. Tea/coffee consumers (more than 4 cups) exceeded among females than males. When the personal characteristics were matched with troubled sleep, it was found that participants who consume more than 4 cups of tea/coffee had trouble sleeping. This was found to be statistically significant with Chi square = 8.27, df = 1, p = 0.004.

3.2 Prevalence of burnout syndrome (Table 2)

Forty (20%) of the study participants were diagnosed with high emotional exhaustion, while 125 (62.5%) of the study population was found to have high depersonalization. 38 participants (19%) were found to have a low score for the degree of personal achievement (as shown in Table 2). The prevalence of all the three factors among the staff was found among 7 (3.5%) study participants.

3.2.1 Degree of emotional exhaustion (EE)

High scores of EE were found in 40 staff members (20%) and among those 30 (75%) were non-Saudis. Among the 40 participants who had high scores for EE, 16 (40%) were nurses and 20 (50%) of them were aged between 31–35 years. From those who had high EE scores 33 (82.5%) were married (Table 3).

3.2.2 Degree of depersonalization (DP)

125 (62.5%) staff members were found to have high scores in DP. Nursing category comprised majority of the numbers having high scores of DP with n = 52 (41.6%) when compared with other professions, and this difference was found to be statistically significant. 72 (57.6%) were in the age group of

TABLE 1. Sociodemographic variables and personal characteristics of ED staff.

Sociodemographic variables	n	%
Gender		
Male	86	43.0%
Female	114	57.0%
Nationality		
Saudi	136	68.0%
Non-Saudi	64	32.0%
Professional role		
Medical	54	27.0%
Nursing	99	49.5%
Paramedic	27	13.5%
Administrative	20	10.0%
Age		
26–30	30	15.0%
31–35	75	37.5%
36–40	73	36.5%
>40	22	11.0%
Marital status		
Single	83	41.5%
Married	117	58.5%
Smoking		
Yes	62	31.0%
No	138	69.0%
Consumption of tea/coffee more than 4 cups a day		
Yes	82	41.0%
No	118	59.0%
Trouble sleeping		
Yes	74	37.0%
No	126	63.0%
Playing any sport regularly or involved in physical activity		
Yes	84	42.0%
No	116	58.0%
Do you prefer working in ED		
Yes	80	40.0%
No	116	58.0%
Have you taken more than 4 sick leaves in a year		
Yes	62	31.0%
No	138	69.0%

ED: Emergency department.

TABLE 2. Prevalence of degree of emotional exhaustion, depersonalization and personal achievement.

Prevalence of burnout	High n (%)	Moderate n (%)	Low n (%)
Degree of emotional exhaustion	40 (20.0%)	80 (40.0%)	80 (40.0%)
Degree of depersonalization	125 (62.5%)	54 (27.0%)	21 (10.5%)
Degree of personal achievement	139 (69.5%)	23 (11.5%)	38 (19.0%)

TABLE 3. Degree of burnout versus sociodemographic characteristics.

Socio demographic characteristics	Emotional Exhaustion High* (n = 40)		Depersonalization High* (n = 125)		Personal Achievement Low* (n = 38)	
	n (%)	*p*	n (%)	*p*	n (%)	*p*
Nationality						
Saudi	10 (25.0%)	0.160	34 (27.2%)	0.180	12 (31.6%)	0.190
Non-Saudi	30 (75.0%)		91 (72.8%)		26 (68.4%)	
Professional role						
Medical	6 (15.0%)	0.010	25 (20.0%)	0.006	42 (21.0%)	0.390
Nursing	16 (40.0%)		52 (41.6%)		95 (47.5%)	
Paramedic	10 (25.0%)		27 (21.6%)		39 (19.5%)	
Administrative	8 (20.0%)		21 (16.8%)		24 (12.0%)	
Age						
26–30	2 (5.0%)	0.040	4 (3.2%)	0.001	18 (9.0%)	0.130
31–35	20 (50.0%)		72 (57.6%)		116 (58.0%)	
36–40	12 (30.0%)		41 (32.8%)		54 (27.0%)	
>40	6 (15.0%)		8 (6.4%)		12 (6.0%)	
Marital status						
Single	7 (17.5%)	0.250	26 (20.8%)	0.010	56 (28.0%)	0.710
Married	33 (82.5%)		99 (79.2%)		144 (72.0%)	

**High scores in Emotional exhaustion and depersonalization and low scores in personal achievement are considered as BOS.*

31–35 years. Out of 125 participants who had high scores, 99 (79.2%) were married (Table 3).

3.2.3 Lack of personal achievement (PA)

38 (19%) were found to have low scores (positive to be considered in BOS) for PA. About 95 (47.5%) nurses were found to have low PA scores and majority of the participants were from the 31–35 age group. And consistently, the highest number of people with a low score of PA were married 144 (72%) (Table 3).

While considering EE, nursing staff was found to be more affected (1.012) than medical staff (reference category) (Table 4). Medical doctors (1.62) and nursing staff (1.64) were affected more with degree of DP when compared with administrative staff. Medical doctors were affected 2.5 times more than administrative staff with low scores in personal achievement (as shown in Table 4). Nursing staff had an odds ratio of approximately 4 times more than administrative staff, which infers that they are at a 4 times higher risk of scoring low in degree of personal achievement. Medical staff had approximately twice the risk of being affected with BOS compared to administrative staff.

3.3 Resilience and coping factors using COPE inventory (Table 5)

Most of the participants said they seldom use any of the coping methods (I usually do this a little bit) however religious coping was found to be more (46% of "I usually do this a medium amount" and "I usually do this a lot"). While means with Standard Deviation (SD) were calculated for the 4 categories of responses (1 = I usually don't do this at all, 2 = I usually do this little bit, 3 = I usually do this to medium, 4 = I Usually do this a lot), it was found that majority of the participants had adopted religious coping (2.34 mean ± 0.91 SD) followed by self-distraction (2.36 mean ± 0.95 SD) and Denial (2.33 mean ± 0.93 SD) (as shown in Table 5).

The 13 coping methods utilized by the participants were assessed against degree of EE, DP and PA (Table 6).

3.3.1 Emotional exhaustion vs. coping mechanisms

It was found that study sample with higher EE tends to cope mainly by using instrumental support ($r = 0.330$ and $p < 0.001$ followed by involvement in religious activities ($r = 0.091$, $p = 0.199$) and by active coping methods ($r = 0.019$, $p = 0.788$)

TABLE 4. Distribution of EE, DP and PA among ED staff.

Multilogistic linear regression analysis	Professional role	Exp (B)	*df*	Sig
EE				
The reference category is Medical	Nursing	1.012	1	0.962
	Paramedic	0.478	1	0.016
	Administrative	0.615	1	0.160
DP				
The reference category is Administrative	Medical	1.627	1	0.160
	Nursing	1.647	1	0.104
	Paramedic	0.777	1	0.463
PA				
The reference category is Administrative	Medical	2.555	1	0.088
	Nursing	3.907	1	0.008
	Paramedic	2.129	1	0.179

EE: Emotional Exhaustion; DP: Depersonalization; PA: Personal Achievement.

TABLE 5. Prevalence of coping mechanisms and differences in mean and standard deviation.

Coping Mechanisms COPE scale	I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot	Mean ± SD
Focus on venting of emotions	80 (40.0%)	94 (47.0%)	14 (7.0%)	12 (6.0%)	1.79 ± 0.82
Positive reframing	68 (34.0%)	78 (39.0%)	40 (20.0%)	14 (7.0%)	2.00 ± 0.91
Humour	64 (32.0%)	74 (37.0%)	56 (28.0%)	6 (3.0%)	2.02 ± 0.85
Social support from family and friends	66 (33.0%)	78 (39.0%)	48 (24.0%)	8 (4.0%)	1.99 ± 0.86
Active coping	48 (24.0%)	100 (50.0%)	38 (16.0%)	14 (7.0%)	2.09 ± 0.84
Using instrumental support	54 (27.0%)	88 (44.0%)	40 (20.0%)	18 (9.0%)	2.11 ± 0.91
Religious coping	42 (21.0%)	66 (33.0%)	74 (37.0%)	18 (9.0%)	2.34 ± 0.91
Behavioural disengagement	44 (22.0%)	88 (44.0%)	48 (24.0%)	20 (10.0%)	2.22 ± 0.90
Self-distraction	42 (21.0%)	68 (34.0%)	66 (33.0%)	24 (12.0%)	2.36 ± 0.95
Denial	43 (21.5%)	70 (35.0%)	66 (33.0%)	21 (10.5%)	2.33 ± 0.93
Acceptance	40 (20.0%)	96 (48.0%)	50 (25.0%)	14 (7.0%)	2.19 ± 0.84
Planning	47 (23.5%)	87 (43.5%)	36 (18.0%)	30 (15.0%)	2.25 ± 0.98
Self-blame	38 (19.0%)	82 (41.0%)	58 (29.0%)	22 (11.0%)	2.32 ± 0.91

COPE: Carver Coping Orientation to Problems Experienced; SD: Standard Deviation.

(Table 6).

3.3.2 Depersonalization vs. coping mechanisms

When high values in DP were assessed for coping methods, it was found that people tend to use instrument support (r = 0.219, p = 0.001) and they seek support from the family and friends (r = 0.101, p = 0.115) for resiliency (Table 6).

3.3.3 Degree of personal achievement vs. coping mechanisms

Low PA score corresponds to BOS, and it was noted that high scores had an inverse relation with many of the coping mechanisms for this section. Most participants with low score in PA were found to cope by using instrumental support (r = −0.199, p = 0.002) followed by active coping (r = −0.132, p = 0.040). Participants with low personal achievement were seeking social support from family and friends (r = −0.114, p = 0.74). It was found that positive reframing (r = −0.113, p = 0.75) was also considerable used (Table 6).

4. Discussion

This study included 4 categories of ED staff from eight secondary and tertiary services hospitals. The aim was to find the prevalence of BOS and to get insights on the coping mechanisms used by the ED staff. This is the only study in the region to include administrative and paramedic staff along with the medical and nursing category.

Considering the three variables of the MBI scale, high scores of EE and DP, and low scores of PA; only a 3.5 percent prevalence of BOS was found among the ED staff. Although,

TABLE 6. Correlation of coping factors with degree of burnout.

Kendall's two tail test with *r* as correlation coefficient	Emotional exhaustion	Depersonalization	Personal achievement
Focus on and venting of emotions			
r	−0.261†	−0.117	−0.058
Sig.	<0.001	0.073	0.374
Positive reframing			
r	−0.221*	−0.059	−0.113
Sig.	0.002	0.355	0.075
Humour			
r	−0.061	−0.156*	−0.118
Sig.	0.387	0.015	0.066
Social support from family and friends			
r	−0.044	0.101	−0.114
Sig.	0.538	0.115	0.074
Active coping			
r	0.019	−0.021	−0.132*
Sig.	0.788	0.737	0.040
Using Instrumental Support			
r	0.330†	0.219†	0.199†
Sig.	0.001	0.001	0.002
Religious Coping			
r	0.091	−0.019	0.035
Sig.	0.199	0.769	0.580
Behavioural Disengagement			
r	−0.080	−0.110	−0.071
Sig.	0.260	0.082	0.262
Self-Distraction			
r	−0.130	−0.054	−0.084
Sig.	0.066	0.396	0.183
Denial			
r	−0.123	−0.084	−0.075
Sig.	0.084	0.184	0.237
Acceptance			
r	0.035	0.002	−0.024
Sig.	0.620	0.978	0.705
Planning			
r	0.083	−0.152*	0.029
Sig.	0.240	0.016	0.652
Self-Blame			
r	−0.035	−0.026	−0.045
Sig.	0.618	0.677	0.475

**Correlation is significant at the 0.05 level (2-tailed).*
†Correlation is significant at the 0.01 level (2-tailed).

some studies have grouped the higher and moderate levels for reporting burnout rates [20], this study considered only the higher levels to assess prevalence. The reason for this is to gain a clear and exact insight into the high burnout rates prevalent among the study population. In this study, high scores of EE were found among 20%, DP scores were found among 62.5% and low PA scores were found among 19% of the staff. These findings are of varying nature as compared in the literature. A study using a similar methodology in Abha Saudi Arabia, reported a 16.5% overall burnout, with significantly higher EE rates (80%) [21]. The huge disparity could be due to attributes such as the type of cases the emergency departments receive in these places, in addition to environmental and organizational factors, which warrants a separate investigation.

Nurses were found to have a have higher burnout scale scores compared to the doctors which was consistent with other studies [20, 21]. However, some reported very minimal variation between the doctors (57.89%) and nurses (50%) [22]. The variations of the burnout rates among nurses and doctors may be attributed to variations in workloads, and nature of work. For example, they may be asked to perform additional duties such as administrative tasks and excessive documentation.

Out of the 3 burnout dimensions, exhaustion is described as the closest representative of stress variable, and therefore is more predictive of stress-related consequences than the other two dimensions [5]. The literature has shown varying emotional exhaustion rates among professionals, ranging from 9.5% to 67% [23]. Nurses were more emotionally exhausted as compared to doctors in the findings. This is consistent with the results of other studies [20, 21]. The higher EE scores among Nursing staff could be likely due to the nature of their job, with several duties, longer times spent with patients and attendants, owing to the emotional demands of their work.

Prevalence of DP is much higher compared to EE in the current findings. 41.6% nurses had higher DP scores when compared with other professions and this difference was found to be statistically significant ($p \leq 0.05$). Depersonalization is characterized by cynical behavior and a negative attitude towards patients, and this study found that these scores were significantly higher in medical and nursing category as compared to administrative staff. However, some studies have reported much lower DP scores [21, 24]. These findings can form the basis of improving the general attitude and behavior of the health professionals towards the patients, through training sessions by human resource department or public relations.

Among paramedics, the prevalence of high burnout was found among 20% participants. A systematic review of prevalence of BOS reported that it ranges between 16% and 56% in paramedics [25]. Another study in Turkey found that paramedics had significantly lower EE scores compared to both doctors and nurses [26]. A study in Riyadh, found higher EE and DP scores (63% and 40%, respectively) among emergency medical professionals, mainly working in ambulance services [27]. Paramedics often work in high-stress situations, responding to emergencies, and providing critical care in challenging and unpredictable conditions. The nature of their work, which involves dealing with life-threatening situations, can contribute to emotional and physical exhaustion. The huge disparity among studies possibly results from the complex nature of the BOS itself and varying attributes such as working conditions and resources, in addition to a diverse choice of measurement tools.

In terms of overall coping mechanisms among the ED staff, the most prevalent was the use of religious coping followed by self-distraction and denial. Religious coping has also been reported by other study in the region as the primary method of coping among physicians [28]. In Malaysia, Chow *et al.* [29] reported a significant association with reduction in anxiety and positive religious coping.

Multilogistic linear regression found that respondents with higher EE scores were using instrumental support as the coping mechanism. Staff with high values in DP likely used instrument support and sought support from the family and friends. A study in Riyadh reported that the most frequently used coping strategy was talking with colleagues (87.4%) [27]. Though they have used a different tool, it could be related as equivalent to "seeking help from family and friends", which is consistent in this study. A high prevalence of burnout was noted among emergency medical personnel who were considered socially isolated compared to those who were socially active and sought support from family and friends [30]. Another perspective about coping among nurses is that, since nurses often work in teams and may have close-knit relationships with their colleagues, the strong support network and teamwork can help alleviate burnout by providing emotional support and shared responsibilities. Although studies have shown the correlation between the coping methods and burnout levels [18], this study did not see a significant correlation between the two.

It is worth noting that burnout is a complex issue influenced by various factors, and individual experiences may vary. Efforts to address burnout among health professionals should focus on providing adequate resources, support, and training, implementing strategies for stress management, and promoting a healthy work environment.

5. Conclusions

BOS with its collective characteristics is minimally prevalent among the studied ED staff, with highest among the nurses out of the four categories of professionals. Medical personnel risk being affected twice as likely as the administrative staff. The most used coping methods were religious coping followed by self-distraction and denial. A relatively higher depersonalization scores suggest a need to confirm these findings through behavioral assessment studies further. Employers can also advocate active ways of coping for the employees through workshops, training and support.

6. Limitations

For assessing burnout, the study did not categorize the hospitals based on its work capacity and the availability of resources in ED, as not all hospitals have the same workload and ED patient inflow. The study is a cross-sectional study and cannot assess any changes in the variables over time. In addition, the cause-and-effect relationship for individual dimensions of burnout could also have been evaluated. Although the study

focused only on the ED staff, the study sample could be considered small. Further studies are needed to understand the causal factors and their effects on each dimension of burnout and qualitative perceptions of the staff.

AVAILABILITY OF DATA AND MATERIALS

The data presented in this study are available on reasonable request from the corresponding author.

AUTHOR CONTRIBUTIONS

FKA and MK—designed the research study. MA—provided help with data collection protocols and ethical approval. AM and MS—collected the data using the questionnaire. MK—analysed the data. FKA, AM and MK—wrote the manuscript. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The ethical committee of Deanship of Research at Jazan University, Kingdom of Saudi Arabia, provided ethical approval for this research work through the reference number FS10-075, REC41/1-048. Confidentiality and anonymity of participants were assured, and agreeing to participate in the survey meant an implied consent.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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