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Measure Burnout Syndrome among Health Professionals in the Emergency Department at Al Jala Hospital Benghazi Libya

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ABSTRACT

Background: Emergency department (ED) health professionals are susceptible to burnout, poor health, and high stress, which can negatively impact patient satisfaction.
Objective: To determine the extent of burnout among employees in different professional roles in the emergency department in Al Jala hospital Benghazi, Libya.
Methods A cross-sectional study was conducted at Al Jala hospital in Benghazi, Libya, to determine the extent of burnout among 160 health professionals and nurses. The study used a validated questionnaire to assess personal and professional characteristics and the Maslach burnout inventory to assess emotional exhaustion, depersonalization, and reduced personal accomplishment.
Results: The study involved 120 emergency healthcare professionals, with 43.30% aged 30-39, with 57% males. About two thirds of the respondents (45.5%) were physicians while the remaining 29.2% were nurses. Most of the emergency healthcare professionals 78% experienced high emotional exhaustion, 79.9% depersonalization, and 3% low personal accomplishment. Smokers were at higher risk for burnout.
Conclusion: Preventive approaches are needed to improve work life quality among these professionals, especially in Benghazi city's emergency departments.

Keywords: Burnout, Emergency, Health professional, Libya

INTRODUCTION

The wellness of health professionals is crucial for delivering high-quality services and is a fundamental element for health service providers in enhancing organizational services (National Academies of Sciences). As a result, job-related burnout has a significant impact on work life, performance levels, job satisfaction, and employee retention and engagement (De Hert, 2020). Employment in a hospital's emergency department (ED) may involve demanding hours, substantial workload, and exposure to many stressors. A full-time position as an emergency department physician can strain emotional, mental, and general well-being (Koinis et al., 2015; Swancott et al., 2024). This burden may affect the performance of emergency department physicians in treating the sick and may lead to inadequate care (Hart et al., 2019).Recent research indicates that health professionals working in emergency environments are a high-risk group for burnout, poor wellbeing, impacted mental health, and substance misuse problems

(Tarcan et al., 2017). Chronic work-related stress can lead to a condition known as "burnout." Persistent interpersonal and occupational pressures can result in burnout (Dennis & Leach, 2007). Stress can have significant financial implications for health professionals, including effects on job satisfaction and personal well-being, diminished performance, reduced self-confidence and self-esteem, and impaired personal relationships. In the early 1970s, psychological literature was first recognized and documented burnout as a societal issue (Freudenberger, 1971). Poor staff wellness leads to increased patient dissatisfaction, medical errors, and a diminished standard of patient treatment (Hall et al., 2016). Burnout has been described as the work-related syndrome caused by prolonged exposure to numerous job stressors(Boutou et al., 2019).It has three dimensions: emotional exhaustion, depersonalization, and the low sense of personal achievement(Maslach et al., 1997; Schaufeli et al., 2009). Due to the high demands of emergency medicine including long workhours, high intensity situations, and the expectation to be an efficient healthcare provider, ED physicians are at high risk for burnout. To investigate the effects of burnout on career satisfaction and its potential causation of mental health issues, High levels of burnout exist among emergency department (ED) physicians, nurses and support staff. Waiting times, a demanding public hospital crowding, and inadequate human resources are common stressors in this setting (Howlett et al., 2015). However, Physician burnout has been explored worldwide (Hall et al., 2016). Several studies have reported high levels of burnout in ED staff. A Saudi study reported a Majority of the emergency healthcare professionals (88.7%) had high emotional exhaustion and the overall prevalence of burnout among healthcare professionals was 16.3% (Alqahtani et al., 2019). The frequency of burnout in the United States is 76.1% among residents (n=1,522; 21.1% of all US emergency medicine residents) (Lin et al., 2019). A recent study conducted in France revealed that 34.6% of emergency physicians were experiencing burnout (Tavakoli et al., 2018). Emergency department staff frequently reported concerns regarding exposure to stressors, with the most challenging factors identified as heavy workload, inadequate skill mix, inability to deliver optimal care, overcrowding, and incidents involving the death or abuse of a child (Moukarzel et al., 2019).The coping skills of emergency department staff are inadequate, providing a possibility for intervention and an opportunity for incentive activities (Bagherian & Hosseini, 2019; Flowerdew et al., 2012). Therefore, this study aims to identify factors associated with burnout syndrome among emergency department staff at Al-Jalaa Hospital, Benghazi, focusing on work pressure, fatigue, and cognitive decline, posing potential harm to patients.

MATERIALS & METHODS

A cross-sectional study was conducted from March to May 2024 in the Emergency Department (ED) at Al Jala accident Hospital in Benghazi, Libya. The survey included all professionals working in the ED, including medical, paramedical, and administrative and technical professionals. A sample of 130 participants was invited to participate by filling a demographic survey that captured age, gender, profession, years worked in the ED, relational status, and social support.

The data collection tool used was the Maslach Burnout Inventory (MBI-HSS), a well-established and validated tool. The questionnaire included two main sections: questions about personal and professional characteristics of physicians and nurses, and the Maslach Burnout Inventory (MBI) English version. The MBI-HSS tool scores participants on the three main components of the burnout syndrome: emotional exhaustion, depersonalization, and personal accomplishment.

The MBI-HSS questions were statements about personal attitudes or feelings of the participants, and answers must be provided on a 7-point scale based on the frequency

upon which the respondents experience such feelings. Higher scores in the DP and EE subscales, whereas lower scores in the PA subscale, are often associated with higher degrees of burnout. Participants were also categorized as having high, medium, or low degree of burnout for each subscale based on reference cut-offs used in the MBI-HSS manual.

A pilot study was conducted at one of the selected emergency departments on 10 participants to test the wording of the questionnaire to avoid interobserver variation or bias. Data collection was completely performed by the researchers.

STATISTICAL ANALYSIS

Quantitative data was entered into IBM SPSS (originally "Statistical Package for the Social Sciences") version 21 for analysis. Quantitative data was analysed using descriptive statistics to give a profile of organizational arrangements, workforce characteristics, professional development and training opportunities, services provided, diagnostic groups, and infrastructure features. Limited exploration of bi-variate factor relationships will be made in this study (for example, demographic and professional development). Then will explore the inferential statistics used in predictive models that include factors collected in the survey.

RESULT

Demographic characteristics:

All participants lived in Benghazi, and they were all Libyan citizens. They were all monolingual in Arabic, with the exception of one individual who spoke only English and another who spoke both Arabic and English. The total number of participants in this sample was 120, a response rate of 75% of a total of 160 workers who had access to the survey.

The majority of the sample, approximately 57%, is male, indicating a relative balance between genders in this study, though with a slight predominance of males. All participants resided in Benghazi, with the majority being citizens of Libya.

The age range is 26–66 years. Age Group 1 (Youngest): The youngest age group presented 47 participants, representing 39.2%. 52 participations represented 43.3%. of the study sample.

17 participants represented 14.2%, and just 3 participants represented 2.5%.

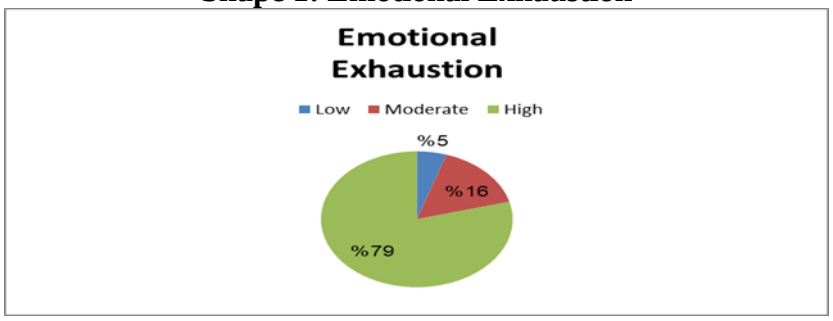
The largest group of the sample is single individuals, representing 50.8%, followed by married individuals at 43.3%. Categories such as divorced and widowed represent a small portion of the sample. The studied sample consists mainly of middle-aged, married males. Understanding the demographic distribution of this sample is crucial for interpreting the survey results and connecting them to the study's overall context or purpose.

The majority of the participants had completed their bachelor's or high school education, with only 8% holding a master's degree (n = 10 out of 120). The distribution of educational qualifications, with a percentage of 71.7%, indicates that the majority of participants possess certain educational qualifications, such as bachelor's or master's degrees, as determined by the questionnaire classification system. This can be an indicator of a high level of education among the participants. The other categories (1, 2, and 4) represent a much smaller percentage, indicating less diversity in the levels of educational qualifications among the participants. Occupations of participants. Calculating the response rate for each occupation group reveals that some have greater sub-group participation than others. Doctors comprised 45.5% of the whole sample, but for their subgroup, their response rate was 29.2% (n = 35) of the total number of nurses employed at the emergency department of AL JALA hospital. Administration officers made up 13.3% of the total sample, and their response rate was 12.5% (n = 15) out of a total of 120 technical support personnel. The work hours (work shift). Most of the participants (70%) work full-time, while 30% work part-time. This

could impact their level of access to health services and the time they have available to use them.

The sample distribution is by nationality. The result shows 90.8% of participants were Libyan citizens, and just 9.2% of them were foreign (non-Libyan). Sample Distribution by Years of Experience: 24.2% n = 29 of emergency department staff have less than one year of experience; 40% n = 48 of them have between 1 and 5 years' experience at the emergency department. The majority of the participants (62.5%), or n = 75, have access to a training program, indicating that most have received training. Just n = 45 represents 37.5% of the sample, showing that a substantial portion has not received training programs. Most participants (71.7%) are non-smokers, while 28.3% are smokers. This indicates a high rate of non-smokers among the participants. However, the findings suggest that the majority of participants are not smokers, indicating a lower prevalence of smoking among them.The distribution of individuals aligns with a healthy lifestyle It indicates that 62 individuals in the sample practice a healthy lifestyle. with 51.6% percent. However, out of the 58 participants in the sample, 48.4% do not follow a healthy lifestyle. The percentage of individuals who practice a healthy lifestyle is slightly higher than those who do not.

Shape 1: Emotional Exhaustion



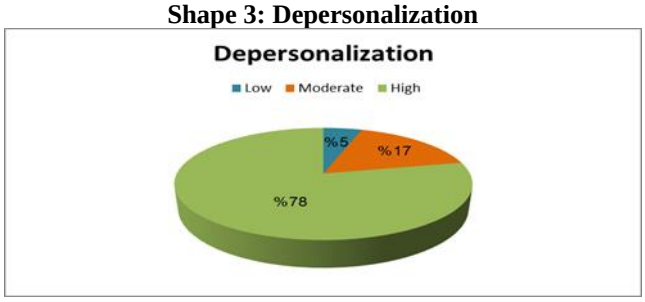
Shape 1 shows that the majority of participants (79.2%; n = 95) experience high levels of emotional exhaustion, indicating that burnout is a significant issue among the studied sample. 19 participants experienced moderate levels of emotional exhaustion. Approximately 15.8% of the sample feels moderate emotional exhaustion. However, a low percentage of the sample (5%) reported experiencing low levels of emotional fatigue. This finding aids in comprehending the prevalence of emotional exhaustion among the individuals under study and could suggest the necessity for intervention strategies aimed at promoting mental health and reducing high levels of emotional exhaustion.

Shape 2: Personal Accomplishment

This shape shows that a small number of individuals (only 4) had low levels of Personal Accomplishment. These individuals achieved scores ranging from 3 to 39 on the personal accomplishment scale. This percentage is very low, indicating that

few individuals feel low about their personal accomplishments. The majority of individuals (96) achieved scores between 0 and 30. This percentage (80.0%) indicates that the majority of individuals fall within this range, meaning that most individuals have high scores on the personal accomplishment scale. These results may be useful for understanding the overall distribution of personal accomplishment levels among individuals and analysing potential reasons for this distribution to take appropriate measures for improvement.

Shape 3: Depersonalization



The shape 3 shows that small number of individuals (only 6) who scored between 0 and 6 on the depersonalization scale. This very low percentage indicates that few individuals experience low levels of depersonalization. Depersonalization was high for most of the sample participants (n = 98). The largest percentage of individuals (78.3%) indicated a high level of depersonalization among the sample. This means that most individuals experience high levels of depersonalization.

Table 1: Correlation EE and job satisfaction

Correlation	EE -RESULT	JOP
EE - Pearson correlation Sig (2-tailed) N	1 120	-.074- .422 120
JOP Pearson correlation Sig (2-tailed) N	-.074- .422 120	1 120

A Pearson correlation coefficient of -0.074 indicates a very weak negative linear relationship between emotional exhaustion (EE_RESULT) and job satisfaction (JOP). The significance value (p-value) of 0.422 is much higher than the usual significance level of 0.05, indicating that the correlation is not statistically significant. In summary, there is no statistically significant linear relationship between emotional exhaustion (EE_RESULT) and job satisfaction (JOP) based on this data. The significance value (p-value) of 0.422 is much higher than the usual significance level of 0.05, indicating that the correlation is not statistically significant.

Table 2: Correlation JOP satisfaction and PA

	JOP	PA_ RESULT
JOP Pearson correlation Sig.(2-tailed) N	1 120	.061 .509 120
PA_RESULT Pearson correlation Sig.(2-tailed) N	.061 .509 120	1 120

Based on Table 2, the Pearson's correlation coefficient illustrates the relationship between job satisfaction (JOP) and personal achievement (PA).

The relationship between job satisfaction (JOP) and personal accomplishment (PA): The relationship between personal achievement (PA) and job satisfaction (JOP): The Pearson correlation coefficient (0.061) indicates a very weak and non-strong relationship between job satisfaction and personal achievement. The significance value (0.509 \) is greater than the common significance level (0.05) ،which means the relationship is not statistically significant and thus cannot be considered important statistically.

In other words, there is no statistically significant strong relationship between job satisfaction and personal achievement based on this data.

Table 3: Correlation JOP And DP

	JOP	DP_ RESULT
JOP Pearson correlation	1	-.012-
Sig.(2-tailed)		.898
N	120	120
DP_RESULT Pearson correlation	-.012-	1
Sig.(2-tailed)	.898	
N	120	120

Based on the attached table, it shows the relationship between job satisfaction (JOP) and depersonalization (DP) using Pearson's correlation coefficient: - The Pearson Correlation Coefficient of (-0.012) indicates a very weak and negative relationship between job satisfaction and depersonalization, but it is not strong at all. In other words, there is no statistically significant strong relationship between job satisfaction and depersonalization based on this data.

Table 4: Correlation gender with EE' PA' DP

Variables	**EE**	**PA**	**DP**
Gender Pearson correlation	1	1	1
Sig.(2-tailed)	.007	.471	.284
N	120	120	120

The table with the results of a Pearson correlation analysis between Gender and three variables: EE, PA, and DP. The table's details are as follows: Three variables to consider: Emotional Exhaustion (EE), Personal Accomplishment (PA), and Depersonalization (DP). Below is an explanation of these results: There is a slight correlation between gender and emotional exhaustion, indicating that gender may have a minor effect on levels of emotional exhaustion.

The correlation between gender and personal accomplishment (PA) is moderate, indicating a possible impact of gender on the feeling of personal accomplishment.

The correlation between gender and depersonalization (DP) is weak to moderate, suggesting that gender may have a slight impact on the feeling of depersonalization.

Table 5: Correlation Age with EE' PA' DP

Variables	**EE**	**PA**	**DP**
Age Pearson correlation	1	1	1
Sig.(2-tailed)	.064	.336	.035
N	120	120	120

The table presents Pearson correlation results between age and three variables: Emotional Exhaustion (EE), Personal Accomplishment (PA), and Depersonalization (DP).

This very low value indicates no significant correlation between age and emotional exhaustion. This means age does not significantly affect the level of emotional exhaustion among the sample participants, but it is likely not statistically significant. Personal Accomplishment (PA): Age may have a moderate impact on feelings of personal accomplishment, warranting further research to understand this effect. Depersonalization (DP) and age do not significantly impact levels of depersonalization.

Table 6: Correlation Marital Status with EE' PA' DP

Variables		EE	PA	DP
Marital Status	Pearson correlation	1	1	1
	Sig.(2-tailed)	.426	.056	.391
	N	120	120	120

The table indicates a moderate correlation between marital status and emotional exhaustion. Marital status may have a moderate impact on the level of emotional exhaustion among individuals in the sample. However**,** this value may be statistically significant. It is important to conduct a significant test to confirm whether this correlation is statistically meaningful.
The relation is very low and indicates no statistically significant correlation between marital status and personal accomplishment. Marital status does not significantly affect the level of personal accomplishment among individuals in the sample. This value indicates a moderate correlation between marital status and depersonalization. Marital status may have a moderate impact on the level of depersonalization among individuals in the sample.

Table 7: Correlation Educational Qualification with EE' PA' DP

Variables		EE	PA	DP
Educational Qualification	Pearson correlation	1	1	1
	Sig.(2-tailed)	.158	.031	.036
	N	120	120	120

The table shows that there is a low correlation between educational qualification and emotional exhaustion. Educational qualification may have a slight impact on the level of emotional exhaustion among the individuals in the sample. In addition, this value is very low and indicates no significant correlation between educational qualification and personal accomplishment. Educational qualification does not have a noticeable impact on the level of personal accomplishment among the individuals in the sample.
This value is very low and indicates no significant correlation between educational qualification and depersonalization. Educational qualification does not have a noticeable impact on the level of depersonalization among the individuals in the sample. Depersonalization (DP): There is no significant correlation between educational qualification and depersonalization, indicating that educational qualification does not significantly affect depersonalization levels.

Table 8: Correlation Experience with EE' PA' DP

Variables		EE	PA	DP
Experience	Pearson correlation	1	1	1
	Sig.(2-tailed)	.067	.281	.136
	N	120	120	120

The table presents the results of Pearson correlation analysis between experience and three variables: Emotional Exhaustion (EE), Personal Accomplishment (PA), and Depersonalization (DP).

- Emotional Exhaustion (EE): There is a low correlation between experience and emotional exhaustion, indicating that experience may have a slight effect on levels of emotional exhaustion.
- Personal Accomplishment (PA): There is a moderate correlation between experience and personal accomplishment, indicating that experience may have a moderate effect on levels of personal accomplishment.
- Depersonalization (DP): There is a low correlation between experience and depersonalization, indicating that experience may have a slight effect on levels of depersonalization.

Table 9: Correlation Smoking with EE' PA' DP

Variables	EE	PA	DP
Smoking Pearson correlation	1	1	1
Sig.(2-tailed)	.422	.273	.026
N	120	120	120

The table (9) displays the Pearson correlation analysis results between smoking and three variables: Emotional Exhaustion (EE), Personal Accomplishment (PA), and Depersonalization (DP).

- Emotional Exhaustion (EE): There is a moderate correlation between smoking and emotional exhaustion, suggesting that smoking may impact emotional exhaustion levels.
- Personal Accomplishment (PA): There is a low to moderate correlation between smoking and personal accomplishment, indicating that smoking may have a slight impact on the feeling of personal accomplishment.
- Depersonalization (DP): There is no significant correlation between smoking and depersonalization, indicating that smoking does not significantly affect depersonalization levels.

DISCUSSION

It is known that the hospital, especially the emergency department, is naturally a source of severe physical and mental fatigue. This study uses the Maslach Burnout Inventory (MBI) as the fundamental measurement tool to assess burnout. The high rate of burnout among study participants is noteworthy. 79% of participants had high emotional exhaustion, 78% depersonalization (DP) (uninterested attitude toward the service recipient), and 3% lack of personal accomplishment (PA) (the level of accomplishment, competency, and job satisfaction on an individual basis). Compared to international figures, job burnout is considered very high. Physicians in the United Kingdom had burnout rates ranging from 31–54.3% for emotional exhaustion, 17.4%–44.5% for depersonalization, and 6–39.6% for low personal accomplishment (Imo, 2017). The 2020 Medscape National Physician Burnout and Suicide Report observed a burnout rate of almost 43%. In 2020, researchers conducted a nationwide cross-sectional survey on 150 physicians working in various internal medicine departments in Benghazi, Libya. 92% showed strong depersonalization, 87.3% showed low personal accomplishment, and 14.7% showed high emotional weariness(Alsaeiti et al., 2022). The location of the study, specifically the emergency room, may account for the difference in percentages between this study and the previous numbers. The findings of the current study are consistent with a recent study that found burnout was high in emergency departments, where the MBI total score was shown to have positive, high-level, statistically significant correlations with depersonalization ($r = 0.836$; $p<0.01$), emotional exhaustion ($r = 0.752$; $p<0.01$), and a decreased sense of

accomplishment in oneself (r = 0.704; p<0.01)(Can & Bayer, 2023).The present findings seem to be either consistent with other research which found the high burnout in the emergency department (Wilson et al., 2017). It seems possible that these results are due to the high percentage of participated approximately 86% of the participants hold The Bachelor. findings of the current study support the previous research conducted in in 2020 on a total of 150 doctors employed in several internal medicine departments in Benghazi, Libya, which concluded that the compared to doctors with higher degrees, medical personnel who recently graduated had higher rates of burnout (Alsaeiti et al., 2022). In addition, the findings of the current study are consistent with a study among healthcare professionals in Saudi Arabia, 2024 (Battar S et al., 2024). The results of this study show a moderate correlation between smoking and emotional exhaustion, and there was no correlation between smoking and both depersonalization and accomplishment. These results differ from an estimate in a study done in 2023 among Tunisian medical professionals, which concluded that smoking correlates with just depersonalization and not with the other two dimensions (Gargouri et al., 2022). These results from current study confirm the week negative relationship between overall burnout and job satisfaction, showing that job satisfaction rises as burnout levels fall in the emergency department. Burnout is characterized by a person's physical and emotional exhaustion, dissatisfaction with their work, decreased productivity, and a sense of alienation from their coworkers—all of which lower job satisfaction. (Melo et al., 2011) Despite the fact that a significant number of participants had received training, burnout syndrome was prevalent among them. The results of a 2020 systematic review show that workplace-related factors, like high workloads and unfavourable work environments, have a stronger correlation with burnout and stress among trainee physicians compared to non-workplace-related or non-modifiable factors. We can conclude that numerous studies have incorporated the findings from this study(Zhou et al., 2020).

CONCLUSION

The study reveals that emergency physicians in AL Jala hospital's emergency department are at a high risk of burnout. Factors contributing to this issue include lack of career development opportunities, high workload, role ambiguity, lack of managerial support, and poor working conditions. Burnout not only affects health professionals' well-being but also compromises patient care and safety. Strategies should focus on improving working conditions, providing adequate resources, enhancing career development opportunities, and fostering a positive work culture. Regular monitoring and evidence-based interventions are necessary to safeguard health professionals' well-being and ensure high-quality patient care.

Declaration by Authors

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