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Original Article

Burnout among emergency medicine residents

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Abstract

Background: The emergency medicine department is the hub of most activity in any healthcare institution, with the most critical patients present and demand the most urgent care. However, dealing with that working day in and day out, throughout the extensive training period, has many adverse bodily and mental effects on the emergency medicine residents, the most problematic among which is burnout. The aim was to study the prevalence of burnout among emergency medicine residents.

Methodology: This observational, cross-sectional analysis was conducted upon a sample of 54 emergency medicine residents selected via non-probability convenience sampling from 3 different tertiary care teaching hospitals at Karachi. After taking written informed consent, the Maslach Burnout Inventory (MBI) was used to assess burnout and its sub-components (depersonalization, emotional exhaustion and personal accomplishment). Additionally, basic biodata, sociodemographic details, distress at work were inquired and recorded onto a self-administered questionnaire. Data were analyzed using SPSS version 22.0.

Results: Among the 54 residents enrolled in the study, 68.52% were males, while 31.48% were females. The mean age of the sample stood at 29.0±2.0 years. The mean duration of working in the emergency department was 2.0±1.0 years. Mean burnout scores were 28.4 for emotional exhaustion (high), 9.3 for depersonalization (moderate), and 31.47 for personal accomplishment (moderate). The most commonly reported stressors at work included unruly patients and attendants, lack of timely cooperation by healthcare professionals from other departments, breaking bad news, and work overload.

Conclusion: After careful consideration, it can be concluded that burnout is prevalent among emergency medicine residents, and steps must be taken to prevent the already distraught and scarce emergency medicine personnel from falling into dysfunction due to burnout.

Keywords

Burnout, Emergency Medicine, Critical Care, Acute Medicine, Trauma, Causality

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Introduction

Professional life is an essential part of a person's daily life, with many of the effects of professional/occupational stressors encountered during the job spilling over to other parts of life and affecting general health and well-being. Few professions can boast of being more demanding (in terms of work hours) and stressful than the healthcare profession. Be it doctors, nurses or paramedical staff, all are subjected to extensive duty hours, extreme work conditions and an unparalleled stress level[1].

Occupational stress is among the most discussed health and safety challenges in the modern era. Stress is known to be associated with numerous adverse health outcomes and poor work performance. At the same time, acute exposures to stress can manifest as easy fatigability, disturbed sleep, and gastrointestinal dysfunctions[2]. Chronic stress exposures manifest as more severe conditions including early onset of bodily (cardiovascular, musculoskeletal and metabolic diseases), mental (depression and anxiety) or both disorders; and often culminating in burnout[3].

Many occupations (such as education, agriculture, fishing and forestry industries) incur some stress levels, with a few (teaching, policing, social work, prison guarding and tending to customer care) being affected more than the others[4]. Recent research has brought to the notice that, in hospital settings, long work hours, high work intensity, and extreme work conditions yield the worst levels of stress and, consequently, lead to the worst possible of the many outcomes mentioned above, especially burnout[5].

Healthcare professionals catering to emergency care needs deal with even higher work volume and time pressures (given their established relationship with sickness, absence, high staff turnover and early retirement). Thus professionals employed in the healthcare setup are projected to suffer from severe burnout[6]. The duty regimen that often requires them to work in different alternating shifts leads to additional sleep troubles, disturbed circadian rhythms, lifestyle problems and most worryingly, high blood pressure. Furthermore, overwork and sleep debt harm carbohydrate metabolism and endocrine function[7].

The occurrence of hypertension among overworked professionals is reported in research[8]. Satisfactory evidence also points out higher mean glycated hemoglobin A1c (HbA1c) levels and a greater risk of developing diabetes mellitus among professionals employed in stressful work positions[9]. Research from Japan even goes as far as coining a particular term, Karōshi that translates to overwork death[10].

Karōshi has claimed hundreds of people await this eventual fate since not much has done to alleviate the working environment's stress and limit the number of hours of work, especially for the general staff and ambulance drivers that have little or no say and influence on policymaking circles. The conditions are significantly worse for healthcare professionals in the emergency department. According to reports, those who were being subjected to the worst work shifts and forced to face extreme conditions in which, according to reports, face 36% more verbal violence, 22% more physical violence and 24% more stress than all other healthcare professionals[11].

However, the effect of these working conditions among them is left largely unexplored in international and national pools of evidence-based literature. It is, therefore, about time that this gap in the

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literature is filled by evidence. This research serves this very purpose and explores the prevalence of burnout among emergency medicine residents.

Methodology

This observational analysis was conducted upon a sample of 54 emergency medicine residents chosen via non-probability – convenience sampling from 3 different tertiary care teaching hospitals in Karachi. After taking written informed consent, the Maslach Burnout Inventory (MBI) was used to assess burnout and its sub-components i.e. depersonalization, emotional exhaustion and personal accomplishment. Additionally, basic biodata, sociodemographic details and distresses at work were inquired and recorded onto a self-administered questionnaire. The statistical analysis was performed on SPSS version 22.0.

All Consenting individuals and emergency medicine residents (employed at the study setting for at least one year) were included. While those with pre-existing mental health conditions, suffered emotionally traumatizing events in the past six weeks were excluded from the study sample.

The MBI score data were categorized as low, moderate and high-risk groups for burnout based on the overall 22 items score as follows:

Table 1: Categorization of MBI score

Scale Components	Low	Moderate	High
Emotional Exhaustion	≤ 18	19 - 26	≥ 27
Depersonalization	≤ 5	6 - 9	≥ 10
Personal Accomplishment	≥ 40	34 - 39	≤ 33

Confirmatory factor analysis (at a south-east Asian setting) has revealed all three sub-components to have a high internal consistency with Cronbach's α coefficient values of 0.837, 0.869, & 0.881 and report a high test-retest reliability. Hence the tool was fit for use in the study setting for the intended purpose[12].

Result

Among the 54 residents enrolled in the study, 68.52% were males, while the remaining 31.48% were females. The mean age of the sample stood at 29±2.0 years, and further age distribution is tabulated below.

Table 2: Age Distribution

Age Group (Years)	Male	Female
≤ 26	03	01
27-30	32	15
≥ 31	02	01

*Data represents frequencies.

The age ranged from 25 to 33 years. As expected of this age, a majority of the residents were well ahead into their residency programs (2nd year and above), and a few had completed their training). The mean duration of working in the emergency department was 2±1 years.

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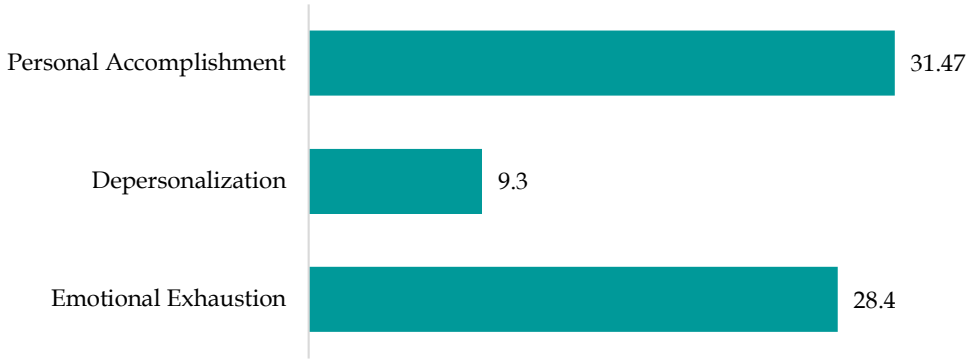

Figure 1: Mean Maslach Burnout inventory Scores

Mean burnout scores were 28.4 for emotional exhaustion (high), 9.3 for depersonalization (moderate), and 31.47 for personal accomplishment (moderate). As per mean values, the sample had a high level of emotional exhaustion and a moderate (bordering on high) level of depersonalization. The burnout pertaining to personal accomplishment, too, is noted to be high. The most commonly reported stressors at work included unruly patients and attendants, lack of timely cooperation by healthcare professionals from other departments, breaking bad news, and work overload. However, exploring the individual factors in detail was beyond the scope of this research.

Discussion

Since residents handle most of the work at the emergency medicine department, these post-graduate trainees' physical and mental health is a cause for concern. In addition to their work-related burdens, they face many academic and study-related responsibilities and demands. Additionally, since the profession is dedicated to safeguarding the health of critically ill people needing acute attention, there is very little tolerance for error, thus requiring the residents to always be alert and on their toes, hence all the while generating anxiety and stress[13].

The excessive workload, lengthy educational curricula, constant workplace-based assessment and the very intense professional demands coupled with a lack of time for leisure, family and friends, take a high toll. Furthermore, studying for numerous exams, pre-meditating future challenges in the highly saturated field and the delayed prospects of adequate income also act as stressors on the mind of emergency medicine residents. In addition to these aspects, medical professionals' personality traits, including obsessiveness, self-exigency, and perfectionism, are likely to add to the mix adversely[14].

It has been hypothesized that persistent exposure to continuous psychosocial stressors throughout their education and training period can lead to Burnout Syndrome[15]. It is essential to understand that burnout is a multifactorial occupational syndrome. Thus any solution must address the complete triad of symptoms it involves, namely: emotional exhaustion, depersonalization, professional cynicism/disbelief[16].

In this research, a high level of emotional exhaustion, depersonalization and personal accomplishment. This is worrying since literature reports that having even one symptom of the triad may adversely impact

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medical professionals' training/learning process and reduce their work efficiency[17].

A limitation of this research is that we did not delve into the less severe manifestations. At the same time, other researchers have noted and laid much importance on the self-reported physical images (such as fatigue, drowsiness, disorderly eating, and migraine). Emotional effects (instability, agitation and even a heightened inclination towards illicit drugs use) accompany all sub-components of burnout[18].

Conclusion

After careful consideration, it can be concluded that burnout is prevalent among emergency medicine residents. Since the student/trainee community in medicine is already overwhelmed with the high prevalence of suicide, depression, stress and use of psychoactive substances, steps must be taken to counteract the situation. The fact that emergency medical personnel are among the scarcest in the medical field, it is all the more important to dedicate efforts to prevent them from falling into dysfunction due to burnout.

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