

ORIGINAL ARTICLE

Professional burnout in Emergency Department: Effect of shift work on the physical, mental and social wellbeing of health care professionals

Aniqa Bano¹, Maqsood Ahmad²**Authors Affiliation:**Shifa International Hospital
Islamabad, Pakistan¹Reliance Hospital, Rawalpindi,
Pakistan²**Correspondence to:**Aniqa Bano
aniqa.85@gmail.com**INTRODUCTION**

Emergency department (ED) professionals who work in shifts are prone to burnout syndrome. The study was conducted to assess the effect of shift work on the health of ED staff.

METHODOLOGY

A cross-sectional survey was done by convenience sampling from 05-07-2018 to 11-08-2018. A self-designed questionnaire in Google.docs format was sent electronically to ED staff from Shifa International Hospital Islamabad and responses were collected.

RESULTS

A total of 49 participants responded with male preponderance (n=27, 55.1%). The majority (44.9%) were in the age group 24-29 years. Among all, 57.1% were physicians, 40.8% nurses, 2.1% being para-medical staff. Most shift workers were working between 40-50 hrs/week(73.5%), 5-6 days a week(67.3%), in rotating shifts(77.6%) with predominantly daily changes(42.9%) including nights shifts done by 79.6%. Prevalence of Diabetes Mellitus, hypertension, stroke, cardiovascular disease and

mood disorder was found to be 4.1%, 8.2%, 0%, 2% and 12.2% respectively. Shift work was reported to be associated with increased caffeine intake by 61.2%, tiredness and sleep disturbances in 75.5%, doze during driving in 55.1% with 14.3% being involved in road traffic accidents. The majority (85.7%) missed social events in the last 60 days. Overall satisfaction was rated on a scale of 0-10 where zero was totally unsatisfied and 10 was fully satisfied. 30.6% participants reported their satisfaction at 5, 30.6% reported <5 and 38.8% reported >5. The majority of participants believed shift work to be associated with a negative effect on their physical (69.4%), mental(67.3%) and social(71.4%) well-being.

CONCLUSION

Professional burnout and negative effects on health are prevalent among shift workers in ED staff.

KEYWORDS

Professional burnout, Health, Sleep disorders, Physicians, Nurse, personal satisfaction

INTRODUCTION

Health is defined as the state of the organism when it functions optimally without evidence of disease.⁽¹⁾ In recent years; professional burnout has been increasingly recognized as a condition affecting the healthcare workers. Professional burnout is an excessive stress reaction to one's occupational or professional environment. It may be characterized by feelings of emotional and physical exhaustion, coupled with a sense of frustration and failure.⁽²⁾ Sleep disorders and disturbances of circadian rhythm are also associated features of burnout syndrome. These are defined as dyssomnias associated with disruption of the normal 24-hour sleep-wake cycle secondary to travel (e.g., jet lag syndrome), shift work, or other causes.⁽³⁾

Burnout syndrome affects all categories of health care professionals like physicians (Individuals licensed to practice medicine.)⁽⁴⁾ and nurses (Professionals qualified by graduation from an accredited school of nursing and by the passage of a national licensing examination to practice nursing. They provide services to patients requiring assistance in recovering or maintaining their physical or mental health.)⁽⁵⁾ It also decreases Personal Satisfaction which is the individual's experience of a sense of fulfillment of a need and the quality or state of being satisfied.⁽⁶⁾

Emergency department (ED) professionals are exposed to burnout syndrome due to

excessive workload in a shift pattern and high demands for care. The objective of our study was to assess the prevalence of burnout among all ED staff and to identify associated factors. The prevalence of burnout may be as high as 10–70% in nurses and 30–50% in physicians, nurse practitioners, and physician assistants.⁽⁷⁾ In 9 countries of the European Union, burnout syndrome is acknowledged as an occupational disease with compensation already been awarded in Denmark, France, Latvia, Portugal, and Sweden.⁽⁸⁾

Emotional exhaustion and depersonalization are the major components of burnout. The prevalence of these is 15.8% and 29.6% among ED professionals. Nearly one ED physician out of two has burnout (50.7%).⁽⁹⁾ Burnout among different medical residency specialties has different prevalence. Overall cumulative prevalence is 35.7% with a significantly higher rate (40.8%) among surgical/urgency residencies than in clinical specialties.⁽¹⁰⁾ Among all, 3% of surgeons suffer from extreme forms of burnout.⁽¹¹⁾ The Maslach Burnout Inventory (MBI) is the most commonly used tool to self-assess whether you might be at risk of burnout. To determine the risk of burnout, the MBI explores three components: exhaustion, depersonalization, and personal achievement.⁽¹²⁾ While this tool may be useful, it must not be used as a scientific diagnostic technique, regardless of the results.

Anxiety and depression can coexist with burnout syndrome. Such covariates may worsen mental health and hence it is important to treat burnout and affective mood conditions simultaneously.⁽¹³⁾ Moreover, irregular shift work disturbs circadian rhythm and is found to be affecting job satisfaction and mental health. Hence burnout syndrome is strongly associated with psychological demand and workplace support.⁽¹⁴⁾ Shift work has been linked to health disorders, decreases in workers' safety and productivity, and poor family and social relationships.⁽¹⁵⁾

Although both male and female emergency physicians (EPs) experience burnout but the significantly higher rate in females has been found as compared to their male counterparts (22.6% vs 2.3%).⁽¹⁶⁾

METHODS

A self-designed survey was distributed electronically by sharing on social media groups of the emergency department from 05-07-2018 to 11-08-2018. The voluntary responses with the consent of participants were collected and data were analyzed in SPSS version 21. Frequencies and percentages were calculated for multiple variables.

The questionnaire was divided into four parts. The initial part regarding biographic details was followed by questions exploring the nature and duration of the shift work.

In the third part, questions about physical wellbeing, important medical diagnoses, and healthy lifestyle habits were included. In the last section, subjective assessment of the participants about overall satisfaction and their belief about the impact of their shift work on aspects of their health was asked.

RESULTS

A total of 49 participants responded to the questionnaire with predominantly males (n=27, 55.1%). The majority,

Characteristics	Number (n =49)	Frequency (%)
Age		
18-23	2	4.1
24-29	22	44.9
30-35	17	34.7
36-40	3	6.1
>41 years	5	10.2
Gender		
Male	27	55.1
Female	22	44.8
Marital Status		
Married	31	63.3
Single	18	36.7
Health professionals		
Paramedical staff	1	2.1
Nurses	20	40.8
Doctors	28	57.1

Table 1: Demographics of participants

63.3% were married and 36.7% were unmarried as shown in Table 1.

The level of education of all participants was as follows: 32.7% completed post-graduation, 30.6% were postgraduate trainees, 26.5% completed graduation, and 6.1% were undergraduates and 4.1% others (not specified). The study included all types of ED staff. Among all, 24.5% of participants were registered nurse practitioners, 22.4% were working as postgraduate physicians and 10.2% as consultant physicians.

After biographic information, questions were asked about the nature and duration of shift work.

The length of duty in terms of hours per week was also sorted. 73.5% were working 40-50 hours a week, 16.3% were working more than 50 hours per week and 10.2% were scheduled to work less than 39 hours a week (Figure

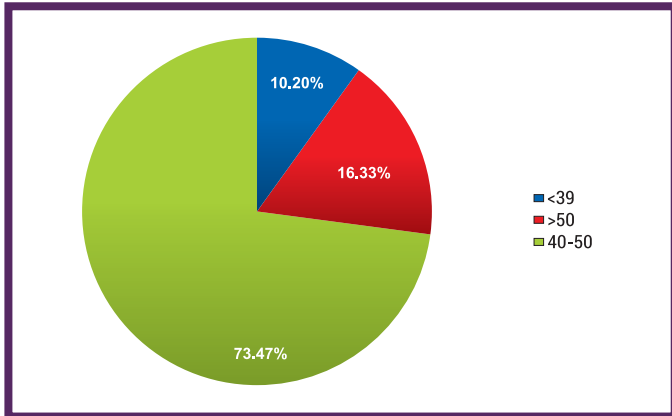


Figure 1: Number of hours worked by the health-care professionals per week in ED

1). The number of working days in a week was 5-6 for 67.3%, 3-4 for 18.4% and 14.3 were working 7 days a week.

Among all, 89.8% were participating in shift work while 10.2% had fixed duty timings. The shifts were occasionally changing for 12.2% people but 77.6% had rotating shifts. The most common combination of shifts was morning, evening and nights done by 55.1%. On the other hand, 18.4% were only doing morning plus night shifts and 10.2% were only rostered to do morning duties. Overall, 79.6% of the participants were doing night shifts.

The Body Mass Index (BMI) of all the participants was also calculated 55.1% were in the normal range. However,

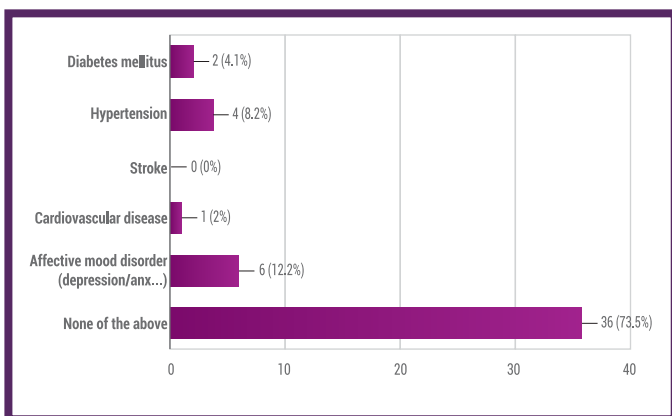


Figure 2: Prevalence of comorbid conditions in health care professionals working in ED

30.6% were overweight and 8.2% suffered from obesity. Prevalence of Diabetes Mellitus, hypertension, stroke, cardiovascular disease and mood disorder is shown in Figure 2

14.3% shift workers were cigarette smokers and 4.1% had alcohol intake. Shift work was reported to be associated with increased caffeine intake by 61.2% while 12.2% were

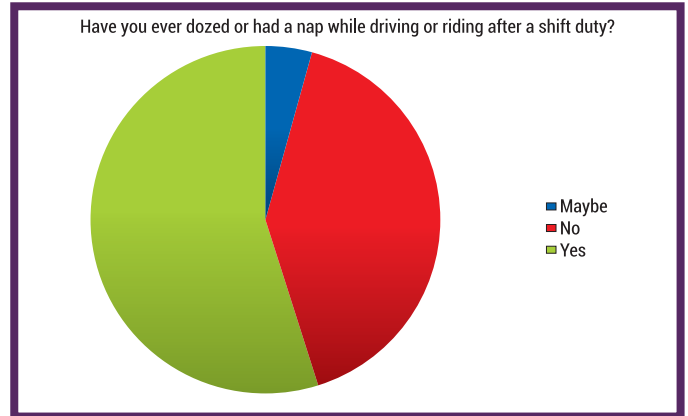


Figure 3: Response regarding nap/sleep during driving after shift duty

unsure of their caffeine intake. Excessive tiredness and sleep disturbances were reported at 75.5%. A nap or doze while driving or riding after shift duty was reported by 55.1% with 14.3% experienced road traffic accidents after a tiring shift.

Regarding healthy lifestyle habits, the following answers

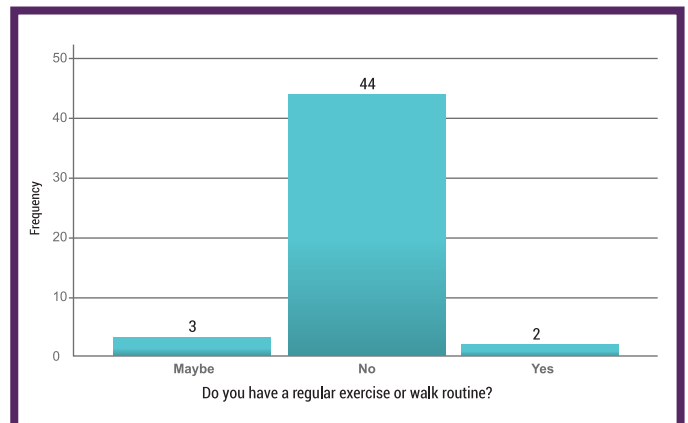


Figure 4: Response regarding regular exercise/walk routine

were recorded. 89.8% of people had no regular walk or exercise routine. Only 4.1% were involved in daily physical training activities like exercise, walk, jog or gym. 12.2% were doing such activities twice weekly, 2% once in a week, 4.1% once a month and 77.6% were rarely doing these activities.

Socially, only 2% reported to always attend a social gathering outside professional relations. 4.1% have never attended such events and 44.9% sometimes attend to such events. The majority of participants (85.7%) reported missing a social event of significance in the last 60 days due to shifting work (Figure 2). The effect of shift work on the will to involve in outdoor activities was also asked about. So, 81.6% preferred staying at home on their free days than going out.

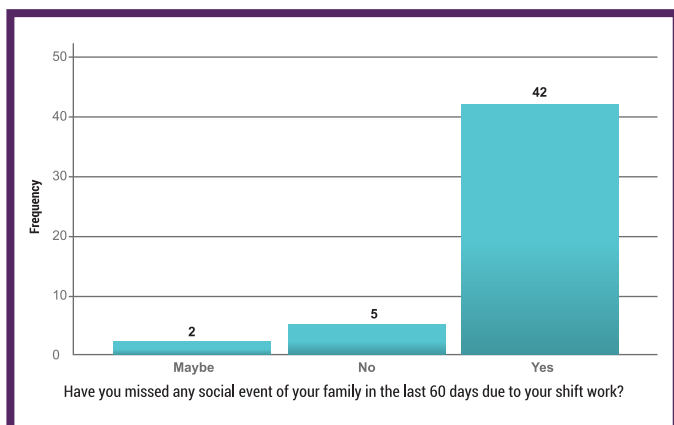


Figure 5: Response of participants on missing social event due to shift work

The majority (38.8%) only got a single free weekend in a month. Two free weekends were available for 26.5% workers, three weekends for 18.4% and four weekends to only 16.3% of workers.

Questions regarding the feeling of satisfaction were asked by the participants.

The prevalence of satisfaction about shift work job was overall 40.8%, regarding working hours was 44.9%, types

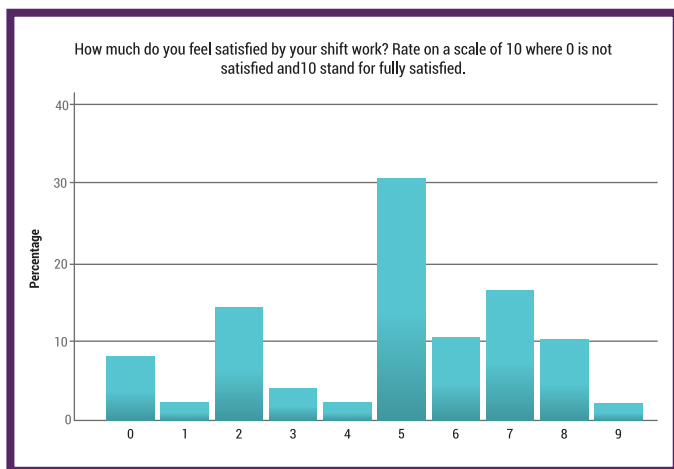


Figure 6: Satisfaction scores of participants regarding shift work (ranked from 1 to 10)

of shifts at work 49% and salary/earnings from shift work 32.7%. 63.3% of people have often thought to change their job to a more regular one and 20.4% have applied for an alternate job in the last three months.

The overall satisfaction about the shift work was rated on a scale of 0-10 where zero meant unsatisfied and 10 meant fully satisfied is shown in Figure

Regarding the impact of shift work on physical health, 14.3% believed it to be positively affected, 69.4% believed

to be negatively affected and the rest were not sure of the impact.

Regarding the impact of shift work on mental health, 8.2% believed it to be positively affected, 67.3% believed to be negatively affected and the rest were not sure of the impact.

Regarding the impact of shift work on relationships and social health, 14.3% believed it to be positively affected, 71.4% believed to be negatively affected and the rest were not sure of the impact.

Combining all the aspects of health that is physical, mental and social wellbeing, 12.7% of participants believed that the shift work has had positive effects of their health while 69.8% believed that it had negatively affected their health.

DISCUSSION

Our study is among the pioneer studies done in Pakistan on the topic of burnout, especially regarding emergency physicians. It is a pilot study to identify the problem and create a basis for advanced research. Our results have shown clear dis-satisfaction with shift workers in terms of their perception regarding the effects on health. Shift work is associated with difficulty in balancing a job with personal and social life. All aspects of health including physical, mental and social domains are affected by the shift work. The sleep disorders associated with shift work and the effects on cognitive functions, for example, driving after shift work has long term implications on the formulation of schedules for shift workers. Numerous incidences of road traffic accidents, occupational errors and preventable injuries have been observed due to tiredness after a shift work.⁽¹⁷⁾

The need to identify the factors which adversely affect the shift workers' health has been highlighted in this study. It is also a risk in patient safety because the impairment of cognitive functions due to disturbances in circadian rhythms increases the chances of errors at work. The well-being of healthcare providers and the effect on patient safety have gained national interest and attention. Healthcare, as an industry, places numerous pressures on healthcare providers, including the challenges of clinical work, time constraints, competing demands, lack of control over work processes and scheduling, and conflicting roles and relationships with leadership.⁽⁷⁾ Irregular schedules and increased night shift, sleep disturbances and work hours are related to higher burnout risk in other professions as well.⁽¹⁸⁾ Healthcare is approaching a tipping point as burnout and dissatisfaction with work-life integration (WLI) in healthcare workers continue to increase.⁽¹⁹⁾ Similar results have also been shown by other studies for example, in the Martin et al study, sixty-one

percent of the physicians showed a high burnout index and 14% of the physicians had a high score in all three of the scales in the MBI. Furthermore, in that study, 41% of the participants showed high emotional exhaustion, 50% exhibited high depersonalization, and 22% low personal achievement. Regression analysis demonstrated that age (≥ 35 years) was a significant ($p = 0.058$) predictor of burnout syndrome and total working hours (≥ 44 weekly) was also associated with the syndrome at a p -value of 0.042.⁽²⁰⁾ The study design and methodology were different in this study and can be used in future researches.

Burnout affects productivity and patient's satisfaction especially in the emergency department work due to its unique dynamics,⁽⁹⁾ to further understand the way to prevent it, future research should be done to evaluate the work schedules in health care profession that optimize shift duration and frequency, and increase consistency in scheduling and control over work hours to limit burnout. We have identified a few limitations in this study. Firstly, the questionnaire was drafted by the researcher and was not validated. NIOSH Generic job stress Questionnaire and Maslach Burnout Inventory of Health and human service Questionnaire (burn out), job strain (Karasek), and quality of life (Medical Outcome Study Short Form) which are validated tools can be used in further studies. Secondly, a small sample size limits the ability of generalization.^(9, 16)

CONCLUSION

Emergency department workers in Pakistan have been experiencing the highest rate of burnout for several years. It also affects satisfaction with their profession and needed to be studied further. There is also a need for further work to determine the effectiveness of preventative measures in tackling burnout syndrome.

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