International Journal of Medical and Health Research
www.medicalsciencejournal.com
ISSN: 2454-9142
Received: 08-09-2023, Accepted: 21-09-2023, Published: 07-10-2023
Volume 9, Issue 5, 2023, Page No. 71-76

Burnout syndrome: Phenomenon frequently observed in ICU doctors of Bangladesh

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Abstract
Objective: Healthcare organizations and leaders within the critical care community are increasingly concerned about the development of burnout syndrome among intensive care unit (ICU) healthcare professionals. This study aims to assess the level of burnout among ICU doctors.
Methods: We conducted a descriptive type of cross-sectional study on 50 ICU doctors in the National Institution of Neuroscience & Hospital, Bangladesh. Data were collected randomly through face-to-face interviews who gave consent at the time of data collection in this hospital. This study was conducted by a non-randomized purposive sampling technique. We used a semi-structured questionnaire based on the Maslach Burnout Inventory-Human Services Survey to assess the Burnout outcome.
Results: According to the analysis, 52.8 % of all study respondents suffer moderate to high burnout and 47.2 % suffer low burnout. Doctors working in ICU who are single respondents (n-8, 20.4%; chi-square- 8.58, p-0.01), post-graduated completed (n-12, 17.1%; chi-square- 6.45, p-0.01) and members of extended family (n-17, 37.3%; chi-square- 7.04, p= 0.01), do private job (n-22, 47.8%; chi-square- 7.56, p= 0.01), practicing duration more than 5 years (n-23, 55.8%; chi-square- 5.28, p= 0.01), working time less than 12 hours (n- 4, 9.6%; chi-square- 8.12, p= 0.01) suffers moderate to high burnout. Around 45.3% of the participants suffer moderate emotional exhaustion, 54.8% of the participants suffer high depersonalization and 62.7% of the participants suffer low personal accomplishment by the Maslach Burnout Inventory Scale.
Conclusion: Burnout is a threatened issue for critical care providers. Evaluating a typical weekly schedule and eliminating unnecessary workloads can be the most pressing matter to turn down burnout.

Keywords: Stress, Burn out syndrome, ICU doctors

Introduction

Stress prompts us to manipulate expectations and hazards in our lives. It's a process of natural human response. Everyone experiences stress to some degree. It usually occurs in a situation that we don't feel we can manage or control. Whereas burnout is a form of exhaustion caused by feeling swamped it's a result of excessive and prolonged emotional, physical and mental stress. In many cases, burnout is related to one's job-related issues. Burnout happens when we are overwhelmed, emotionally drafted and unfit to keep up with life's ceaseless demands. It manifests in physical, mental and emotional problems, causing burnout syndrome. Healthcare organizations and leaders within the critical care community are increasingly concerned about the development of burnout syndrome among intensive care unit (ICU) healthcare professionals [1, 2]. These concerns are fueled by growing awareness of the major adverse consequences burnout can have on individual clinicians, healthcare organizations and patients.

In 1970, burnout syndrome was discovered in people working in human services, particularly in the medical field. Maslach and Leiter identified six domains that can be responsible for burnout such as workload, control, reward, community, fairness and values. Lack of job support and appreciation can also lead to burnout syndrome. Burnout Syndrome is nonspecific and its clinical symptoms include frazzle, headache, eating problems, wakefulness, perversity, emotional insecurity, and rigid relationship with others. The negative counteraccusations of collapse are wide-ranging, including dropped quality of patient care, anxiety, depression, divorce, increased anxiolytic use, medical illness, and increased suicidality. for medical professionals.

A lot of studies reveal information regarding stress and burnout among physicians in Bangladesh. In one single center study done in 2017,96.7% of study subjects (N 93) comprising doctors, nurses and ward attendants, suffered from moderate to high EE (Emotional Exhaustion) and 61.3% had been suffering from moderate to high DP (Depersonalization) and 81.7% scored high on PA (Personal Achievement) subscale [3]. One multicenter study in 2020 from Bangladesh showed that 28% of physicians and approx. 19% of nurses experience moderate to severe stress at work. The percentage of all study physicians and nurses suffering moderate to high burnout is 21.3 %. 51% of all study doctors and 87 % of all study nurses suffer from low burnout [4]. Another multicenter study with 185 frontline doctors showed the prevalence of BOS was 55.4% (93/ 168) (95% CI: 47.5% to 63.0%). 95.8% of the participants were in moderate to high levels of EE. 98.2% and 97% of participants were observed in High DP and reduced PA [5].

Our study is the first published single study on Burnout Syndrome in ICU doctors from a tertiary level Government Hospital in Bangladesh. The study was derived from the National Institute of Neurosciences and Hospital, Dhaka, Bangladesh. It aims to assess the level of burnout syndrome and examine organizational and individual risk factors for

burnout among physicians working in ICUs to develop strategies for future interventions.

Methods

A descriptive type of cross-sectional study was carried out among ICU doctors from August to November 2022. Semi-structured data based on the Maslach Burnout Inventory-Human Services Survey (MBI HSS) were extracted in this study related to burnout syndrome including different characteristics underneath demography, lifestyle and clinical.

This study randomly included 50 ICU doctors from the National Institution of Neurosciences and Hospital (NINS), a tertiary-level Government hospital in Dhaka city of Bangladesh where largely gathered critically ill patients are available. Dhaka division was selected through multi-stage random sampling amongst eight divisions (Dhaka, Chittagong, Rajshahi, Khulna, Rangpur, Mymensingh, Sylhet and Barisal) of Bangladesh. Considering the severity of the management of critically ill patients all over the country, the study was conducted in this (NINS) hospital. Quantitative information of this study was collected from the respondents of Bangladesh Medical and Dental Council (BMDC) registered ICU doctors in this (NINS) hospital who currently or recently worked in this hospital, was physically fit as respondent and provided their consent to participate.

A pre-tested and semi-structured questionnaire was used to gather data from the ICU doctors using the face-to-face interview method. Respondents were recruited in September 2022 in this study. The survey took only 10 to 15 minutes for the interviewer to complete. While collecting data or after it was collected, all authors had access to the information about participants. The survey was administered in English with the utmost support of the ICU doctors and hospital authorities.

This study was approved by the Northern University of Bangladesh, Department of Public Health's Ethical Review Committee (NUB/DPH/EC/2022/25) and conformed to the Declaration of Helsinki. Participation of the respondents was nondescript and unpaid. At the beginning of the survey verbal informed consent was sought from the respondents and participants could withdraw from the survey at any time.

We defined the intensive care unit (ICU) as a unit capable of providing invasive care. All intensive care physicians who have worked in this ICU (i.e. physicians who are currently or recently practicing in this ICU) were eligible for our study. An intensive care physician was defined as one who fulfilled at least one of the following criteria: (a) passed intensive care certification examinations; (b) completed training in an accredited intensive care fellowship; c) treated patients with multi-organ failure and was recognized by his/her institution as an intensivist [6].

For the participant survey, we employed the following psychometric instruments: Maslach Burnout Inventory-Human Services Survey (MBI HSS) (22-questions) [7, 8]. The Maslach Burnout Inventory (MBI) is the reference standard for determining burnout and has three subscales that describe emotional exhaustion (EE), depersonalization (DP) and personal accomplishment. (PA) [9].

According to the Maslach Burnout Inventory-Human Services Survey MBI HSS, burnout syndrome (BOS) is classified as follows. On the EE subscale low, moderate and high burnout are indicated by < 18, 19-26, ≥27 scores respectively. On the PA subscale low, moderate and high burnout are indicated by ≥40, 34-39, ≤33 scores respectively. On the DP subscale low, moderate and high burnout are indicated by ≤5, 6-9, ≥ 10 scores respectively.

In addition, for the participant survey, several questions directed at uncovering risk factors for burnout were asked. Potential demographic risk factors included gender, age, religious background or beliefs, marital status, number of children, educational qualification and income. Potential lifestyle factors included professional working time, time for personal life, time for the holiday, spending time on social media, sleep duration, control over work and control over life outside of work and perception of work-life balance. Satisfaction with work-life balance was assessed on a Likert scale, using the item "my work schedule leaves me enough time for my personal/family life".[8] Potential work-related factors included years since graduation from medical school, intensive care working experience, duration of work in the current institution, duration of work in current department, work days per month, work hours per day, percentage of work time spent in ICU, the average length of each ICU rotation, the performance of shift work, frequency of stay-in night calls, frequency of stay-home night calls, number of ICU patients cared for per day, work environment, food/canteen facilities, washroom facilities, prayer room facilities, senior supervisor, absenteeism, security purpose, deleterious stress releasing habit, and conflicts with colleagues. Personal control over work and life outside work life were tested on a Likert scale using the survey questions "How much do you agree with personal control during work?" and "Personal control over life outside the working hour".

Data were analyzed for Mean, Interquartile range, Percentage, Standard deviation, Chi-square test, multiple correlation and multivariate analysis, by using the SPSS-20 version for Windows. Univariate and multivariate logistic regression analyses were performed as mixed effects analyses using high burnout as the outcome variable. Univariate analysis was done to detect the significant factors followed by a multivariate analysis featuring the statistically significant (p-value < 0.05) variables from the univariate analysis.

Results

Total burnout level among the ICU doctors.

Table 1 represents the total level of burnout syndrome among the ICU doctors of a territory-level govt. hospital in Bangladesh. The results show about 52.8% suffer moderate to high-level burnout and 47.2% from low. (Table 1)

Table 1: Total Burnout level among ICU doctors.

Moderate to high	52.8%
Moderate to low	47.2%

Personal compliances that influence burnout level

According to Figure 1, the positive and negative aspects of each component (where applicable) represent burnout among ICU doctors. Burnout considering compliance with professional working time (74.3%), time for personal life (56.4%), time for holiday (46.8%), sleeping time (45.2%), patient care (87.4%), night call/shift (83.4%), friendly working environment (57.2%), stress releasing deleterious habit (78.5%), confliction with colleagues (48.2%), canteen & washroom facilities (58.7%) and time on social media (34.5%). (Fig. 1)

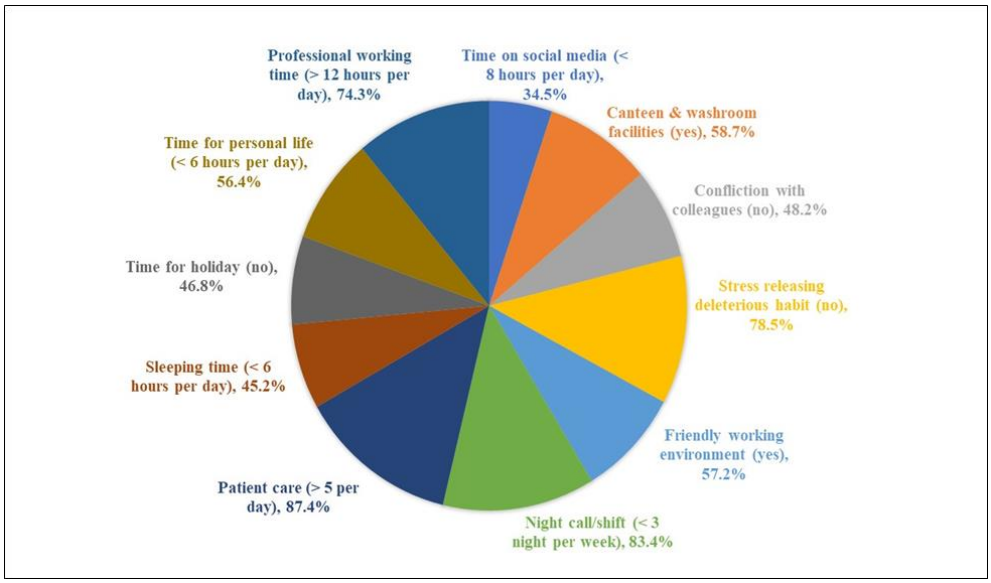

Fig 1: Components of personal compliance that influence burnout level among ICU doctors. (n= 50). This is the Fig. 1 legend

Factors associated with the Burnout syndrome observed in ICU doctors of a territory-level govt. hospital.

Data are presented as frequency (n), percentage (%); and statistical significance at p-value ≤0.05. A chi-square test was used to observe the association at 95% CI. Logistic Regression Analysis was used to identify the factors.

*Statistical significance at p-value ≤0.05; reference category was considered the level of burnout.

Table 2 represents the Factors associated with the Burnout syndrome observed in ICU doctors of a territory-level govt. hospital. By doing multivariate (cross-table) analysis, the study revealed significant socio-demographic, professional information, and personal association with ICU duties about ICU doctors. The results show that single respondents (n-8, 20.4%; chi-square- 8.58, p-0.01), post-graduated completed (n-12, 17.1%; chi-square- 6.45, p-0.01) and members of extended family (n-17, 37.3%; chi-square- 7.04, p= 0.01), do the private job (n-22, 47.8%; chi-square- 7.56, p= 0.01), practicing duration more than 5 years (n-23, 55.8%; chi-square- 5.28, p= 0.01), working time less than 12 hours (n-4, 9.6%; chi-square- 8.12, p= 0.01) suffers moderate to high burnout. On the other side, doctors who have time for holiday (n-20, 55.4%; chi-square- 14.47, p= 0.01), take patient care for more than 10 (n-68, 27.0%; chi-square- 17.46, p= 0.01), do night call/shift (n-14, 28.6%; chi-square- 16.72, p=0.01), has poor working environment (n-29, 39.7%; chi-square -11.97, p=0.01), don't have any stress releasing habit (n-1, 0.3%; chi-square- 8.14, p=0.01), has no confliction with colleagues (n-2,2.0%; chi-square- 6.89, p=0.01), don't have absenteeism (n-6, 7.4%; chi-square- 32.73, p= 0.01), has food facility by the hospital (n-10, 28.0%; chi-square- 29.65, p=0.01), has good washroom facility (n-23, 6.6%; chi-square -8.33, p=0.01), supervisor behave is good (n-8, 26.6%; chi-square- 10.2, p= 0.01) and perform emergency management (n-12, 25.2%; chi-square - 6.56, p= 0.01) suffers moderate to low burnout. (Table- 2)

Table 2: Factors associated with the Burnout syndrome observed in ICU doctors of a territory-level govt. hospital.

Factors	Level of burnout		Total n (%)	x^2/p-value (≤0.05)
	Moderate to high n (%)	Moderate to low n (%)		
Marital status				
Married	17(30.4%)	9(17.6%)	26(48.0%)	8.58/0.01*
Single	8(20.4%)	16(31.6%)	24(52.0%)	
Education				
Graduation	24(52.7%)	9(20.6%)	33(73.3%)	6.45/0.01*
Post-graduation	12(17.1%)	5(9.6%)	17(26.7%)	
Family type				
Nuclear	15(31.4%)	7(12.6%)	22(44.0%)	7.04/0.01*
Extended	17(37.3%)	11(18.7%)	28(56.0%)	
Practicing duration (in years)				
<5	8(18.6%)	5(7.4%)	13(26.0%)	5.28/0.01*
>5	23(55.8%)	14(18.2%)	37(74.0%)	
Organization type				
Government job	7(18.7%)	8(11.3%)	15(30.0%)	7.56/0.01*
Private job	22(47.8%)	13(22.2%)	35(70.0%)	
Professional working time				
<12	4(9.6%)	6(10.4%)	10(20%)	8.12/0.01*
>12	12(15.7%)	28(64.3%)	40(80%)	
Time for holiday				
Yes	17(16.6%)	20(55.4%)	37(72.0%)	14.47/0.01*
No	8(17.3%)	5(10.7%)	13(28.0%)	
Patient Care				

<10	76(30.2%)	93(36.9%)	32(67.1%)	17.46/0.01*
>10	15(6.0%)	68(27.0%)	18(32.9%)	
Night call/shift				
Yes	13(25.8%)	14(28.6%)	27(54.4%)	16.72/0.01*
No	6(10.3%)	16(35.9%)	23(45.6%)	
Work environment				
Good	3(7.1%)	10(30.0%)	13(37.1%)	11.97/0.01*
Poor	8(23.1%)	29(39.7%)	37(62.9%)	
Stress releasing habit				
Yes	10(28.9%)	37(69.4%)	47(98.3%)	8.14/0.01*
No	2(1.4%)	1(0.3%)	3(1.7%)	
Confliction with colleagues				
Yes	11(27.4%)	33(67.7%)	44(95.1%)	6.89/0.01*
No	4(2.9%)	2(2.0%)	6(4.9%)	
Absenteeism				
Yes	7(18.6%)	13(20.6%)	20(39.1%)	32.73/0.01*
No	12(25.5%)	6(7.4%)	18(32.9%)	
Not applicable	5(4.3%)	7(23.7%)	12(28.0%)	
Food facility by the hospital				
Yes	8(11.7%)	10(28.0%)	18(39.7%)	29.65/0.01*
No	5(21.1%)	27(39.2%)	32(60.3%)	
Washroom facility in the hospital				
Good	1(0.3%)	23(6.6%)	24(6.9%)	8.33/0.01*
Poor	14(30.0%)	22(63.1%)	36(93.1%)	
Supervisor behave				
Good	5(10.5%)	8(26.6%)	13(37.1%)	10.2/0.01*
Poor	25(37.7%)	12(25.2%)	37(62.9%)	
Perform Emergency Management				
Yes	25(46.8%)	12(25.2%)	37(72.0%)	6.56/0.01*
No	8(14.6%)	5(13.4%)	13(28.0%)	

Maslach Burnout Inventory Scale

By the Maslach Burnout Inventory Scale, Figure 2 shows the level of Burnout Syndrome of ICU doctors. Around 45.3% of the participants suffer moderate emotional exhaustion, 54.8% of the participants suffer high depersonalization and 62.7% of the participants suffer low personal accomplishment. The higher score reflects less burnout. (Fig. 2)

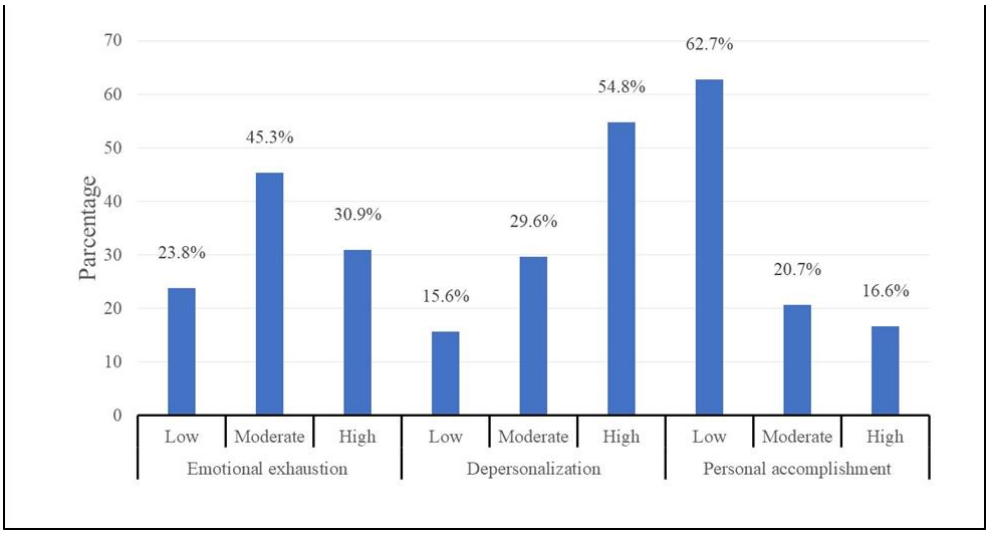

Fig 2: Maslach Burnout Inventory Scale of ICU doctors. (n=50). This is the Fig. 2 legend

Discussion

As this study demonstrated, ICU doctors are frequently surrounded by seriously ill patients who are in moral quandaries [10, 11]. The majority of respondents, in this case, were single and between the ages of 25 and 32. The type of education required varied by job status. In the ICU, the demographics varied and some were independent risk factors for burnout syndrome development. Burnout is frequently linked to workload. The ICU doctors' workload is physically taxing, leaves little time for rest, and is linked to sleep deprivation [12]. Our study revealed that the majority of the doctors had more than five years of working experience in the ICU, working time of more than 12 hours, and shifting duty. 17.1% were post-graduated doctors and involved in caring for more than 10 patients care for is 27.0%. A few portions have stress-releasing habits and the tendency of absenteeism. According to the respondents, 45.3% suffer moderate to high emotional exhaustion, 29.6% suffer moderate to high depersonalization and 16.6% high in personal accomplishment. High EE and DP were discovered

in HCWs working in the COVID unit by an Egyptian study, but the difference was not statistically significant [13]. We have determined that there is a critical need for a strategy to prevent it because the study has shown that high burnout is more common in Bangladesh than in many other settings. A stress management program that consists of both a stress management system and a program to lessen commonplace stress appears to effectively prevent burnout [14]. Other individual-level interventions, such as online cognitive behavioral therapy, seem to be successful at enhancing resiliency and coping skills [15]. However, The ability to influence decision-making, spare time and resources for CME, the opportunity to do so, non-physician administrative support [16], satisfaction with work-flow, relationships with peers, interventions that reduce work inefficiencies, and a trusted advisor would all reduce burnout [17] are possible ways to achieve these goals. And it was discovered that the approach that deals with system-level issues is more successful. If system-level intervention could be combined with personal-level intervention, improving job quality and quantity, physician burnout might be decreased.

Conclusions

According to the analysis, 52.8 % of all study respondents suffer moderate to high burnout and 47.2 % suffer low burnout. Doctors working in ICU having last completed degree, organization type, monthly family income, working experience in ICU, time for the holiday, the disparity between professional and personal time, sleeping duration, number of patients cared for per day, number of night call or night shift, working environment, stress releasing deleterious a habit, confliction with colleagues, supervisor behave appeared significantly associated with high burn out.

Recommendations

Burnout is a threatened issue for critical care providers. Evaluating a typical weekly schedule and eliminating unnecessary workloads can be the most pressing matter to turn down burnout. A plant mental health strategy and policy are essential for a healthy working environment during an epidemic extremity. Doctors who warrant mental and emotional stability harm their cases, families, workplaces, and healthcare systems. Healthcare associations and government authorities should develop mitigating arrangements to ensure the well-being of doctors and other healthcare staffs.

Limitations

Our study has certain limitations. Firstly, we used a cross-sectional method to approach ICU coordinators of only one Government hospital (about one-fourth of the number of government ICUs in Dhaka city). Also, peripheral hospitals of Bangladesh were not approached and as such our study does not represent the whole scenario. Secondly, we could not involve ICUs of large non-Government run hospitals where there are certain distinctive differences in job description compared to privately run hospitals and semi govt. hospital. Thirdly data on all participating consultant physicians and junior doctors were analyzed together and not as two separate groups. Analyzing their data under two separate headings could have produced different findings.

Acknowledgment

We explosively appreciate the study participants and the authority of the study place.

The study was non-funded and there was no conflict of interest.

References

1. Mealer ML, Shelton A, Berg B, Rothbaum B, Moss M. Increased prevalence of post-traumatic stress disorder symptoms in critical care nurses. Am J Respir Crit Care Med,2007:175:693–697.
2. Embriaco N, Azoulay E, Barrau K, Kentish N, Pochard F, Loundou A, Papazian L. High level of burnout in intensivists: prevalence and associated factors. Am J Respir Crit Care Med,2007:175:686–692.
3. Saha DK, Razzak MA, Saha M, Ahsan ASM, Fatema K, Ahmed F, *et al*. Frequency of burn out syndrome in an Intensive care Unit of a tertiary care hospital in Dhaka, Bangladesh. Birdem Med J.,2019:9(1):30-4.
4. Faruq MO, Huda AQ, Tamanna RJ, Ahsan AA, Fatema K, Mallick UK, Asaduzzaman M, *et al*. Professional Burn out among physicians and nurses in ICUs of Bangladesh: a multi-center study. *Bangladesh Critical Care Journal*,2020:*8*(1):5–16. https://doi.org/10.3329/bccj.v8i1.47702
5. Rashid F, Erfan Uddin RAM, Mehedi HMH, Dhar S, Bhuiyan NH, Sattar MA, *et al*. Burnout syndrome among frontline doctors of secondary and tertiary care hospitals of Bangladesh during COVID-19 pandemic. PLoS ONE,2022:17(11):e0277875. https://doi.org/10.1371/journal.pone.0277875.
6. Michie S. Causes and Management of Stress at Work. Occup Environ Med,2002:59(1):67–72. doi 10.1136/oem.59.1.67.
7. Lheureux F, Trichet D, Borteyrou X, Rascle N. The Maslach Burnout Inventory – Human Services Survey (MBI-HSS): factor structure, wording effect and psychometric qualities of known problematic items. Le Travail Humain [Human Work], 2017. DOI: 10.3917/th.802.0161. (http://www.cairn-int.info/journal-le-travail-humain.htm).
8. Loera B, Converso D, Viotti S. Evaluating the Psychometric Properties of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) among Italian Nurses: How Many Factors Must a Researcher Consider? PLoS One,2014:9(12):e114987.. doi: 10.1371/journal.pone.0114987
9. Maslach C, Schaufeli WB, Leiter MP. Job burnout. Annu Rev Psychol,2001:52:397–422. [PubMed: 11148311]
10. Gundersen L. Physician Burnout. Ann Intern Med,2001:135:145-48
11. Imaai H, Nakao H, Tsuchiya M, Kuroda Y, Katoh T. Burnout and work environment of public health nurses involved in mental health care. Occup Environ Med,2004:61:764-68
12. Parshuram C, Dhanani S, Kirsh J, Cox P. Fellowship training, workload, fatigue, and physical stress: a prospective observational study. CMAJ,2004:170:965-70
13. lghazally SA, Alkarn AF, Elkhayat H, Ibrahim AK, Elkhayat MR. Burnout Impact of COVID-19 Pandemic on Health-Care Professionals at Assiut University Hospitals, 2020. Int J Environ Res Public

Health,2021:18(10):5368. Published 2021 May 18. https://doi.org/10.3390/ijerph18105368 PMID: 34069955

14. Stier-Jarmer M, Frisch D, Oberhauser C, Berberich G, Schuh A. The Effectiveness of a Stress Reduction and Burnout Prevention Program. Dtsch Arztebl Int.,2016:113(46):781–788. https://doi.org/10.3238/arztebl.2016.0781 PMID: 27989278
15. Ho CS, Chee CY, Ho RC. Mental Health Strategies to Combat the Psychological Impact of Coronavirus Disease 2019 (COVID-19) Beyond Paranoia and Panic. Ann Acad Med Singap,2020:49(3):155–160. PMID: 32200399
16. Khan N, Palepu A, Dodek P, *et al*. A cross-sectional survey on physician burnout during the COVID-19 pandemic in Vancouver, Canada: the role of gender, ethnicity and sexual orientation. BMJ Open,2021:11(5):e050380. Published 2021 May 10. https://doi.org/10.1136/bmjopen-2021-050380 PMID: 33972345
17. West CP, Dyrbye LN, Erwin PJ, Shanafelt TD. Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. Lancet,2016:388(10057):2272–2281. https://doi.org/10.1016/ S0140-6736(16)31279-X PMID: 27692469