Original Article

BURNOUT SYNDROME AMONG THE HEALTH CARE PROFESSIONALS IN MEDICAL AND SURGICAL WARD IN COVID-19 PANDEMIC; A CROSS-SECTIONAL STUDY OF PESHAWAR

Rubeena Gul[1], Ammar Ahmad[2], Ismail Alam[3], Saima Aleem[4], Aziza Alam[5], Salahuddin Zeb khan[6], Aimeen Zeb Khan[7]

ABSTRACT

Background: To determine the frequency and causes of Burnout Syndrome (BOS), among the healthcare professionals in medical and surgical wards in Hayatabad Medical Complex (HMC), Peshawar.

Material and Methods: A self-administered survey was conducted in the General Medicine and Surgical wards in HMC, Peshawar, Pakistan. The on-duty doctors and nurses of the concerned department who consented, were included. Maslach Burnout Inventory for Medical Personnel (MBI-HSS) was used for data collection. SPSS version 24 was used for data analysis.

Result: A total of 300 questionnaires were distributed and they were requested to return them after filling them to the registrar's office. According to the study results, most participants (90%) showed high depersonalization (DP) levels and 91.7% of participants showed professional achievement (PA) levels high and 45.8% of respondents indicated moderate emotional exhaustion (EE) levels. The overall burnout level among the health care professional was present at moderate intensity. Working hours ($p<0.002$) and working patterns ($p<0.003$) had a significant association with burnout syndrome.

Conclusion: The overall burnout level among the study participants (83.7%) was moderate along with high PA and DP levels whereas EE level come out moderate.

Keys Words: Burnout, COVID-19, Questionnaires

INTRODUCTION

The recent Covid-19 pandemic has generated the concept of a "new normal" while disrupting the traditional notion of general human logic of normal life regarding all aspects of life especially economics, education and physical and mental health.[1-3]

[1]Associate Professor Community Medicine, Khyber Medical College, Peshawar.
[2]Masters in Public Health Scholar, Dubai, UAE.
[3]Assistant Professor, Department of Medical Education, Rehman College of Dentistry, Peshawar.
[4]Senior Research Fellow, Office of Research Innovation and Commercialization, Khyber Medical University, Peshawar.
[5]Demonstrator, Community Medicine, Khyber Medical College
[6,7]Rehman College of Dentistry

The drastic health impact and event fulness of this pandemic as new normality increased the vulnerability of healthcare professionals to psychological distress including burnout which was prevalent even before this pandemic.[4-6]

Burnout, among health professionals, is attributed to work-related stress and job dissatisfaction which is very common among healthcare workers.[7,8] Categorized as a prominent psychological problem, it is an amalgamation of emotional exhaustion (EE), depersonalization (DP) and reduced professional achievement (PA) as shown in figure-1 and leads to adverse social and mental health outcomes in healthcare

providers.[9] Emotional exhaustion is characterized by a lack of occupational motivation and feeling depleted resulting from overly-strenuous workload, whereas depersonalization and personal achievement are more related to emotional detachment and an individual's dissatisfaction with own achievements respectively.[10]
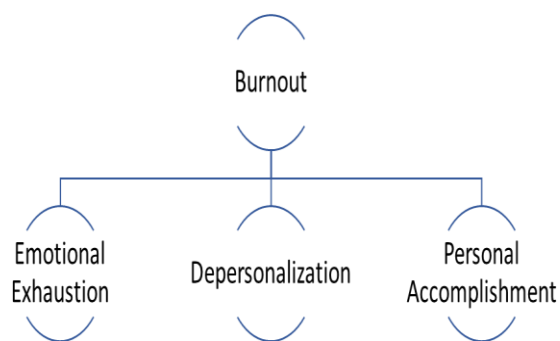

Figure 1: Burnout Model

Although burnout affects individuals irrespective of their age and gender but additional factors including workplace, working hours, experience, lack of participation in active decision-making, and work patterns have been significantly associated with it[11] resulting in compromised quality of life.[12] In recent times, The Maslach Burnout Inventory (MBI), a psychometric tool, is used for the burnout assessment encompassing all three domains i.e., EE, DP, and PA effectively.[13-16] and for health professionals, the Maslach Burnout Inventory for Medical Personnel (MBI-HSS-MP) is widely used.[17] This tool, in the local context has been previously used in research[18] in Pakistan.

In the context of Pakistan, there still is a scarcity of literature regarding burnout syndrome among healthcare professionals. Considering the grave consequences of this syndrome, and the implications it holds for the quality of the health workforce and care, the aim of this study is not only to cover the literature gap but to assess the magnitude of the problem as well. This study attempted to evaluate the magnitude of burnout and to assess all three dimensions among the doctors and nurses in a tertiary-level public sector hospital.

MATERIAL AND METHODS

The study was performed by the code of ethics of the World Medical Association (Declaration of Helsinki)

A cross-sectional study was conducted from September 2020 to February 2021, among the doctors and nursing staff working in Hayatabad Medical Complex (HMC) which is the 2nd largest public teaching hospital in Peshawar.

A total of 300 randomly selected participants were included in this study and subjected to written informed consent. The sample was calculated using open software keeping a 95% confidence level, 5% margin of error, and anticipated frequency of burnout among health professionals as 75%, the calculated sample size was 289 but to avoid non-response the sample was increased to 300.

A self-administered validated questionnaire was used for data collection and to ensure the confidentiality of the participants the filled questionnaires were collected in a sealed box kept at the reception of the ward for three days.

The data collection tool comprised two sections. Section 1 comprised of items about socio-demographic details and section 2 comprised 22 items derived from the Maslach Burnout Inventory (MBI) for medical personnel (MBI-HSS MP) to assess three domains of burnout. Among the 22 items meant for the assessment of three domains of burnout, 8 items were for emotional exhaustion (EE) assessment, 6 items for depersonalization (DP), and 8 items for personal accomplishment (PA) based on Likert scale ranging from '0' being 'Never' to '5' being 'Everyday'. Table 1 presents the cut-offs for each domain of MBI.

Table 1: Cut-offs value of the three dimensions of MBI-HSS scores.

	Low	**Moderate**	**High**
Emotional exhaustion (EE) (8 items)	<14	15-24	> 25
Depersonalization (DP) (6 items)	<3	4-9	> 10
Personal accomplishment (PA) (8 items)	>40	33-39	<32

The data was analyzed using SPSS version 22. The data was checked thoroughly for any missing entries. By using the formula (TBO=EE + DP- PA), the total burnout score was calculated and categorized. Continuous variables were presented as mean and standard deviation, frequencies, and percentages were calculated for categorical variables. To verify an association between the qualitative variables, a chi-square test was applied and $p<0.05$ was considered statistically significant.

RESULTS

Of the total 300 participants, 44.2% (n=133) were from the medical ward and 55.6% (n=167) were from the surgical ward including 59.3% (n=178) males and 40.7% (n=122) females. The mean age of the participants was 28.7±1.69 years.

The participants consisted of 89 nurses (29.6%), while 211(70.3%) were doctors. In terms of work experience, 36.2%(n=109) were working for less than one year, 42.9% (n=132) for 1-4 years,14% (n=42) for 4-10 years, while only 5.6% (n=17) were working

for more than 10 years. Bachelor's level of education was acquired by 165(54.5%) participants, followed by specialist and master levels by 99(32.9%) and 36(12%) participants respectively.

The working pattern of the participants showed that 33.3% participants worked during the day, 27% worked on the night shift and 57.1% were working on a rotation basis; 65.7% worked 50-60 hours/week, whereas 21.9% worked 60-80 hours/week and 13.6% participants work more than 80 hours/week. Table 2 presents the frequency and percentage distribution across all three domains of burnout.

Table 2: Participants' Emotional Exhaustion, Depersonalization, And Low Personal Accomplishment Distribution

	Low	**Moderate**	**High**	**Mean SD**
Emotional exhaustion	57 (18.9%)	138 (45.8%)	105 (34.9%)	21.26 ±7.96
Depersonalization	5 (1.7%)	57 (18.9%)	238 (79.1%)	13.98 ±4.88
Personal accomplishment	24 (8.0%)	96 (31.9%)	180 (59.8%)	30.94 ±6.83
Composite burnout	40 (13.3%)	252 (83.7%)	8 (2.7%)	4.65 ±13.31

The overall burnout had no statistically significant association with the department, job title, gender, years of experience, level of education, or age (*p>0.05*). however, there was a statistically significant association between burnout levels with working patterns (p-value *<0.003*) and working hours/week (*p<0.002*).

Table 3: Association between Study Variables and Burnout

	High n (%)	**Moderate n (%)**	**Low n (%)**	**Total**	**p-value**
Department					
General medicine	5(3.75%)	106(79.6%)	22(16.5%)	133	0.179
Surgical	3(1.8%)	146 (87.4%)	18(10.7%)	167	
Job title					
Doctor	5(2.3%)	180(84.9%)	27(12.7%)	212	0.770
Nurse	3(3.4%)	72(81.8 %)	13(14.7%)	88	
Gender					
male	6(3.4%)	153(86.0%)	19(10.7%)	178	0.189
Female	2(1.6%)	99(81.1%)	21(17.2%)	122	

Years of Experience				
less < year years	3(2.8%)	92(84.4%)	14(12.8%)	109	
1-4 years	4(3.0%)	112(84.4%)	16(12.1%)	132	0.902
>4-10 years	1(2.4%)	35(83.3%)	6(14.3%)	42	
>than 10 years	0(0.0%)	13(76.5%)	4(23.5%)	17	
Level of education					
Bachelor level	4(2.4%)	140(84.4%)	21(12.7%)	165	
Specialist level	3(3.0%)	85(85.9%)	11(11.1%)	99	0.552
Master level	1(2.8%)	27(75%)	8(22.2%)	36	
Age					
18-29 years	6(3.0%)	171(84.7%)	25(12.4%)	202	
30-39 years	1(1.2%)	73(84.9%)	112(14.0%)	86	0.395
40-49 years	1(8.3%)	8(66.7%)	3(23.3%)	12	
Working pattern					
day time	0(0.0%)	76(75.0%)	24(24.0%)	100	
Night	2(7.4%)	24(88.9%)	1(3.7%)	27	0.003
Shift	6(3.5%)	151(87.8%)	15(8.7%)	172	
Working hours/week					
50-60 hours	3(1.5%)	160(83.7%)	28(14.6%)	191	
61-80 hours	3(4.5%)	54(81.8%)	9(13.6%)	66	0.002
> 80 hours	1(2.32%)	37(90.2%)	3(7.31%)	41(100%)	

DISCUSSION

The key findings of this study were a statistically significant association between burnout with the working pattern and working hours/week among healthcare professionals working in medical and surgical departments. Overall low burnout levels were in 13.3% of participants, 83.7% had moderate level burnout and only 2.7% of participants had a high level of burnout. These findings are consistent with the results reported by another similar study.[19]

The study holds significance as it was conducted during the time of the Covid-19 pandemic and a recently conducted review reported the emotional turmoil, increased posttraumatic stress, and burnout among healthcare professionals, and few studies used the MBI as a tool of assessment. Burnout, across the globe, is a well-established phenomenon and literature does establish the MBI as a credible tool for the said purpose According to the current study's findings, about half of the participants had moderate to high-level EE, which was similar to the findings of a study conducted by other researchers.[20,21] In a similar Iranian study, the average emotional exhaustion was reported

to be 17.19 whereas the average score reported by our study was 21.26.[22]

High DP levels of the study participants as compared to EE levels were recorded by our study. Study results found that 79.1% of healthcare workers were highly depersonalized, 18.9% were in the moderate category and only 1.7% of study samples had low depersonalization levels. Although, comparison with previous studies' results such as Hague and Pop and Selmanovic et al. 2011 highlights the low level of depersonalization levels among healthcare workers.[21]

High levels of lack of personal accomplishment were reported by 59.8% of healthcare professionals. the study results are comparable with the previous studies projected on burnout syndrome; this study's frequencies of PA are showing contrast with those such as Adeneka et al. 2008[23] which has shown 36% to 38% PA levels among the study participants while Selmanovic et al. 2011(21) showed 50.3%.

The mean scores for the three burnout domains in our study were 21.26 ±7.96 for EE, 13.98 ±4.88 for DP and 30.94 ±6.83 for PA. as per the findings of another study conducted among healthcare providers, the mean scores (± SD) in emotional exhaustion,

depersonalization and personal accomplishment subscales were 8.9 ($\pm$ 9.0), 23 ($\pm$ 2.9), and 34 ($\pm$ 8.6), respectively[24] while another similar study reported higher values as 26.6 ($\pm$ 7.4), 10.2 ($\pm$ 2.2), and 27.3 ($\pm$ 3.9), respectively for EE, DP and PA.[25]

Our study found no significant association between gender and age with burnout syndrome whereas several similar studies reported the opposite of our findings.[26-28] Additionally, another socio-demographic factor is job title which consisted of doctors' and nurses. Our study results showed almost similar frequencies for both specialties and found a significant relationship between job titles with all three dimensions and total burnout.

Previous articles presented different results of three dimensions of burnout with career-related aspects for physicians at the start of their careers were affected by high depersonalization while in the middle of their careers they suffered from emotional exhaustion.[29] Although, further studies reviewed in a systematic review state that occupational burn out decreases with the increase of medical professionalism.[30]

CONCLUSION

The current study has generated clear evidence regarding burnout among healthcare professionals and the association between different constructs. Despite being conducted on a limited level, the study does highlight the factors to be considered to design effective strategies to help health care professional (HCP) overcome burnout to improve both personal and professional quality of life.

AUTHOR'S CONTRIBUTION

RG: Concept, Design, and proofreading
AA: Acquisition and critical review
IA: Analysis and interpretation of data
SA: Drafting of the first and final draft of the manuscript, submission and correspondence
AA: Data collection and final approval
SZK: Literature Search and data enter
AZK: Data Entry, writing of result section

REFERENCES

1. González-Sanguino C, Ausín B, Castellanos MA, Saiz J, Muñoz M. Mental health consequences of the Covid-19 outbreak in Spain. A longitudinal study of the alarm situation and return to the new normality. Prog. Neuro-Psychopharmacol. Biol. Psychiatry. 2021 Apr 20;107:110219. https://doi.org/10.1016/j.pnpbp.2020.110219.

2. Emiliani F, Contarello A, Brondi S, Palareti L, Sini SP, Romaioli D. Social Representations of" Normality": Everyday Life in Old and New Normalities with Covid-19. Pap. Soc. Represent 2020:36

3. Aleem S, Mahmood N, Kibria Z, Gul R. Perception of Master of Public Health Students regarding E-Learning in Covid-19 Era: A New Normal in Lower-and Middle-Income Countries. Pak J Med Sci. 2022 Mar;38(3Part-I):617. doi: 10.12669/pjms.38.3.4626 .

4. Vander Elst T, Cavents C, Daniels K, Johannik K, Baillien E, Van den Broeck A, Godderis L. Job demands–resources predicting burnout and work engagement among Belgian home health care nurses: A cross-sectional study. Nurs. Outlook. 2016 Nov 1;64(6):542-56. https://doi.org/10.1016/j.outlook.2016.06.004

5. Galanis P, Vraka I, Fragkou D, Bilali A, Kaitelidou D. Nurses' burnout and associated risk factors during the COVID-19 pandemic: A systematic review and meta-analysis J Adv Nurs. 2021 Aug;77(8):3286-302. https://doi.org/10.1111/jan.14839.

6. Mohammed HA, Elamin SA, El-Awaisi A, El Hajj MS. Use of the job demands-resource model to understand community pharmacists' burnout during the COVID-19 pandemic. RSAP. 2022 Mar 23. https://doi.org/10.1016/j.sapharm.2022.03.011.

7. Chemali Z, Ezzeddine FL, Gelaye B, Dossett ML, Salameh J, Bizri M, Dubale B, Fricchione G. Burnout among healthcare providers in the complex environment of the Middle East: a systematic review. BMC public health. 2019 Dec;19(1):1-21. https://doi.org/10.1186/s12889-019-7713-1.

8. Orzechowska A, Talarowska M, Drozda R, Mirowska D, Florkowski A, Zboralski K, Gałecki P. The burnout syndrome among doctors and nurses. Polski Merkuriusz Lekarski: Organ Polskiego Towarzystwa Lekarskiego. 2008 Dec 1;25(150):507-9.

9. Chirico F, Afolabi AA, Ilesanmi OS, Nucera G, Ferrari G, Sacco A, Szarpak L, Crescenzo P, Magnavita N, Leiter MP. Prevalence, risk factors and prevention of burnout syndrome among healthcare workers: an umbrella review of systematic reviews and meta-analyses. J Health Soc Sci 2021;6(4):465-91. doi: 10.19204/2021/prvl3.

10. Cañadas-De la Fuente GA, Vargas C, San Luis C, García I, Cañadas GR, Emilia I. Risk factors and prevalence of burnout syndrome in the nursing professionInt J Nurs Stud. 2015 Jan 1;52(1):240-9. https://doi.org/10.1016/j.ijnurstu.2014.07.001

11. Zare S, Kazemi R, Izadi A, Smith A. Beyond the outbreak of covid-19: factors affecting burnout in nurses in Iran. Ann Glob Health. 2021;87(1). doi: 10.5334/aogh.3190

12. Urbanetto JD, Silva PC, Hoffmeister E, Negri BS, Costa BE, Figueiredo CE. Workplace stress in nursing workers from an emergency hospital: Job Stress Scale analysis. Revista latino-americana de enfermagem. 2011;19:1122-31. https://doi.org/10.1590/S0104-11692011000500009.

13. Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory. Scarecrow Education.

14. Calderón-de la Cruz GA, Merino-Soto C, Juárez-García A, Dominguez-Lara S, Fernández-Arata M. Is the factorial structure of the Maslach Burnout Inventory Human Service Survey (MBI-HSS) replicable in the nursing profession in Peru? A national study. Enfermería Clínica (English Edition). 2020 Sep 1;30(5):340-8. https://doi.org/10.1016/j.enfcle.2019.12.004.

15. Wickramasinghe ND, Dissanayake DS, Abeywardena GS. Validity and reliability of the Maslach Burnout Inventory-student survey in Sri Lanka. BMC psychology. 2018 Dec;6(1):1-0. https://doi.org/10.1186/s40359-018-0267-7.

16. Moalemi S, Kavosi Z, Beygi N, Deghan A, Karimi A, Parvizi MM. Evaluation of the Persian version of Maslach burnout inventory-human services survey among Iranian nurses: Validity and reliability. Galen med j. 2018;7:e995.

17. Lin CY, Alimoradi Z, Griffiths MD, Pakpour AH. Psychometric properties of the Maslach Burnout Inventory for Medical Personnel (MBI-HSS-MP). Heliyon. 2022 Feb 1;8(2):e08868.

https://doi.org/10.1016/j.heliyon.2022.e08868

18. Liaqat N, Dar SH, Waheed K. Burn out among the paediatric surgeons of Pakistan. J Pak Med Assoc. 2019 Nov 1;69(11):1730-3.

19. Embriaco N, Papazian L. Erratum: High Level of Burnout in Intensivists—Prevalence and Associated Factors. Am J Respir Crit Care Med. 2007 Jun 1;175(11):1209a-10.

20. Chopra SS, Sotile WM, Sotile MO. Physician burnout. Jama. 2004 Feb 4;291(5):633-. doi:10.1001/jama.291.5.633-

21. Selmanovic S, Ramic E, Brekalo-Lazarevic S, Alic A. Stress at work and burnout syndrome in hospital doctors. Medical archives. 2011 Jul 1;65(4):221. doi: 10.5455/medarh.2011.65.221-224.

22. Khosravi A, Ranjbar M, Erfan A, Sadeghi Z, Amiri M. Burnout in primary health care providers in Mazandaran province. Int. J. Health Sci. 2018 Aug 26;3(4). doi: http://dx.doi.org/10.22100/ijhs.v3i4.298.

23. Oyefeso A, Clancy C, Farmer R. Prevalence and associated factors in burnout and psychological morbidity among substance misuse professionals. BMC Health Services Research. 2008 Dec;8(1):1-9. https://doi.org/10.1186/1472-6963-8-39

24. Bazmi E, Alipour A, Yasamy MT, Kheradmand A, Salehpour S, Khodakarim S, Soori H. Job burnout and related factors among health sector employees Iran. J. Psychiatry. 2019 Oct;14(4):309.

25. Jalili M, Niroomand M, Hadavand F, Zeinali K, Fotouhi A. Burnout among healthcare professionals during COVID-19 pandemic: a cross-sectional study IAOEH. 2021 Aug;94(6):1345-52. https://doi.org/10.1007/s00420-021-01695-x.

26. Xing J, Sun N, Xu J, Geng S, Li Y. Study of the mental health status of medical personnel dealing with new coronavirus pneumonia. PloS one. 2020 May 19;15(5):e0233145. https://doi.org/10.1371/journal.pone.0233145

27. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, Wu J, Du H, Chen T, Li R, Tan H. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA network open. 2020 Mar 2;3(3):e203976 doi:10.1001/jamanetworkopen.2020.3976.

28. Menon GR, Yadav J, Aggarwal S, Singh R, Kaur S, Chakma T, Periyasamy M, Venkateswaran C, Singh PK, Balachandar R, Kulkarni R. Psychological distress and

burnout among healthcare worker during COVID-19 pandemic in India—A cross-sectional study. PloS one. 2022 Mar 10;17(3):e0264956. https://doi.org/10.1371/journal.pone.0264956

29. Dyrbye LN, West CP, Sinsky CA, Trockel M, Tutty M, Satele D, Carlasare L, Shanafelt T. Physicians' Experiences With Mistreatment and Discrimination by Patients, Families, and Visitors and Association With Burnout. JAMA Network Open. 2022 May 2;5(5):e2213080-doi:10.1001/jamanetworkopen.2022.13080

30. Shanafelt TD, West CP, Sinsky C, Trockel M, Tutty M, Wang H, et al., editors. Changes in Burnout and satisfaction with work-life integration in physicians and the general US working population between 2011 and 2020. Mayo Clin Proc. 2022 Mar;97(3):491-506. doi: 10.1016/j.mayocp.2021.11.021.