

The Prevalence of Burnout in Healthcare Workers Presenting to Occupational Health

J. O'Brien, P. Carr, E. Canning

Sligo Department of Occupational Health, JFK House. Kennedy Parade, Co. Sligo, Ireland.

Abstract

Aim

The prevalence of burnout among healthcare workers is high and has been a longstanding issue affecting various roles and demographics. This study evaluates the prevalence of burnout in healthcare workers presenting to Occupational Health and aims to determine if there is an association between burnout and physical symptoms/conditions, psychological symptoms/conditions or work-related stress.

Methods

The authors carried out a cross-sectional online survey measuring demographic and work-related variables in those accessing our occupational health services. We evaluated rates of burnout using the Abbreviated Maslach Burnout Inventory.

Results

50 (15%) healthcare workers responded to the survey and burnout was present in 35 (70%) respondents. Among those presenting with burnout, 30 (86%) were female, 18 (51%) were in the 36-50 age category, and 21 (60%) occupied management/administrative or nursing/midwifery roles. 22 respondents (63%) presented with physical symptoms/conditions, 11 (31%) with work-related stress and 2 (6%) with psychological symptoms/conditions. There was no statistically significant association between burnout and any demographic or work-related variable.

Discussion

Our study aligns with previous research, indicating a high prevalence of burnout in healthcare workers, manifesting as both physical and psychological symptoms. A low threshold for screening is necessary to identify individuals and to provide them with direct tertiary support.

Introduction

Burnout in healthcare workers is a well-recognised phenomenon and its prevalence has only been increasing in recent years¹. Healthcare workers encounter a variety of stressors including time constraints, insufficient support, and exposure to trauma, illness, and death. They form a particularly vulnerable cohort, and these inherent stressors can lead to symptoms of burnout,

affecting both an individual's psychological and physical health to varying extents. Risk factors for burnout can be divided into individual and organisational. Healthcare environments frequently demand sustained compassion from workers, which can lead to the neglect of their own self-care and avoidance of seeking help. Healthcare workers who engage in presenteeism are at higher risk of burnout, with certain personality traits playing an integral role in the development of this syndrome^{2,3}.

Burnout is an occupational psychological syndrome with three key components: emotional exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment. The World Health Organisation classifies burnout in the International Classification of Diseases (ICD-11) as: 'a syndrome conceptualised as resulting from chronic workplace stress that has not been successfully managed. Burnout refers specifically to phenomena in the occupational context⁴'. While burnout is not a distinct medical condition, those that develop it are at increased risk for diagnosable mental health conditions such as substance misuse, generalised anxiety disorder, and depression⁵.

It is clearly evident that the mental health of healthcare workers worldwide has been severely impacted by Covid-19, leading to widespread burnout. A global meta-analysis of systematic reviews found burnout rates varying between 12-45.6%⁶, while another systemic review showed overall rates of burnout ranging from 14.7-90.4%⁷. This wide variation may stem from the diverse definitions and measurement methods for burnout across various cultures and organisations. In Ireland, several studies have illustrated increased rates of burnout in physicians, with staff shortages and increased workloads identified as contributing factors^{8,9}.

Burnout was already a well-recognised issue in Ireland even before the pandemic emerged, with studies illustrating high rates of burnout among both consultants (42%) and psychiatry trainees (36.2%)^{9,10}. A 2014 national survey of 1,749 physicians showed an overall rate of burnout of 29.7%, with a higher rate in more junior trainees (41.8%) compared with consultants (21%)¹¹.

A meta-analysis revealed high burnout prevalence rates amongst nurses, affecting an estimated one tenth of the global nurse population (11.23%), with significant variability in terms of geographic location and nursing speciality¹². Evidence also suggests that ambulance staff experience particularly high levels of burnout, especially those working as lone-responders¹³.

The primary aim of this study was to assess the prevalence of burnout amongst healthcare workers presenting to our occupational health department. We also aimed to assess whether burnout was more prevalent among those presenting with either of the following: work-related stress, psychological symptoms/conditions, or physical symptoms/conditions.

Methods

This was a single centre, cross-sectional study looking at service users presenting to the Occupational Health Department over a 5 month period (September 2023-January 2024). A total of 335 service users were invited to take part in the study in this timeframe. Originally, the study was intended for a period of three months, but due to low response rates, the timeframe had to be extended. Along with the occupational health appointment details, a survey invitation link and a

patient information leaflet were provided to the recipients via post. This allowed the survey to be completed at the individual's discretion, either before or after their occupational health review.

Inclusion criteria for the study was all service users who were being assessed or reviewed during the study period regardless of their reason for referral/review. Participants were asked to only complete the study once to avoid duplication. Exclusion criteria for the study was service users who were not working for the HSE or within the catchment area of Sligo Occupational Health Department. This study was approved by the Sligo University Hospital Research Ethics Committee prior to commencement and was performed in accordance with appropriate data protection legislation. The authors had no conflicts of interest to declare and no external funding was received.

Service users who chose to participate were redirected to an online questionnaire which captured basic demographic information, healthcare worker category, reason for review (work-related stress versus psychological symptoms/conditions versus physical symptoms/conditions) and an abbreviated Maslach Burnout Inventory (a-MBI). The survey additionally enquired about respondents' primary source of workplace stress and their suggestions for enhancing staff well-being.

Burnout was assessed using the a-MBI, a reliable and validated scale that has shown a strong correlation with the full Maslach Burnout Inventory¹⁴. However, a study on anesthesiology residents in Singapore, suggests that the a-MBI may overestimate burnout prevalence, potentially leading to false positives¹⁵.

The a-MBI consists of a 9-item questionnaire divided into three categories: emotional exhaustion (EE), depersonalisation (DP), and personal accomplishment (PA), with each category evaluated by three questions. Responses were measured on a 7-point Likert scale, ranging from 'never' (0) to 'every day' (6), allowing sub-scale scores to vary between 0 and 18. Higher scores in the EE and DP categories suggest increased burnout levels, while for PA, lower scores are indicative of burnout. The a-MBI utilises validated cutoffs to determine burnout: scores above 6 for DP, above 9 for EE, and below 9 for PA. Following prior research protocols, burnout was defined when scores exceeded the thresholds in the EE or DP dimensions. The figures for the pre-determined cutoff points in the a-MBI were determined by normative studies.

Statistical analysis was carried out using IBM Statistical Package for Social Sciences. Demographic and work-related data were summarised using descriptive analysis. A p value <0.05 was used as the level of significance. The association between categorical variables was explored using the chi-square test or Fisher's exact test as appropriate. The internal reliability of each subscale of the a-MBI was assessed by calculating Cronbach's alpha coefficient.

Results

The survey was completed by 50 participants, yielding a response rate of 15%. The demographic breakdown revealed that 8 (16%) of the respondents were male, while 42 (84%) were female. Twenty five respondents (50%) were in the 36-50 year age category. Fifteen participants (30%) held nursing/midwifery positions, while 13 participants (26%) were in management/administration

roles. The distribution of employment settings was balanced, with exactly half of the respondents based in either an acute or community unit. The results of the demographic and work-related variables are summarised in Table 1.

Table 1: Demographics and Work-related Variables

		n	%
Gender	Female	42	84
	Male	8	16
Age	18-35	8	16
	36-50	25	50
	50	17	34
Role	Medicine/Dentistry	3	6
	Nursing/Midwifery	15	30
	General Support	11	22
	Management/Administrative	13	26
	Health and Social Care	8	16
Location	Acute Unit	25	50
	Community	25	50
Reason for review	Work-related stress	13	26
	Physical symptoms/conditions	32	64
	Psychological symptoms/conditions	3	6
	Unknown	2	4

Service users most frequently presented to the occupational health department with physical symptoms/conditions, accounting for 32 respondents (64%). This was significantly higher than the number of respondents presenting with work-related stress and psychological

symptoms/conditions, which accounted for 13 respondents (26%) and 3 respondents (6%), respectively.

For each domain, the a-MBI scores ranged from 0 to 18. Validated burnout cutoffs were used (>6 for depersonalisation, >9 for emotional exhaustion, and <9 for personal accomplishment). A total of 35 (70%) respondents had levels indicative of burnout in the DP domain, 4 (8%) in the EE domain and 14 (28%) in the PA domain. The a-MBI revealed median scores among respondents as follows: 5 for EE (IQR 4-6), 8 for DP (IQR 6-10), and 11 for PA (IQR of 7.3-13)

Based on calculated total scores of EE and DP, burnout was present in 35 respondents (70%) in this sample. No factors were significantly associated with burnout in the analysis comparing demographic data and other work-related variables. Among those presenting with burnout in our study, 30 (86%) were female ($p=0.7$), 18 (51%) were in the 36-50 age category ($p=0.5$), and 21 (60%) occupied management/administrative or nursing/midwifery roles ($p=0.7$). These associations did not reach statistical significance.

The primary sources of workplace stress were identified, with 31 (62%) respondents attributing this to demands, and 13 (26%) to support within the role. There was no statistically significant association between the causes of workplace stress (demands, control, relationships, change, support, and the presence of burnout in our study ($p= 0.5$). Additionally, there was no statistically significant association between burnout and presenting with either: physical symptoms/conditions, psychological symptoms/conditions or work-related stress ($p=0.6$). However, among those classified as experiencing burnout, the majority presented with physical symptoms/conditions, accounting for twenty-two respondents (63%). Eleven respondents (31%) presented with work-related stress, and 2 (6%) with psychological symptoms/conditions. The findings are summarised in Table 2.

Table 2: Prevalence of Burnout by Review Reason

Reason for review	N	%
Physical symptoms/conditions	22	63
Work-related stress	11	31
Psychological symptoms/conditions	2	6
		$p= 0.6$

The internal consistency of the three sub-scales was assessed using Cronbach's Alpha coefficient. The results indicated low to moderate reliability, with values ranging from 0.54 to 0.61. These values indicate some inconsistency in how items within each sub-scale are related. The small sample size may have influenced these results, potentially affecting their reliability.

Finally, when we surveyed respondents on ways to enhance staff wellbeing, several key themes were identified. The most commonly cited were: improved communication, adequate staffing, and strong management support. Additionally, flexible working arrangements and sufficient resources were frequently mentioned as important factors to improve staff wellbeing.

Discussion

Consistent with previous studies in healthcare workers, the prevalence of burnout in those presenting to our occupational health department was high at 70%. Global evidence suggests that challenges associated with the COVID-19 pandemic have increased rates of burnout across various roles and specialities, particularly front-line staff. Four years after its onset, burnout remains a persistent issue among this group, accompanied by widespread general mental health problems¹⁶. Burnout rates are also notably high in the banking sector, with a study from Spain revealing that 55.78% of participants were at high risk for burnout in at least two dimensions of the Maslach Burnout Inventory¹⁷. A systematic review currently underway is analysing the global prevalence of burnout among bank employees, which will significantly contribute to the literature on burnout in this sector¹⁸.

Burnout can present in various forms, including cognitive, emotional, attitudinal, and behavioural changes, with deleterious consequences to both mental and physical health. It is not a discrete set of symptoms, but a developmental process that evolves over time. Employees who experience symptoms of burnout often suffer from both physical and psychological health issues, such as sleep issues, headaches, infection, along with increased rates of depression, suicidal ideation, anxiety, and dissatisfaction with life^{19,20, 21}.

In our study, we found no statistically significant association between the presence of burnout and presenting to our occupational health department with either: physical symptoms/conditions, psychological symptoms/conditions, or work-related stress. However, we observed that individuals experiencing burnout presented most frequently with physical symptoms or conditions and were more likely to score highly on the depersonalisation domain rather than the emotional exhaustion domain. While symptoms of burnout can manifest in various ways, accurate conclusions can not be drawn from these findings due to the limitations of the study. A possible explanation for these findings could be that psychological stress can manifest in physical symptoms, or a reluctance of participants to report psychological symptoms or work-related stress due to the stigma associated

with mental health issues. Further research is needed with larger data sets to provide a more comprehensive understanding of the symptoms of burnout and how they are reported.

There were significant limitations in this study including the small sample size and the potential for response bias. The small sample size likely affected the statistical power of the study making it more difficult to detect significant associations that may exist in the broader population. This may increase the likelihood of both Type I and Type II errors. Additionally, the small sample size limits the generalisability of the findings to the wider population of healthcare workers, particularly as individuals visiting the occupational health department may represent a population with higher levels of burnout due to selection bias. The sampling strategy involving self-selection means that the prevalence of burnout observed in this study is likely higher than what might be seen in the general healthcare worker population. Certain healthcare workers may be more likely to access occupational health services due to factors such as increased awareness of these resources, or a management-driven referral, which may have further contributed to sampling bias.

There is also the potential for other types of bias to affect this study including: response bias, measurement bias, and recall bias. As mentioned previously in the methodology section, the a-MBI may overestimate the prevalence of burnout in healthcare workers. Latent burnout profiles have been used more frequently in recent years as a more nuanced approach to understanding burnout. Latent profile analysis allows researchers to identify distinct subgroups of individuals based on their burnout symptoms²².

Delivering the survey information by post in hard copy format with the occupational health appointment details, either via QR code or web link, introduced an additional step in order to access the survey platform, which may have contributed to the low response rate, further reducing the sample size. A low response rate also increases the risk of nonresponse bias, where individuals who completed the survey may systematically differ from those who did not. Together these limitations suggest that the findings should be interpreted with caution as the small sample size, selection bias, and low response rate could affect both the reliability and generalisability of the results.

Addressing burnout requires a multifaceted, systematic approach. Adopting the hierarchy of controls, primary level interventions prioritise identifying and mitigating organisational risk factors directly at their source. This approach focuses on altering work conditions and practices that contribute to burnout, such as excessive workload, insufficient resources, and lack of support. A review of studies found that organisational interventions were more effective than individual interventions in alleviating symptoms of burnout²³. Respondents in our study found workplace demands and support to be the greatest contributing factors toward stress within the workplace, further supporting the importance of implementing change at this level.

Secondary level interventions target the individual directly, focusing on enhancing personal skills and coping mechanisms. Practicing mindfulness, managing stress, and participating in small group discussions, have shown effectiveness in mitigating symptoms of burnout in physicians²⁴. Tertiary level interventions focus on the rehabilitation of individuals who have already experienced burnout, and the implementation of strategies to facilitate their ongoing recovery.

Despite the study limitations, the prevalence of burnout among healthcare workers accessing occupational health was found to be high at 70%. These findings advocate for systemic changes within organisations to more effectively manage the persistent issue of burnout in healthcare settings. Occupational Health Physicians are well positioned to identify individuals experiencing burnout and to provide the necessary support to improve the health and wellbeing of the workforce.

Declarations of Conflicts of Interest:

None declared.

Corresponding Author:

Joanne O' Brien,
Sligo Department of Occupational Health,
JFK House,
Kennedy Parade,
Co. Sligo,
Ireland.

E-Mail: joanneob.1qw@gmail.com

References:

1. Shanafelt TD, Hasan O, Dyrbye LN, Sinsky C, Satele D, Sloan J, et al. Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. *Mayo Clin Proc.* 2015;90(12):1600-13.
2. Pei P, Lin G, Li G, Zhu Y, Xi X. The association between doctors' presenteeism and job burnout: a cross-sectional survey study in China. *BMC Health Serv Res.* 2020;20(1):715.
3. Gustafsson G, Persson B, Eriksson S, Norberg A, Strandberg G. Personality traits among burnt out and non-burnt out health-care personnel at the same workplaces: a pilot study. *Int J Ment Health Nurs.* 2009;18(5):336-48.
4. World, Health, Organisation. International Classification Diseases, , 11th Revision (ICD-11) 2019 [Available from: <https://icd.who.int/browse11/l-m/en>.
5. van Dam A. A clinical perspective on burnout: diagnosis, classification, and treatment of clinical burnout. *European Journal of Work and Organizational Psychology.* 2021;30(5):732-41.

6. Chutiyami M, Cheong AMY, Salihu D, Bello UM, Ndwiga D, Maharaj R, et al. COVID-19 Pandemic and Overall Mental Health of Healthcare Professionals Globally: A Meta-Review of Systematic Reviews. *Front Psychiatry*. 2021;12:804525.
7. Claponea RM, Pop LM, Iorga M, Iurcov R. Symptoms of Burnout Syndrome among Physicians during the Outbreak of COVID-19 Pandemic-A Systematic Literature Review. *Healthcare (Basel)*. 2022;10(6).
8. Doherty AM, Colleran GC, Durcan L, Irvine AD, Barrett E. A pilot study of burnout and long covid in senior specialist doctors. *Ir J Med Sci*. 2022;191(1):133-7.
9. McLoughlin C, Abdalla A, O'Callaghan AK, Casey S, Barrett E. The Impact of COVID-19 on Burnout, Psychological Well-being, and Work Satisfaction in Psychiatry Trainees in Ireland. *Acad Psychiatry*. 2022;46(6):701-9.
10. Margiotta F, Crudden G, Byrne D, Doherty AM. Prevalence and co-variates of burnout in consultant hospital doctors: burnout in consultants in Ireland Study (BICDIS). *Ir J Med Sci*. 2019;188(2):355-64.
11. Hayes B, Prihodova L, Walsh G, Doyle F, Doherty S. Doctors don't Do-little: a national cross-sectional study of workplace well-being of hospital doctors in Ireland. *BMJ Open*. 2019;9(3):e025433.
12. Woo T, Ho R, Tang A, Tam W. Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis. *J Psychiatr Res*. 2020;123:9-20.
13. NHS. Workforce survey 2022.
14. Riley MR, Mohr DC, Waddimba AC. The reliability and validity of three-item screening measures for burnout: Evidence from group-employed health care practitioners in upstate New York. *Stress Health*. 2018;34(1):187-93.
15. Lim WY, Ong J, Ong S, Hao Y, Abdullah HR, Koh DL, et al. The Abbreviated Maslach Burnout Inventory Can Overestimate Burnout: A Study of Anesthesiology Residents. *J Clin Med*. 2019;9(1).
16. Gambaro E, Gramaglia C, Marangon D, Probo M, Rudoni M, Zeppegno P. Health Workers' Burnout and COVID-19 Pandemic: 1-Year after-Results from a Repeated Cross-Sectional Survey. *Int J Environ Res Public Health*. 2023;20(12).
17. Amigo I. AE, Menéndez I., Redondo S., Ledesma J. A. Working in direct contact with the public as a predictor of burnout in the banking sector. *Psicothema*. 2014(26):222–6.
18. Tehrani SA, Keshtkar A, Ramasamy A, Fadaei M. The worldwide prevalence of burnout syndrome among bank employees: a systematic review and meta-analysis protocol. *Syst Rev*. 2021;10(1):283.
19. Kim H Ji J KD. Burnout and physical health among social workers: A three-year longitudinal study. *Soc Work*. 2011;56(3):258-6.
20. Shanafelt TD BC, Dyrbye L, et al. Special Report: Suicidal Ideation Among American Surgeons. *Arch Surg*. 2011;146(1):54–62.

21. Hakanen JJ, Schaufeli WB. Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *J Affect Disord.* 2012;141(2-3):415-24.
22. Leiter MP, Maslach C. Latent burnout profiles: A new approach to understanding the burnout experience. *Burnout Research.* 2016;3(4):89-100.
23. Panagioti M PE, Bower P, et al. Controlled Interventions to Reduce Burnout in Physicians: A Systematic Review and Meta-analysis. *JAMA Intern Med.* 2017;177(2):95–205.
24. 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):2272-81.