



A pilot study of burnout and long covid in senior specialist doctors

Anne M. Doherty^{1,2} · Gabrielle C. Colleran^{3,4} · Laura Durcan^{5,6} · Alan D. Irvine^{3,7} · Elizabeth Barrett^{1,3,8}

Received: 26 February 2021 / Accepted: 7 March 2021 / Published online: 13 March 2021
© Royal Academy of Medicine in Ireland 2021

Abstract

Background Covid-19 has placed unprecedented demand on healthcare systems and on healthcare professionals. There have been concerns about the risk of distress, moral injury and burnout among healthcare professionals, especially doctors.

Aim To assess the effect of the ongoing Covid-19 pandemic on Irish doctors by investigating the incidence of burnout and long covid among senior medical staff in Ireland.

Methods This is a cross-sectional pilot study of the prevalence of burnout and long covid among senior physicians. A survey was sent by email to members of the Irish Hospital Consultant's Association. The survey included measures of mental and physical health and the 2-item Maslach Burnout Scale (MBS-2). The study explored the experience of delivering health care in the context of a pandemic and experience of the long covid syndrome.

Results A total of 114 responses were received. Three-quarters 77% ($N = 88$) screened positive for burnout on the MBS, with mean score of 5.6 (SD3.3), nearly double the cut-off for burnout. Nearly two-thirds (64%, $n = 72$) reported that Covid-19 has had an adverse effect on their mental health. One-quarter reported that they or colleagues had experience of 'long-covid' secondary to the virus.

Conclusion More comprehensive evaluation of the effect of the pandemic on front-line staff is needed to identify the extent of the problem and the factors which contribute to it. This will inform measures to mitigate these effects.

Keywords Burnout · Covid-19 · Emotional exhaustion · Moral distress · Resilience

Introduction

Covid-19 is a novel coronavirus associated with atypical cases of pneumonia: severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), first reported in Wuhan, China, in December 2019. This disease, Covid-19, has since then

spread internationally and was declared a pandemic by the WHO on March 11, 2020. By February 18, 2021, there were over 109 million cases worldwide and 2.4 million deaths [1]. In addition to the acute symptoms of respiratory, immunologic and systemic illness, increasingly, the 'long-covid' syndrome is reported-described as post Covid-19 syndrome characterised by persistent symptoms of covid including chronic fatigue, pain and dyspnoea [2].

Concerns were raised from early in the pandemic on the potential psychological effects of the pandemic on health care professionals including moral injury and burnout, and more severe mental health problems such as post-traumatic stress disorder [3]. Internationally, there were calls to enhance not just psychological supports for staff, but to ensure that the necessary practical supports and work-practices were in place to mitigate some of these foreseeable effects, as well as to ensure this phenomenon is adequately researched [4–7].

Burnout is a condition which is defined by negative emotions arising in response to chronic work stress. Research

✉ Anne M. Doherty
Anne.doherty@ucd.ie

¹ School of Medicine, University College Dublin, Dublin, Ireland

² Mater Misericordiae University Hospital, Dublin, Ireland

³ Children's Health Ireland, Temple Street, Dublin, Ireland

⁴ National Maternity Hospital, Dublin, Ireland

⁵ Beaumont Hospital, Dublin, Ireland

⁶ Royal College of Surgeons in Ireland, Dublin, Ireland

⁷ Children's Health Ireland, Crumlin, Dublin, Ireland

⁸ Clinical Medicine, Trinity College Dublin, Dublin, Ireland

in the past two decades has defined the problem as having three dimensions: (i) emotional exhaustion, (ii) cynicism and detachment with an associated reduction in empathy, and (iii) sense of lack of accomplishment [8]. Doctors are particularly vulnerable to burnout and job dissatisfaction in comparison to other professions [9]. Shanafelt reported that one-third of doctors experience burnout at any given time [10]. Doctors often have conscientious and committed personality traits with high expectations of their performance, which interact with escalating demanding work, and a subjective lack of control with no obvious rewards [11]. Without the necessary adjustments, this escalating stress may result in burnout, with potential consequences for physical and mental health [12, 13]. Doctors suffering reduced functioning associated with burnout are also at increased risk of medical errors [14, 15]. Burnout has been associated with a number of work related stressors including lack of work-life balance, and perceived under-appreciation at work [16]. Furthermore, long working hours and high patient volume and a sense of lack of control of the working environment have been associated with burnout [17]. Previous studies of Irish consultants have found high rates of burnout, ranging from 44–54% [18, 19].

The aim of this study was to assess the effect of the ongoing Covid-19 pandemic on Irish doctors by investigating the incidence of burnout and long covid among senior medical staff in Ireland.

Methods

This is cross-sectional pilot study of the prevalence of the mental health effects (including burnout), and long covid among senior physicians. A pilot survey was sent as a

hyperlink by email to members of the Irish Hospital Consultant's Association (IHCA). Recipients were requested to nominate one respondent per department, and to reply within 24 h. There are 3200 members of the IHCA, working across 65 hospitals and further mental health units: an estimated total of 500 departments. The survey included a modified version of the 2-item MBI in addition to questions about other domains of burnout and experience of the long covid syndrome.

The MBI-2 is a 2-item measure of burnout which has been validated in medical populations against the longer MBI-HSS. The MBI-2 is a 7-item Likert scale ranging from 0 to 6: from never (0) having the experience to experiencing it daily (6). A score of 3 or greater is a positive screen for burnout [20, 21]. As there are 3 dimensions of burnout, an additional question to capture experience of personal accomplishment was added to this.

Exemption from full ethical review was obtained from the Research Ethics Committee at University College Dublin (LS-E-21-45).

Results

In total, 114 responses were received (an approximate response rate of 22.8%). All were anonymous and did not include detail on age or gender. A significant majority 77% ($n = 88$) screened positive for burnout on the MBI (Table 1). Two-thirds 65% ($n = 74$) of respondents exceeded to score for burnout using the emotional exhaustion subscale alone—the mean score of 3.01 for this subscale alone is above the cut-off for the whole measure. Nearly half 47% of respondents screened positive using the cynicism or detachment subscale alone. A majority (50.9%) reported regular feelings of

Table 1 Frequency of symptoms of burnout as measured by a 7-point Likert scale (0–6)

	Never (0)	A few times a year or less (1)	Once a month or less (2)	A few times a month (3)	Once a week (4)	A few times a week (5)	Every day (6)	Mean (SD)
Mental exhaustion, n (%) ¹	8 (7)	19 (16.7)	13 (11.4)	31 (27.2)	10 (8.8)	23 (20.2)	10 (8.8)	3.1 (1.8)
Cynicism or detachment from work, n (%) ²	20 (17.5)	23 (20.2)	17 (14.9)	13 (11.4)	16 (14)	14 (12.3)	11 (9.7)	2.6 (2.0)
Feelings of reduced professional ability or accomplishment, n (%)	18 (15.8)	25 (21.9)	13 (11.4)	22 (19.3)	12 (10.5)	12 (10.5)	12 (10.5)	2.6 (1.9)
Physical exhaustion (%)	8 (7)	23 (20.2)	5 (4.4)	32 (28.1)	14 (12.3)	24 (21.1)	8 (7)	3.1 (1.8)
MBI-2 scale								5.7 (3.3)

Bold type-face indicates more severe difficulties in the domains measured

MBI-2 Maslach Burnout Inventory, 2-item

^aMBI-2, item 1

^bMBI-2, item 2

***The top two measures are the MBS-2, and a total score of ≥ 3 is a positive screen for burnout

reduced professional ability or accomplishment. Over two-thirds (68%) reported feeling physically exhausted regularly.

The majority (84%; $n = 96$) reported that the pandemic has had an adverse effect on their workload, and 14% ($n = 16$) reported a severe impact. Nearly two-thirds (64%; $n = 72$) reported that Covid-19 has had an adverse effect on their mental health, with 12 (11%) reporting a severe adverse impact on their mental health and wellbeing.

One-quarter of staff reported that they or colleagues had experienced prolonged periods of ill health or long-covid secondary to the virus. The majority reported that this was a significant matter of concern. Over three-quarters (78%; $n = 89$) reported that Covid-19 has had an adverse effect on their general well-being, with 32% ($n = 36$) reporting a severe negative effect.

Thematic analysis of the comments in the free-text identified 5 main themes: (1) delay to usual care due to reduction in screening and reduced non covid work, both due to limits on outpatient activity and access to theatre and critical care; (2) vulnerable patient groups being disproportionately affected; (3) inadequate resources and infrastructure; (4) staffing issues, and (5) increased workload (Table 2).

Discussion

This study found that 77% of this sample of Irish medical consultants screened positive for burnout in February 2021, 11 months into the Covid-19 pandemic. These findings that a majority of respondents are screening positive for burnout are highly concerning, and the rate of burnout in this population is nearly double that found in a recent, pre-pandemic study of burnout among Irish senior doctors, which reported levels of

burnout of 42% [18]. The high levels of mental exhaustion reported here were reflected (albeit to a less severe degree) in a previous study of Irish and British urologists; the majority of whom were consultants [22]. This finding suggests a significant rise in the prevalence of burnout in this population. In a study of this nature, it is difficult to make attributions for the increased level of burnout, but it seems likely that Covid-19 has exacerbated the pre-existing strain related to low baseline staffing and a high number of vacant posts. There have been many reports in the population more generally of increasing difficulties in coping with the demands of the pandemic, such as the shift to home-based working, the demands of managing childcare while working from home, and social isolation especially in older people. In addition, there has been an increase in exposure to home-based stressors such as domestic violence and alcoholism [23]. While doctors are less likely to suffer from the isolation of being based at home, many will have been unable to visit relatives and friends for over 11 months. In addition, the changes to work practice including remote consultations, a reduction in routine work, and the concerns about the shift of emphasis away from non-covid care and vulnerable groups. The lack of childcare provision in the setting of school closure has been identified as an important stressor for physician-parents [24]. In addition, the challenges of long-covid and reduced staffing levels with staff either sick or isolating as close contacts of cases were identified in our data as significant problems for doctors.

There is a strong business case for addressing burnout and addressing physician well-being due to its effect on patient care and staff turnover [25]. This may include a variety of measures from local interventions focussing on wellness, such as reflective practice groups (Balint

Table 2 Thematic analysis of free text comments

Theme	Sample comments
Delay to usual care	<p>“Covid had severe impact on our Department as our consultants seeing face to face patients reduced to 50 percent”</p> <p>“Beds, insufficient ICU capacity has shut down all surgery including urgent cancer surgery.”</p> <p>“Hospital management has refused to engage in any discussion regarding non-COVID work or infusion capacity to deal with resumption of non-COVID activity in the coming weeks/months”</p>
Vulnerable patient groups	<p>“Lack of rehabilitative leave for recovering inpatients, lack of day hospital, lack of visiting, lack of access to isolation beds in psychiatric unit”</p> <p>“The vaccination programme has failed to adequately prioritise residents under 65 in mental health residential facilities”</p> <p>“Big issue for mental health services is due to rolling closures of inpatient units”</p>
Inadequate resources and infrastructure	<p>“Capacity and infrastructure problematic now more than ever”</p> <p>“Rapid capital builds necessary to future proof the health system NOW”</p> <p>“Staff and colleagues burnt out, no end in sight. Service has completely collapsed.”</p> <p>“we are just fire-fighting. It is so disheartening. Our service was really good in 2013 and now we are in tatters”</p>
Staffing issues	<p>“Staffing deficit at consultant level a significant issue prior to Covid and has been further exposed during the surge.”</p> <p>“Consultants have received v little support from clinical directors and management in dealing with staff crisis”</p> <p>“The major impact on our services is due to reallocation of skilled theatre nurses to the critical care unit”</p>
Increased workload	<p>“not anticipate receiving any additional resources to help with this. All requests fall on deaf ears”</p> <p>“Has been HIGHLY challenging as I have no colleague or team there.”</p>

groups and Schwartz rounds) to encouraging investment in wellness and ensuring that operational decisions at an organisational level consider staff wellbeing and burnout [25–28].

Some commentators have suggested that Covid-19 presents an opportunity to focus on the psychological wellbeing of health-care staff and that as an “extreme stressor,” it has perhaps highlighted an important area which has not been well explored, especially among certain key specialties [29]. Previous reports that specialists who have high rates of burnout also have a reluctance to seek psychological care are concerning—one pre-covid study reported that only 23% of cardiologist would consider seeking help for symptoms of depression and suicidality. Covid-19 has brought the mental wellbeing of healthcare professionals into focus and allowed the implementation of staff supports to be prioritised. In the context of Covid-19, many hospitals and healthcare organisation have set up well-being supports which were previously either not available or severely limited [4].

Commentary has also focussed on the importance of ensuring that teams are empowered to support each other and that those in a managerial or supervisory role are skilled in identifying distress and sign-posting to more comprehensive supports. Those staff who have been exposed to trauma and develop symptoms will benefit from formal supports, and it is important for individuals (and their organisations) that seeking supports is encouraged and not stigmatised [6].

The limitations of this study include the cross-sectional nature of the scale and the relatively small sample size. While the response rate was quite high, given the turnaround time, those responding may not be wholly representative of the wider cohort. The absence of any demographic data makes it difficult to identify any groups which may be at particularly high risk.

This study highlights the need for further research into burnout in senior doctors which will allow identification of patterns of difficulties, higher risk groups, and to inform suggestions for management of this problem and to find solutions.

Conclusion

There is a need for more comprehensive evaluation of the effect of the pandemic on front line clinical staff, especially in the areas of burnout and long covid. This study suggests significant levels of burnout and mental health difficulties which will require the implementation of measures to manage this. In addition to supportive measures such as reflective practice groups, and formal psychological supports, there may be a need to consider the conditions in which frontline clinical professionals work, in order to support this

essential workforce and minimise the risk of moral injury and burnout.

Acknowledgements We would like to acknowledge the work of the Irish Hospital Consultants Association in this study, and the assistance of all who participated.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

References

1. ECDC (2021) COVID-19 situation update worldwide, as of week 6, updated 18 February 2021. EU: European Centre for Disease Prevention and Control
2. NICE (2020) COVID-19 rapid guideline: managing the long-term effects of COVID-19. London: National Institute for Health and Care Excellence (UK). Copyright © NICE 2020
3. Greenberg N (2020) Mental health of health-care workers in the COVID-19 era. *Nat Rev Nephrol* 16(8):425–426
4. Greenberg N, Brooks SK, Wessely S, Tracy DK (2020) How might the NHS protect the mental health of health-care workers after the COVID-19 crisis? *Lancet Psychiatry* 7(9):733–734
5. Greenberg N, Docherty M, Gnanapragasam S, Wessely S (2020) Managing mental health challenges faced by healthcare workers during covid-19 pandemic. *BMJ* 368:m1211
6. Tracy DK, Tarn M, Eldridge R, Cooke J, Calder JDF, Greenberg N (2020) What should be done to support the mental health of healthcare staff treating COVID-19 patients? *Br J Psychiatry* 217(4):537–539
7. Flynn J, O’Connor L, Hanlon M, Bellani G, Contreras M, Doherty A et al (2021) The identification of needs and development of best practice guidance for the psychological support of frontline healthcare workers during and after COVID-19: a protocol for the FLoWS project. *HRB Open Res* 3:54
8. Maslach C, Leiter MP (2016) Understanding the burnout experience: recent research and its implications for psychiatry. *World psychiatry* 15(2):103–111
9. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D et al (2012) Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med* 172(18):1377–1385
10. Shanafelt TD, Sloan JA, Habermann TM (2003) The well-being of physicians. *Am J Med* 114(6):513–519
11. Riley GJ (2004) Understanding the stresses and strains of being a doctor. *Med J Aust* 181(7):350–353
12. Tan SMK, Jong SC, Chan LF, Jamaludin NA, Phang CK, Jamaluddin NS et al (2013) Physician, heal thyself: the paradox of anxiety amongst house officers and work in a teaching hospital. *Asia-Pac Psychiatry* 5(S1):74–81
13. Lamb D, Greenberg N, Stevelink SAM, Wessely S (2020) Mixed signals about the mental health of the NHS workforce. *Lancet Psychiatry* 7(12):1009–1011
14. West CP, Huschka MM, Novotny PJ, Sloan JA, Kolars JC, Habermann TM et al (2006) Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study. *JAMA* 296(9):1071–1078
15. Fahrenkopf AM, Sectish TC, Barger LK, Sharek PJ, Lewin D, Chiang VW et al (2008) Rates of medication errors among

- depressed and burnt out residents: prospective cohort study. *BMJ* 336(7642):488–491
16. Holmes EG, Connolly A, Putnam KT, Penaskovic KM, Denniston CR, Clark LH et al (2017) Taking care of our own: a multispecialty study of resident and program director perspectives on contributors to burnout and potential interventions. *Acad Psychiatry* 41(2):159–166
 17. Jovanović N, Podlesek A, Volpe U, Barrett E, Ferrari S, Kuzman MR et al (2016) Burnout syndrome among psychiatric trainees in 22 countries: Risk increased by long working hours, lack of supervision, and psychiatry not being first career choice. *Eur Psychiatry* 32:34–41
 18. Margiotta F, Crudden G, Byrne D, Doherty AM (2019) Prevalence and co-variates of burnout in consultant hospital doctors: burnout in consultants in Ireland Study (BICDIS). *Ir J Med Sci* 188(2):355–364
 19. McNicholas F, Sharma S, Oconnor C, Barrett E (2020) Burnout in consultants in child and adolescent mental health services (CAMHS) in Ireland: a cross-sectional study. *BMJ Open* 10(1):e030354
 20. West CP, Dyrbye LN, Sloan JA, Shanafelt TD (2009) Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *J Gen Intern Med* 24(12):1318–1321
 21. Li-Sauerwine S, Rebillot K, Melamed M, Addo N, Lin M (2020) A 2-question summative score correlates with the Maslach burnout inventory. *West J Emerg Med* 21(3):610–617
 22. O’Kelly F, Manecksha RP, Quinlan DM, Reid A, Joyce A, O’Flynn K et al (2016) Rates of self-reported ‘burnout’ and causative factors amongst urologists in Ireland and the UK: a comparative cross-sectional study. *BJU Int* 117(2):363–372
 23. Tsamakidis K, Tsiftsios D, Ouranidis A, Mueller C, Schizas D, Terniotis C et al (2021) COVID-19 and its consequences on mental health (Review). *Exp Ther Med* 21(3):244
 24. Pearson C, Levine M, Messman A, Chopra T, Awali R, Robb L et al (2021) Understanding the impact of COVID-19 on physician moms. *Disaster Med Public Health Prep*:1–17
 25. Shanafelt T, Goh J, Sinsky C (2017) The business case for investing in physician well-being. *JAMA internal medicine* 177(12):1826–1832
 26. Kehoe C, Barrett E (2020) Doctor’s burnout and interventions. *Ir J Psychol Med*:1–3
 27. Taylor C, Xyrichis A, Leamy MC, Reynolds E, Maben J (2018) Can Schwartz Center Rounds support healthcare staff with emotional challenges at work, and how do they compare with other interventions aimed at providing similar support? A systematic review and scoping reviews. *BMJ open* 8(10):e024254
 28. Maben J, Taylor C, Dawson J, Leamy M, McCarthy I, Reynolds E et al (2018) Health services and delivery research. A realist informed mixed-methods evaluation of Schwartz Center Rounds® in England. Southampton (UK): NIHR Journals Library. Copyright © Queen’s Printer and Controller of HMSO 2018. This work was produced by Maben et al. under the terms of a commissioning contract issued by the Secretary of State for Health and Social Care. This issue may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to: NIHR Journals Library, National Institute for Health Research, Evaluation, Trials and Studies Coordinating Centre, Alpha House, University of Southampton Science Park, Southampton SO16 7NS, UK
 29. Patel RK, Sweeney MD, Baker CSR, Greenberg N, Piper SE, Shergill SS et al (2021) If not now, when? Enhancing cardiologists’ psychological well-being as a COVID-19 gain. *Heart*

Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.