# Evidence Search Service Results of your search request

## Effects of COVID-19 on healthcare professionals during pandemic across the world and specifically within the NHS

**ID of request:** 28265  
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**Search terms and notes** (full search strategy for database searches below):

* NHS
* Mental health
* Burnout
* Stress
* Fatigue

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## Contents

[A. Original Research](#Content5)

1. ["We All Really Need to Just Take a Breath": Composite Narratives of Hospital Doctors' Well-Being during the COVID-19 Pandemic](#Research875706)
2. ['Should I Stay, or Should I Go?' Psychological Distress Predicts Career Change Ideation Among Intensive Care Staff in Lithuania and the UK Amid COVID-19 Pandemic](#Research875705)
3. [A Large-Scale Survey on Trauma, Burnout, and Posttraumatic Growth among Nurses during the COVID-19 Pandemic.](#Research876387)
4. [A pilot study of burnout and long covid in senior specialist doctors.](#Research875150)
5. [A rapid review of the impact of COVID-19 on the mental health of healthcare workers: implications for supporting psychological well-being.](#Research876335)
6. [Anxiety, depression, and posttraumatic stress in nurses during the COVID-19 outbreak.](#Research876317)
7. [Anxiety, depression, stress, fear and social support during COVID-19 pandemic among Jordanian healthcare workers.](#Research876309)
8. [Anxiety, sleep disorders and self-efficacy among nurses during COVID-19 pandemic: A large cross-sectional study](#Research876209)
9. [Assessing the psychological impact of COVID-19 on intensive care workers: A single-centre cross-sectional UK-based study](#Research875709)
10. [Burnout and Depression in Portuguese Healthcare Workers during the COVID-19 Pandemic-The Mediating Role of Psychological Resilience.](#Research876332)
11. [Burnout and psychological distress amongst Australian healthcare workers during the COVID-19 pandemic.](#Research876395)
12. [Burnout Prevalence and Its Associated Factors among Malaysian Healthcare Workers during COVID-19 Pandemic: An Embedded Mixed-Method Study.](#Research876327)
13. [Caring for carers.](#Research876176)
14. [COVID-19 Combat Fatigue among the Healthcare Workers: The Time for Retrospection and Action.](#Research876315)
15. [COVID-19 pandemic-related anxiety, distress and burnout: prevalence and associated factors in healthcare workers of North-West Italy.](#Research876337)
16. [Depression, Anxiety, and Stress Among Healthcare Workers During the COVID-19 Outbreak and Relationships With Expressive Flexibility and Context Sensitivity.](#Research876310)
17. [Determination of stress, depression and burnout levels of front-line nurses during the COVID-19 pandemic.](#Research876369)
18. [Early and Mid-Term Implications of the COVID-19 Pandemic on the Physical, Behavioral and Mental Health of Healthcare Professionals: The CoPE-HCP Study Protocol.](#Research875155)
19. [Evaluation of the mental health status of community healthcare workers during the COVID-19 outbreak.](#Research876319)
20. [Exploring stress coping strategies of frontline emergency health workers dealing Covid-19 in Pakistan: A qualitative inquiry.](#Research876423)
21. [Factors associated with work-related burnout in NHS staff during COVID-19: a cross-sectional mixed methods study.](#Research875153)
22. [Factors Related to Care Competence, Workplace Stress, and Intention to Stay among Novice Nurses during the Coronavirus Disease (COVID-19) Pandemic.](#Research876312)
23. [Heat stress and PPE during COVID-19: impact on healthcare workers' performance, safety and well-being in NHS settings.](#Research876359)
24. [ICU nursing shortage can no longer be ignored: COVID-19's second wave is challenging traumatised staff, even though our knowledge bank is greater this time around.](#Research876177)
25. [Impact of burnout, secondary traumatic stress and compassion satisfaction on hand hygiene of healthcare workers during the COVID-19 pandemic.](#Research876314)
26. [Impact of COVID-19 on Anxiety, Stress, and Coping Styles in Nurses in Emergency Departments and Fever Clinics: A Cross-Sectional Survey.](#Research876313)
27. [Impact of COVID-19 outbreak on nurses' mental health: A prospective cohort study.](#Research876354)
28. [Impact of the COVID-19 Pandemic on the Mental Health of Healthcare Workers.](#Research876323)
29. [Levels of burn-out among healthcare workers during the COVID-19 pandemic and their associated factors: a cross-sectional study in a tertiary hospital of a highly burdened area of north-east Italy.](#Research876331)
30. [Mental health among healthcare personnel during COVID-19 in Asia: A systematic review.](#Research876318)
31. [Mental Health Among Medical Professionals During the COVID-19 Pandemic in Eight European Countries: Cross-sectional Survey Study.](#Research875154)
32. [Mental Health Consequences for Healthcare Workers During the COVID-19 Pandemic: A Scoping Review to Draw Lessons for LMICs.](#Research876316)
33. [Mental health interventions for healthcare workers during the first wave of COVID-19 pandemic in Spain.](#Research876321)
34. [Mental health of frontline help-seeking healthcare workers during the COVID-19 outbreak in the first affected hospital in Lombardy, Italy.](#Research876324)
35. [Mental health problems and social supports in the COVID-19 healthcare workers: a Chinese explanatory study.](#Research876334)
36. [Nurses' Workplace Conditions Impacting Their Mental Health during COVID-19: A Cross-Sectional Survey Study.](#Research876329)
37. [Occupational stress, job satisfaction, and intent to leave: nurses working on front lines during COVID-19 pandemic in Zagazig City, Egypt.](#Research876392)
38. [Occupational stressors, mental health, and sleep difficulty among nurses during the COVID-19 pandemic: The mediating roles of cognitive fusion and cognitive reappraisal.](#Research876326)
39. [Post-Traumatic Stress Symptoms in Healthcare Workers Dealing with the COVID-19 Pandemic: A Systematic Review.](#Research876333)
40. [Predictors of poor mental health among nurses during COVID-19 pandemic.](#Research876320)
41. [Prevalence and associated factors of depression, anxiety, and stress among Hubei pediatric nurses during COVID-19 pandemic.](#Research876371)
42. [Prevalence of stress, depression, anxiety and sleep disturbance among nurses during the COVID-19 pandemic: A systematic review and meta-analysis.](#Research876347)
43. [Recovery, restoration, and risk: a cross-sectional survey of the impact of COVID-19 on GPs in the first UK city to lock down.](#Research875156)
44. [Risk of Contracting COVID-19, Personal Resources and Subjective Well-Being among Healthcare Workers: The Mediating Role of Stress and Meaning-Making.](#Research876338)
45. [Secondary Traumatic Stress and Burnout in Healthcare Workers during COVID-19 Outbreak.](#Research876330)
46. [Socio-ecological predictors of mental health outcomes among healthcare workers during the COVID-19 pandemic in the United States.](#Research876325)
47. [Stress, Sleep and Psychological Impact in Healthcare Workers During the Early Phase of COVID-19 in India: A Factor Analysis.](#Research876307)
48. [The effect of Emotional Freedom Techniques on nurses' stress, anxiety, and burnout levels during the COVID-19 pandemic: A randomized controlled trial.](#Research876362)
49. [The use of mental health promotion strategies by nurses to reduce anxiety, stress, and depression during the COVID-19 outbreak: A prospective cohort study.](#Research876322)
50. [TheCovid Chronicles: Developing a departmental newsletter to relay pertinent information and boost morale](#Research875707)
51. [Worry, Severity, Controllability, and Preventive Behaviours of COVID-19 and Their Associations with Mental Health of Turkish Healthcare Workers Working at a Pandemic Hospital.](#Research876311)
52. ['Huge swathes' of doctors could quit without mental health support.](#Research876180)
53. [A Comparison of Burnout Frequency Among Oncology Physicians and Nurses Working on the Frontline and Usual Wards During the COVID-19 Epidemic in Wuhan, China.](#Research876442)
54. [A cross-sectional study of mental health status and self-psychological adjustment in nurses who supported Wuhan for fighting against the COVID-19.](#Research876418)
55. [A New Rating Scale (SAVE-9) to Demonstrate the Stress and Anxiety in the Healthcare Workers During the COVID-19 Viral Epidemic.](#Research876406)
56. [A Study to Evaluate Depression and Perceived Stress Among Frontline Indian Doctors Combating the COVID-19 Pandemic.](#Research876397)
57. [Acute stress disorder, coping self-efficacy and subsequent psychological distress among nurses amid COVID-19.](#Research876414)
58. [Assessing the Impact of COVID-19 on the Mental Health of Healthcare Workers in Three Metropolitan Cities of Pakistan.](#Research876366)
59. [Attitude, practice, behavior, and mental health impact of COVID-19 on doctors.](#Research876413)
60. [Authors' responses to the comments on "Attitude, practice, behavior, and mental health impact of COVID-19 on doctors".](#Research876380)
61. [Avoiding burnout of the care home workforce during the COVID19 pandemic and beyond: Sharing national learning and local initiatives](#Research875704)
62. [Burnout among Healthcare Workers during COVID-19 Pandemic in India: Results of a Questionnaire-based Survey.](#Research876398)
63. [Burnout among Portuguese healthcare workers during the COVID-19 pandemic.](#Research876363)
64. [Burnout amongst emergency healthcare workers during the COVID-19 pandemic: A multi-center study.](#Research876385)
65. [Burnout and its influencing factors between frontline nurses and nurses from other wards during the outbreak of Coronavirus Disease -COVID-19- in Iran.](#Research876394)
66. [Burnout and job satisfaction of healthcare workers in Slovenian nursing homes in rural areas during the COVID-19 pandemic.](#Research876348)
67. [Burnout and Resilience among Frontline Nurses during COVID-19 Pandemic: A Cross-sectional Study in the Emergency Department of a Tertiary Care Center, North India.](#Research876340)
68. [Burnout Syndrome Among Hospital Healthcare Workers During the COVID-19 Pandemic and Civil War: A Cross-Sectional Study.](#Research876346)
69. [Burnout, depersonalization, and anxiety contribute to post-traumatic stress in frontline health workers at COVID-19 patient care, a follow-up study.](#Research876353)
70. [Comment on "Attitude, practice, behavior, and mental health impact of COVID-19 on doctors".](#Research876379)
71. [Coping Mechanisms: Exploring Strategies Utilized by Japanese Healthcare Workers to Reduce Stress and Improve Mental Health during the COVID-19 Pandemic.](#Research876341)
72. [Correction: Stress and sleep: a survey based on wearable sleep trackers among medical and nursing staff in Wuhan during the COVID-19 pandemic.](#Research876412)
73. [COVID-19 confessions: A qualitative exploration of healthcare workers experiences of working with COVID-19](#Research875711)
74. [COVID-19 emergency response assessment study: A prospective longitudinal survey of frontline doctors in the UK and Ireland: study protocol](#Research875713)
75. [COVID-19 helpline opens for nurses.](#Research876185)
76. [COVID-19 Outbreak and Its Association with Healthcare Workers' Emotional Stress: a Cross-Sectional Study.](#Research876388)
77. [Covid-19 pandemic and the surge of panic attacks among NHS nursing staff: An ethnographical perspective](#Research876210)
78. [COVID-19 pandemic: Impact on doctors in training](#Research875714)
79. [COVID-19, Mentally Ill and Mental Health Workers.](#Research876411)
80. [COVID-19: implications for NHS Staff.](#Research876186)
81. [COVID-19: it happens to nurses too--a case study.](#Research876178)
82. [Covid-19: Supporting nurses' psychological and mental health.](#Research876441)
83. [Doctors' Mental Health in the Midst of COVID-19 Pandemic: The Roles of Work Demands and Recovery Experiences.](#Research876393)
84. [Effect of Emotional Intelligence and Psychosocial Risks on Burnout, Job Satisfaction, and Nurses' Health during the COVID-19 Pandemic.](#Research876383)
85. [Efficacy of an online cognitive behavioral therapy program developed for healthcare workers during the COVID-19 pandemic: the REduction of STress (REST) study protocol for a randomized controlled trial.](#Research876391)
86. [Exploring the vulnerability of frontline nurses to COVID-19 and its impact on perceived stress.](#Research876408)
87. [Factors associated with mental health outcomes across healthcare settings in Oman during COVID-19: frontline versus non-frontline healthcare workers.](#Research876396)
88. [Factors contributing to healthcare professional burnout during the COVID-19 pandemic: A rapid turnaround global survey.](#Research876407)
89. [Feelings, Stress, and Adaptation Strategies of Nurses against COVID-19 in Guayaquil.](#Research876357)
90. [Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study.](#Research876416)
91. [Harness this crisis to come out stronger: COVID-19 is putting nurses under extreme pressure, and creating anxiety and fear. Here's how to help colleagues cope.](#Research876100)
92. [Heat Stress and Thermal Perception amongst Healthcare Workers during the COVID-19 Pandemic in India and Singapore.](#Research876381)
93. [How can we protect BAME nurses during the COVID-19 crisis?: The pandemic has disproportionately affected black and minority ethnic people and the NHS has been slow to react.](#Research876181)
94. [How Institutions Can Protect the Mental Health and Psychosocial Well-Being of Their Healthcare Workers in the Current COVID-19 Pandemic.](#Research876428)
95. [Immediate impact of COVID-19 on mental health and its associated factors among healthcare workers: A global perspective across 31 countries.](#Research876372)
96. [Impact of COVID-19 on mental health: Update from the United Kingdom](#Research875712)
97. [Impact of the COVID-19 pandemic on radiography practice: findings from a UK radiography workforce survey.](#Research875164)
98. [Insomnia, fatigue and psychosocial well-being during COVID-19 pandemic: A cross-sectional survey of hospital nursing staff in the United States.](#Research876370)
99. [It's vital nurses take time out for their mental health: Prioritising time for yourself during the COVID-19 pandemic is not optional, it's critical, says a leading nurse.](#Research876101)
100. [Knowledge and Psychological Stress Related to COVID-19 Among Nursing Staff in a Hospital in China: Cross-Sectional Survey Study.](#Research876424)
101. [Labour Market Attachment, Workplace Infection Control Procedures and Mental Health: A Cross-Sectional Survey of Canadian Non-healthcare Workers during the COVID-19 Pandemic.](#Research876355)
102. [Measuring the extent of stress and fear among Registered Nurses in KSA during the COVID-19 Outbreak.](#Research876402)
103. [Mental health amongst obstetrics and gynaecology doctors during the COVID-19 pandemic: Results of a UK-wide study.](#Research876410)
104. [Mental Health and Health-Related Quality-of-Life Outcomes Among Frontline Health Workers During the Peak of COVID-19 Outbreak in Vietnam: A Cross-Sectional Study.](#Research876336)
105. [Mental health and risk perception among Italian healthcare workers during the second month of the Covid-19 pandemic.](#Research876364)
106. [Mental health and well-being of healthcare workers during the COVID-19 pandemic in the UK: contrasting guidelines with experiences in practice.](#Research876361)
107. [Mental health care for medical staff and affiliated healthcare workers during the COVID-19 pandemic.](#Research876436)
108. [Mental health impact of COVID-19 pandemic on Spanish healthcare workers.](#Research876432)
109. [Mental health impact of the first wave of COVID-19 pandemic on Spanish healthcare workers: A large cross-sectional survey.](#Research876356)
110. [Mental health impacts among health workers during COVID-19 in a low resource setting: a cross-sectional survey from Nepal.](#Research876399)
111. [Mental health of healthcare workers during the COVID-19 outbreak: A rapid scoping review to inform provincial guidelines in South Africa.](#Research876373)
112. [Mental Health Outcomes Among Healthcare Workers and the General Population During the COVID-19 in Italy.](#Research876344)
113. [Mental Health Outcomes in Healthcare Workers in COVID-19 and Non-COVID-19 Care Units: A Cross-Sectional Survey in Belgium.](#Research876328)
114. [Mental health problems among healthcare workers involved with the COVID-19 outbreak.](#Research876352)
115. [Mental health problems faced by healthcare workers due to the COVID-19 pandemic-A review.](#Research876439)
116. [Mental Health Problems in Chinese Healthcare Workers Exposed to Workplace Violence During the COVID-19 Outbreak: A Cross-Sectional Study Using Propensity Score Matching Analysis.](#Research876360)
117. [Mental Health Status of Healthcare Workers in China for COVID-19 Epidemic.](#Research876389)
118. [Mental Health Status of University Healthcare Workers during the COVID-19 Pandemic: A Post-Movement Lockdown Assessment.](#Research876358)
119. [Mental health symptoms in a cohort of hospital healthcare workers following the first peak of the COVID-19 pandemic in the UK.](#Research876342)
120. [Mental Health Treatment for Front-Line Clinicians During and After the Coronavirus Disease 2019 (COVID-19) Pandemic: A Plea to the Medical Community.](#Research876433)
121. [Necessity of Attention to Mental Health of the Front Line Nurses against COVID-19: A Forgotten Requirement.](#Research876422)
122. [Nuances of COVID-19 and Psychosocial Work Environment on Nurses' Wellbeing: The Mediating Role of Stress and Eustress in Lieu to JD-R Theory.](#Research876376)
123. [Organizational Justice, Professional Identification, Empathy, and Meaningful Work During COVID-19 Pandemic: Are They Burnout Protectors in Physicians and Nurses?](#Research876345)
124. [Perceived stress and associated factors among healthcare workers in a primary healthcare setting: the Psychological Readiness and Occupational Training Enhancement during COVID-19 Time (PROTECT) study.](#Research876365)
125. [Perceived Stress and Stigma Among Doctors Working in COVID-19-Designated Hospitals in India.](#Research876419)
126. [Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review.](#Research876420)
127. [Post pandemic physician vulnerability](#Research875710)
128. [Posttraumatic stress disorder symptoms in healthcare workers after the peak of the COVID-19 outbreak: A survey of a large tertiary care hospital in Wuhan.](#Research876386)
129. [Predictive factors affecting stress among nurses providing care at COVID-19 isolation hospitals at Egypt.](#Research876368)
130. [Preserving mental health and resilience in frontline healthcare workers during COVID-19.](#Research876440)
131. [Prevalence and Influencing Factors on Fatigue of First-line Nurses Combating with COVID-19 in China: A Descriptive Cross-Sectional Study.](#Research876415)
132. [Prevalence and Predictors of Stress, anxiety, and Depression among Healthcare Workers Managing COVID-19 Pandemic in India: A Nationwide Observational Study.](#Research876339)
133. [Prevalence of mental health problems and associated risk factors among military healthcare workers in specialized COVID-19 hospitals in Wuhan, China: A cross-sectional survey.](#Research876390)
134. [Prevalence of mental health symptoms in residential healthcare workers in Michigan during the covid-19 pandemic.](#Research876425)
135. [Prioritising staff well-being during COVID-19 in a busy London sexual health clinic: Results from a quantitative anonymised staff survey](#Research875708)
136. [Protecting health workers' mental health during COVID-19.](#Research876429)
137. [Protecting the health of doctors during the COVID-19 pandemic.](#Research876102)
138. [Psychological Adjustment of Healthcare Workers in Italy during the COVID-19 Pandemic: Differences in Stress, Anxiety, Depression, Burnout, Secondary Trauma, and Compassion Satisfaction between Frontline and Non-Frontline Professionals.](#Research876374)
139. [Psychological impact of the COVID-19 pandemic on healthcare workers at acute hospital settings in the South-East of Ireland: an observational cohort multicentre study.](#Research875157)
140. [Psychological stress of ICU nurses in the time of COVID-19.](#Research876434)
141. [Psychosocial Support for Healthcare Workers During the COVID-19 Pandemic.](#Research875163)
142. [Scientists in pyjamas: characterising the working arrangements and productivity of Australian medical researchers during the COVID-19 pandemic.](#Research875159)
143. [Storytelling and poetry in the time of coronavirus.](#Research875160)
144. [Stress and Anxiety among Healthcare Workers Associated with COVID-19 Pandemic in Russia.](#Research876343)
145. [Stress and sleep: a survey based on wearable sleep trackers among medical and nursing staff in Wuhan during the COVID-19 pandemic.](#Research876427)
146. [Stress, Burnout, and Coping Strategies of Frontline Nurses During the COVID-19 Epidemic in Wuhan and Shanghai, China.](#Research876378)
147. [Support Groups and Individual Mental Health Care via Video Conferencing for Frontline Clinicians During the COVID-19 Pandemic.](#Research876421)
148. [The consequences of the COVID-19 pandemic on perceived stress in clinical practice: Experience of Doctors in Iraqi Kurdistan.](#Research876417)
149. [The Current Situation and Influencing Factors of Job Stress Among Frontline Nurses Assisting in Wuhan in Fighting COVID-19.](#Research876375)
150. [The deterioration of mental health among healthcare workers during the COVID-19 outbreak: A population-based cohort study of workers in Japan.](#Research876401)
151. [The Early Impact of the Covid-19 Emergency on Mental Health Workers: A Survey in Lombardy, Italy.](#Research876367)
152. [The effect of COVID-19 pandemic on the mental health of Canadian critical care nurses providing patient care during the early phase pandemic: A mixed method study.](#Research876349)
153. [The impact of COVID-19 pandemic on mental health of Nurses.](#Research876403)
154. [The mental health and well-being benefits of exercise during the COVID-19 pandemic: a cross-sectional study of medical students and newly qualified doctors in the UK.](#Research876382)
155. [The mental health impact of the covid-19 pandemic on healthcare workers, and interventions to help them: A rapid systematic review.](#Research876404)
156. [The mental health of doctors during the COVID-19 pandemic.](#Research876437)
157. [The Mental Health of Female Physicians and Nurses in Oman during the COVID-19 Pandemic.](#Research876350)
158. [The mental health of healthcare workers in the COVID-19 pandemic: A systematic review.](#Research876384)
159. [The mental health of neurological doctors and nurses in Hunan Province, China during the initial stages of the COVID-19 outbreak.](#Research876405)
160. [The potential for COVID-19 to contribute to compassion fatigue in critical care nurses.](#Research876435)
161. [The prevalence of stress, anxiety and depression within front-line healthcare workers caring for COVID-19 patients: a systematic review and meta-regression.](#Research876351)
162. [The Role of Psychiatry in Treating Burnout Among Nurses During the Covid-19 Pandemic.](#Research876409)
163. [The Severity of Traumatic Stress Associated with COVID-19 Pandemic, Perception of Support, Sense of Security, and Sense of Meaning in Life among Nurses: Research Protocol and Preliminary Results from Poland.](#Research876400)
164. [The wounded healer: A narrative review of the mental health effects of the COVID-19 pandemic on healthcare workers.](#Research876426)
165. [Traumatic Stress in Healthcare Workers During COVID-19 Pandemic: A Review of the Immediate Impact.](#Research876377)
166. [Urgent need to develop evidence-based self-help interventions for mental health of healthcare workers in COVID-19 pandemic.](#Research876438)
167. [When the Dust Settles: Preventing a Mental Health Crisis in COVID-19 Clinicians.](#Research876430)
168. [With hope in our hearts.](#Research876183)

### [B. Search History](#SearchHistory)

## A. Original Research

1. **"We All Really Need to Just Take a Breath": Composite Narratives of Hospital Doctors' Well-Being during the COVID-19 Pandemic**  
   Creese J. International Journal of Environmental Research and Public Health 2021;18(4):1-18.

The coronavirus disease 2019 (COVID-19) pandemic poses a challenge to the physical and mental well-being of doctors worldwide. Countries around the world introduced severe social restrictions, and significant changes to health service provision in the first wave of the pandemic to suppress the spread of the virus and prioritize healthcare for those who contracted it. This study interviewed 48 hospital doctors who worked in Ireland during the first wave of the pandemic and investigated their conceptualizations of their own well-being during that time (March-May 2020). Doctors were interviewed via ZoomTM or telephone. Interview transcripts were analyzed using structured thematic analysis. Five composite narratives are presented which have been crafted to illustrate themes and experiences emerging from the data. This study found that despite the risks of contracting COVID-19, many doctors saw some improvements to their physical well-being in the first wave of the pandemic. However, most also experienced a decline in their mental well-being due to anxiety, emotional exhaustion, guilt, isolation and poor support. These findings shed light on doctor well-being during COVID-19, and the ways in which they have been affected by the pandemic, both professionally and personally. The paper concludes by highlighting how doctors' work life and well-being can be better supported during and after the COVID-19 pandemic.<br/>Copyright &#xa9; 2021 by the authors. Licensee MDPI, Basel, Switzerland.

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1. **'Should I Stay, or Should I Go?' Psychological Distress Predicts Career Change Ideation Among Intensive Care Staff in Lithuania and the UK Amid COVID-19 Pandemic**  
   Norkiene I. International Journal of Environmental Research and Public Health 2021;18(5):1-9.

The COVID-19 pandemic had a significant effect on healthcare globally. Additional pressure created by coronavirus adversely affected the mental health and psychological well-being of healthcare workers, leading many to question their desire and willingness to continue working in healthcare. This study aimed to identify predictors for career change ideation among healthcare professionals in two countries; Lithuania and the United Kingdom amid the coronavirus pandemic. In total, 610 healthcare professionals from Lithuania and the UK (285 and 325, respectively) participated in a survey from May to August 2020. Psychological distress and psychological well-being were measured using the self-report scales "DASS-21" and "WHO-5". Almost half of the sample (49.2%), 59.6% and 40.0% in Lithuanian and the UK, respectively, exhibited career change ideation, the country effect was significant (AOR = 2.21, p &lt; 0.001). Stronger ideation to leave healthcare was predicted by higher levels of depression (AOR = 1.10, p = 0.005), stress (AOR = 1.10, p = 0.007), anxiety surrounding inadequate personal protective equipment (AOR = 2.27, p = 0.009), and lower psychological wellbeing scores (AOR = 1.10, p = 0.007). We conclude that psychosocial support must be provided for healthcare professionals to prevent burnout and loss of staff amid the pandemic.<br/>Copyright &#xa9; 2021 by the authors. Licensee MDPI, Basel, Switzerland.

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[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=f2c1c06110ed0f1b8726393ac148cc66)

1. **A Large-Scale Survey on Trauma, Burnout, and Posttraumatic Growth among Nurses during the COVID-19 Pandemic.**  
   Chen R. International journal of mental health nursing 2021;30(1):102-116.

A large-scale survey study was conducted to assess trauma, burnout, posttraumatic growth, and associated factors for nurses in the COVID-19 pandemic. The Trauma Screening Questionnaire, Maslach Burnout Inventory, and Posttraumatic Growth Inventory-Short Form were utilized. Factors associated with trauma, burnout, and posttraumatic growth were analysed using logistic and multiple regressions. In total, 12 596 completed the survey, and 52.3% worked in COVID-19 designated hospitals. At the survey's conclusion in April, 13.3% reported trauma (Trauma ≥ 6), there were moderate degrees of emotional exhaustion, and 4,949 (39.3%) experienced posttraumatic growth. Traumatic response and emotional exhaustion were greater among (i) women (odds ratio [OR]: 1.48, 95% CI 1.12-1.97 P = 0.006; emotional exhaustion OR: 1.30, 95% CI 1.09-1.54, P = 0.003), (ii) critical care units (OR: 1.20, 95% CI 1.06-1.35, P = 0.004; emotional exhaustion OR: 1.23, 95% CI 1.12-1.33, P < 0.001) (iii) COVID-19 designated hospital (OR: 1.24, 95% CI 1.11-1.38; P < 0.001; emotional exhaustion OR: 1.26, 95% CI 1.17-1.36; P < 0.001) and (iv) COVID-19-related departments (OR: 1.16, 95% CI 1.04-1.29, P = 0.006, emotional exhaustion only). To date, this is the first large-scale study to report the rates of trauma and burnout for nurses during the COVID-19 pandemic. The study indicates that nurses who identified as women, working in ICUs, COVID-19 designated hospitals, and departments involved with treating COVID-19 patients had higher scores in mental health outcomes. Future research can focus on the factors the study has identified that could lead to more effective prevention and treatment strategies for adverse health outcomes and better use of resources to promote positive outcomes.

1. **A pilot study of burnout and long covid in senior specialist doctors.**  
   Doherty Anne M. Irish journal of medical science 2021;:No page numbers.

BACKGROUNDCovid-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.AIMTo 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.METHODSThis 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.RESULTSA 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.CONCLUSIONMore 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.

1. **A rapid review of the impact of COVID-19 on the mental health of healthcare workers: implications for supporting psychological well-being.**  
   De Kock JH BMC public health 2021;21(1):104.

BACKGROUND: Health and social care workers (HSCWs) have carried a heavy burden during the COVID-19 crisis and, in the challenge to control the virus, have directly faced its consequences. Supporting their psychological wellbeing continues, therefore, to be a priority. This rapid review was carried out to establish whether there are any identifiable risk factors for adverse mental health outcomes amongst HSCWs during the COVID-19 crisis. METHODS: We undertook a rapid review of the literature following guidelines by the WHO and the Cochrane Collaboration's recommendations. We searched across 14 databases, executing the search at two different time points. We included published, observational and experimental studies that reported the psychological effects on HSCWs during the COVID-19 pandemic. RESULTS: The 24 studies included in this review reported data predominantly from China (18 out of 24 included studies) and most sampled urban hospital staff. Our study indicates that COVID-19 has a considerable impact on the psychological wellbeing of front-line hospital staff. Results suggest that nurses may be at higher risk of adverse mental health outcomes during this pandemic, but no studies compare this group with the primary care workforce. Furthermore, no studies investigated the psychological impact of the COVID-19 pandemic on social care staff. Other risk factors identified were underlying organic illness, gender (female), concern about family, fear of infection, lack of personal protective equipment (PPE) and close contact with COVID-19. Systemic support, adequate knowledge and resilience were identified as factors protecting against adverse mental health outcomes. CONCLUSIONS: The evidence to date suggests that female nurses with close contact with COVID-19 patients may have the most to gain from efforts aimed at supporting psychological well-being. However, inconsistencies in findings and a lack of data collected outside of hospital settings, suggest that we should not exclude any groups when addressing psychological well-being in health and social care workers. Whilst psychological interventions aimed at enhancing resilience in the individual may be of benefit, it is evident that to build a resilient workforce, occupational and environmental factors must be addressed. Further research including social care workers and analysis of wider societal structural factors is recommended.

1. **Anxiety, depression, and posttraumatic stress in nurses during the COVID-19 outbreak.**  
   Di Tella M. Intensive & critical care nursing 2021;:103014.

1. **Anxiety, depression, stress, fear and social support during COVID-19 pandemic among Jordanian healthcare workers.**  
   Alnazly E. PloS one 2021;16(3):e0247679.

The emergence of Coronavirus disease 2019 (COVID-19) has affected health-care workers' psychological and mental health. Few studies have been conducted examining the psychological effect of COVID-19 on health-care worker psychological health in Jordan. Therefore, the present study aims to assess the respective levels of fear, anxiety, depression, stress, social support, and the associated factors, experienced by Jordanian health-care workers during the COVID-19 Pandemic. This study adopted a cross-sectional, correlational design to collect data from 365 health-care workers in Amman, Jordan, from August 16th to 23rd, 2020. Along with collecting sociodemographic characteristics, the Fear of COVID-19 Scale, the Depression, Anxiety, Stress Scale, and the Multidimensional Scale of Perceived Social Support electronically administered to participants. The majority of the participants (69.3%) were registered nurses. The mean overall score for the Fear of COVID-19 scale was 23.64 (SD + 6.85) which again exceeded the mid-point for the total score range (21), indicating elevated level fear of the COVID-19 pandemic. Participants had displayed extremely severe depression 40%, extremely severe anxiety 60%, and 35% severely distressed. Scores for depression (21.30 ± 10.86), anxiety (20.37 ± 10.80), stress (23.33 ± 10.87) were also high. Factors determined to be associated with psychological distress were being male, married, aged 40 years and older, and having more clinical experience. Assessment of social support indicated moderate-to-high levels of perceived support for all dimensions (significant other: 5.17 ± 1.28, family: 5.03 ± 1.30, friends: 5.05 ± 1.30). Weak significant correlations were found between social support and the other study variables (r < 0.22), indicating a weak association with fear, depression, anxiety, and stress, respectively. Overall, Jordanian health-care workers sample reported fear, depression, anxiety, and stress. The associated factors were being male, married, aged 40 years and older, and having more clinical experience. Regarding social support, participants primarily relied on support from their families, followed by support from friends.

1. **Anxiety, sleep disorders and self-efficacy among nurses during COVID-19 pandemic: A large cross-sectional study**  
   Simonetti V. Journal of Clinical Nursing 2021;:No page numbers.

Aim and objectives: To assess the prevalence of anxiety, sleep disorders and self-efficacy and their predicting factors among nurses facing COVID-19. <br/>Background(s): The spread of COVID-19 throughout the world determined a series of modifications of several National Health Service organisations, with a potential series of psychological consequences among nurses, who were particularly afflicted by this situation of changes and precariousness. <br/>Design(s): A cross-sectional study was carried out from February-April 2020. <br/>Method(s): A total of 1,005 nurses employed in different Italian hospital wards, during the COVID-19 pandemic, were recruited. Analyses were based on descriptive statistics and multivariate logistic regression. The STROBE checklist for cross-sectional studies was used in this study. <br/>Result(s): The prevalence of sleep disturbances, moderate anxiety and low self-efficacy was 71.4%, 33.23% and 50.65%, respectively. We found a positive correlation between anxiety and sleep quality (0.408; p &lt;.0001) and negative correlations between self-efficacy and anxiety (-0.217; p &lt;.0001) and sleep quality and self-efficacy (-0.134; p &lt;.0001). The factor independently associated with all variables was gender. Females were more prone to sleep disturbances, anxiety and low levels of self-efficacy than males (p &lt;.05). <br/>Conclusion(s): The prevalence of anxiety, sleep disorders and low self-efficacy among Italian nurses during the COVID-19 pandemic was high. Healthcare managers should recognise and consider these results to reduce the risk of the onset of major mental problems that could result in post-traumatic stress disorder. Relevance to clinical practice: Nurses facing major incidents as COVID-19 pandemic are among healthcare personnel exposed to a high risk to develop psychological disturbance that should be assessed and recognised, in order to find helpful coping strategies to inform support services and avoid to hesitate in post-traumatic stress disorders.<br/>Copyright &#xa9; 2021 John Wiley & Sons Ltd

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1. **Assessing the psychological impact of COVID-19 on intensive care workers: A single-centre cross-sectional UK-based study**  
   Dykes N. Journal of the Intensive Care Society 2021;:No page numbers.

Background: COVID-19 has presented a unique set of psychological stressors for healthcare professionals. There is currently a dearth of literature establishing the impact amongst intensive care workers, who may be at the greatest risk. This study aimed to establish the prevalence of anxiety, depression and post-traumatic stress disorder amongst a cohort of intensive care workers within the United Kingdom. <br/>Method(s): A questionnaire was designed to incorporate validated screening tools for depression (Patient Health Questionnaire, PHQ-9) anxiety (Generalised Anxiety Disorder Scale, GAD-7), and post-traumatic stress disorder (Impact of Event Scale-Revised, IES-R). All intensive care workers at the Countess of Chester Hospital (UK) were eligible. Data was collected between 17th June and 8th July 2020. <br/>Result(s): The majority of the 131 respondents were nurses (52.7% [69/131]) or doctors (32.8% [43/141]). Almost one-third (29.8% [39/131]) reported a significant or extreme impact of COVID-19 on their mental health. In total, 16%(21/131) had symptoms of moderate depression, 11.5%(15/131) moderately severe depression and 6.1%(8/131) severe depression. Females had significantly higher mean PHQ-9 scores than males (8.8 and 5.7 respectively, p = 0.009). Furthermore, 18.3% (24/131) had moderate anxiety with 14.5% (19/131) having severe anxiety. Mean GAD-7 scores were higher amongst females than males (8.7 and 6.3 respectively, p = 0.028). Additionally, 28.2% (37/131) reported symptoms consistent with a diagnosis of PTSD (IES-R &gt;= 33). Despite these findings, only 3.1% (4/131) of staff accessed trust mental health support. <br/>Conclusion(s): The impact of COVID-19 on intensive care workers is significant and warrants specific focus and attention in order to preserve this key sector of the workforce.<br/>Copyright &#xa9; The Intensive Care Society 2021.

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1. **Burnout and Depression in Portuguese Healthcare Workers during the COVID-19 Pandemic-The Mediating Role of Psychological Resilience.**  
   Serrão C. International journal of environmental research and public health 2021;18(2):No page numbers.

During the COVID-19 pandemic, healthcare workers (HCW) have been exposed to multiple psychosocial stressors. Resilience might protect employees from the negative consequences of chronic stress. The aim of this study was to explore the mediating role of resilience in the relationship between depression and burnout (personal, work-related, and client-related). A cross-sectional study was performed using an online questionnaire distributed via social networks. A survey was conducted comprising standardized measures of resilience (Resilience Scale-25 items), depression (subscale of Depression Anxiety Stress Scales-21 items), and burnout (Copenhagen Burnout Inventory Scale-19 items). A total of 2008 subjects completed the survey, and a hierarchical regression model was estimated for each burnout dimension. The results revealed that depression had not only a directed effect on personal, work- and client-related burnout, but also an indirect small effect on it through resilience. Psychological resilience played a partial mediating role between depression and all burnout dimensions. This partial mediation suggests that there may be other possible variables (e.g., social connection, self-compassion, gratitude, sense of purpose) that further explain the associations.

1. **Burnout and psychological distress amongst Australian healthcare workers during the COVID-19 pandemic.**  
   Dobson H. Australasian psychiatry : bulletin of Royal Australian and New Zealand College of Psychiatrists 2021;29(1):26-30.

OBJECTIVE: To examine psychological distress in healthcare workers (HCWs) during the COVID-19 pandemic in April-May 2020. METHODS: A cross-sectional survey examining demographic, employment and mental health characteristics of HCWs in a large metropolitan hospital in Australia. RESULTS: HCWs showed significant symptoms of moderate-severe level depression (21%), anxiety (20%) and posttraumatic stress disorder (PTSD; 29%), associated with burnout, prior psychiatric history, profession and resilience. CONCLUSION: Despite low levels of COVID contact, moderate to high levels of psychological distress were reported. Continued monitoring and support for HCWs' mental well-being is warranted as the COVID-19 pandemic develops.

1. **Burnout Prevalence and Its Associated Factors among Malaysian Healthcare Workers during COVID-19 Pandemic: An Embedded Mixed-Method Study.**  
   Roslan NS Healthcare (Basel, Switzerland) 2021;9(1):No page numbers.

Coronavirus disease 2019 (COVID-19) has become a global health threat and has placed an extraordinary demand on healthcare workers around the world. In this study, we aim to examine the prevalence of burnout and its associated factors and experience among Malaysian healthcare workers during the COVID-19 pandemic through an embedded mixed-method study design. We found that more than half of Malaysian healthcare workers in this sample experienced burnout. Direct involvement in COVID-19 screening or treatment, having a medical condition, and less psychological support in the workplace emerged to be the significant factors in personal-, work-, and patient-related burnout. Participants described their workloads, uncertainties caused by the pandemic, challenging work-family balance, and stretched workplace relationships as the sources of burnout. Exhaustion appeared to be the major symptom, and many participants utilized problem-focused coping to deal with the adversities experienced during the pandemic. Participants reported physical-, occupational-, psychological-, and social-related negative impacts resulting from burnout. As the pandemic trajectory is yet unknown, these findings provide early insight and guidance for possible interventions.

1. **Caring for carers.**  
   Williams Gastrointestinal Nursing 2021;19(1):5-5.

The author conveys her concerns on the need for nurses to look after their own physical health and emotional wellbeing during the COVID-19 pandemic, with topics mentioned such as the resolutions of 12 Marie Curie nurses regarding the COVID-19 pandemic, the National Health Service, and the SARS outbreak of 2003.

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1. **COVID-19 Combat Fatigue among the Healthcare Workers: The Time for Retrospection and Action.**  
   Rajhans PA Indian journal of critical care medicine : peer-reviewed, official publication of Indian Society of Critical Care Medicine 2021;25(1):3-5.

The present pandemic caused by the novel coronavirus has battered the healthcare infrastructure all around the globe. The doctors, nurses, and healthcare staff-the COVID warriors-have plunged themselves in line of fire to keep the population safe and alive. Around 87,000 healthcare workers (HCWs) have been infected and 573 have died till August in India alone. With no sight of pandemic ebbing anytime soon and patient load in hospitals refusing to come down, combat fatigue has set in these HCWs. The very people whose life mission is caring for others are on the verge of collective collapse physically and emotionally. There is an urgent need to retrospect the problems faced by the HCWs in the previous months, recognize, and preventive measures initiated at the earliest to prevent further loss and burnout among these battle-hardened frontline soldiers. How to cite this article: Rajhans PA, Godavarthy P. COVID-19 Combat Fatigue among the Healthcare Workers: The Time for Retrospection and Action. Indian J Crit Care Med 2021;25(1):3-5.

1. **COVID-19 pandemic-related anxiety, distress and burnout: prevalence and associated factors in healthcare workers of North-West Italy.**  
   Naldi A. BJPsych open 2021;7(1):e27.

BACKGROUND: The COVID-19 pandemic caused drastic changes in healthcare and severe social restrictions. Healthcare workers (HCWs) are on the front line against the virus and have been highly exposed to pandemic-related stressors, but there are limited data on their psychological involvement for a large sample in Italy. AIMS: To investigate the prevalence of anxiety, distress and burnout in HCWs of North-West Italy during the COVID-19 pandemic, and to detect potential psychosocial factors associated with their emotional response. METHOD: This cross-sectional, survey-based study enrolled 797 HCWs. Participants completed the Impact of Event Scale - Revised, the State-Trait Anxiety Inventory - Form Y and the Maslach Burnout Inventory; demographic, family and work characteristics were also collected. Global psychological outcome, differences among professions and independent factors associated with worst psychological outcome were assessed. RESULTS: Almost a third of the sample had severe state anxiety and distress, high emotional exhaustion and depersonalisation, and low personal accomplishment. Distress was higher in women and nurses, whereas depersonalisation was higher in men. Family division, increased workload, job changes and frequent contact with COVID-19 were associated with worst psychological outcome. Trait anxiety was associated with significantly higher risk for developing state anxiety, distress and burnout. CONCLUSIONS: An elevated psychological burden related to the COVID-19 pandemic was observed in HCWs of North-West Italy. The identification of family and work characteristics and a psychological pre-existing condition as factors associated with worst psychological outcome may help provide a tailored, preventive, organisational and psychological approach in counteracting the psychological effects of future pandemics.

1. **Depression, Anxiety, and Stress Among Healthcare Workers During the COVID-19 Outbreak and Relationships With Expressive Flexibility and Context Sensitivity.**  
   Lenzo V. Frontiers in psychology 2021;12:623033.

This study aimed at investigating depression, anxiety, and stress symptoms among healthcare workers and examine the role of expressive flexibility and context sensitivity as key components of resilience in understanding reported symptoms. We hypothesized a significant and different contribution of resilience components in explaining depression, anxiety, and stress. A total sample of 218 Italian healthcare workers participated in this study through an online survey during the lockdown, consequently to the COVID-19. The Depression Anxiety Stress Scales-21 (DASS-21) was used to measure depression, anxiety, and stress; the Flexible Regulation of Emotional Expression (FREE) scale was used to measure the ability to enhance and suppress emotional expression; the Context Sensitivity Index (CSI) was used to measure the ability to accurately perceive contextual cues and determine cue absence. Demographic and work-related data were also collected. DASS-21 cut-off scores were used to verify the mental status among the respondents. Correlational analyses examined relationships between DASS-21, FREE, and CSI, followed by three regression analyses with depression, anxiety, and stress as dependent variables, controlling for age, gender, and work experience. Enhancement and suppression abilities, cue presence, and cue absence served as independent variables. The results showed a prevalence of moderate to extremely severe symptoms of 8% for depression, 9.8% for anxiety, and 8.9% for stress. Results of correlational analysis highlighted that enhance ability was inversely associated with depression and stress. Suppression ability was inversely associated with depression, anxiety, and stress. The ability to perceive contextual cues was inversely associated with depression and anxiety. The regression analysis showed that the ability to enhance emotional expression was statistically significant to explain depression among healthcare workers. In predicting anxiety, age, and the ability to accurately perceive contextual cues and determine cue absence made substantial contributions as predictors. In the last regression model, age, work experience, and the ability to suppress emotional expression were significant predictors of stress. This study's findings can help understand the specific contributions of enhancement and suppression abilities and sensitivity to stressor context cues in predicting depression, anxiety, and stress among healthcare workers. Psychological interventions to prevent burnout should consider these relationships.

1. **Determination of stress, depression and burnout levels of front-line nurses during the COVID-19 pandemic.**  
   Murat M. International journal of mental health nursing 2021;30(2):533-543.

All healthcare professionals, especially nurses, are affected psychosocially due to reasons such as uncertainty and work intensity experienced during the COVID-19 pandemic. In this descriptive study, it was aimed to determine the stress, depression and burnout levels of front-line nurses. Data were obtained from 705 nurses who worked at hospitals during the COVID-19 pandemic between May and July 2020, using a Personal Information Form, the Perceived Stress Scale, Beck Depression Inventory and Maslach Burnout Inventory. The data collection tools were sent online to nurse managers, requesting front-line nurses to answer the forms and scales. The nurses were mostly women and had bachelor's degrees, single and worked as nurses for between 1 and 10 years. They had high levels of stress and burnout and moderate depression. Those who were younger and had fewer years of work experience felt inadequate about nursing care and had higher levels of stress and burnout. More burnout was detected in nurses who had a positive COVID-19 test and did not want to work voluntarily during the pandemic. The authors suggest that preventive and promotive interventions in mental health should be planned and implemented to improve the mental health and maintain the well-being of front-line nurses during the pandemic, and to prepare nurses who may work during pandemics in the future.

1. **Early and Mid-Term Implications of the COVID-19 Pandemic on the Physical, Behavioral and Mental Health of Healthcare Professionals: The CoPE-HCP Study Protocol.**  
   Khanji Mohammed Y. Frontiers in psychology 2021;12:616280.

IntroductionThe COVID-19 pandemic has led to unprecedented strain to healthcare systems worldwide and posed unique challenges to the healthcare professionals (HCPs) and the general public.ObjectivesThe aim of this study is to evaluate the impact of COVID-19 on the mental health, behavioral, and physical wellbeing of HCPs in the early and mid-term periods of the pandemic in comparison to non-HCPs. Thus, facilitating and guiding optimum planning and delivery of support to HCPs.Methods and AnalysisAn observational cross-sectional survey and cohort study aiming to enroll over 1050 participants (minimum, 800 HCPs and 250 controls). Study questionnaires will be completed at baseline and after 6-weeks and 4-months. Recruitment initiated July 2020. The study was designed in London, United Kingdom, but open to participants worldwide. Baseline: Questionnaires comprising of validated self-administered screening tools for depression, anxiety, sleep-related issues, wellbeing, and burnout. The questionnaires also explore changes in behavior and physical wellbeing of the participants. In addition, associations of these mental health and behavioral factors with work-related factors and support will be explored. Six-weeks and 4-months follow-up: Follow-up questionnaires will assess change in symptoms of anxiety and depression, sleep disorders, use of alcohol and other substances, behavioral or interpersonal relationship changes. Physical wellbeing will be assessed through the presence of suspected or confirmed COVID-19 infection and absence from work. We will also evaluate the impact of variable provision of personal protection equipment (supply and training), extended working hours, and concern for the wellbeing of family members, anxiety levels, and evidence of burnout.Statistical ConsiderationsThe study has 80% power to detect a 10% difference of combined depression and/or anxiety symptoms between the groups using two-sided type 1 error at 0.05 at baseline. Assuming that only 50% of these HCPs agree to be a part of a cohort survey, we will have 80% power to detect around 12% difference in the two groups in reported physical symptoms (20% vs. 32.3%), or prevalence of depression and/or anxiety at the end of the study.EthicsThe study was approved by the Cambridge East, Research Ethics Committee (20/EE/0166).Trial Registration NumberClinicalTrials.gov, NCT04433260.

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1. **Evaluation of the mental health status of community healthcare workers during the COVID-19 outbreak.**  
   Zhang J. Medicine 2021;100(6):e24739.

Coronavirus disease 2019 (COVID-19) has rapidly spread across China and many countries worldwide, and community healthcare workers at the front lines of disease control are under high physical and mental pressure. This study investigated the mental health status of community healthcare workers during the COVID-19 outbreak in Sichuan Province, China. This cross-sectional study, which was conducted from February 8 to 18, 2020, involved 450 healthcare workers in 18 community hospitals who had worked for more than 1 year. A self-designed demographic data questionnaire and Symptom Checklist 90 (SCL-90) were provided to the participants through links and quick response codes. The respondents completed and submitted the questionnaires online. Binary logistic regression was used to analyze multiple factors related to the SCL-90 scores of these community healthcare workers in China. For the 450 community healthcare workers who completed the study, the median scores in each SCL-90 factor were lower than the Chinese norms, and 119 (26.4%) participants were SCL-90 positive. Among them, 178 participants were doctors and had the highest scores on most SCL-90 factors except for obsessive compulsiveness, hostility, phobic anxiety, and psychoticism (P < 0.05). The top 3 positive items for doctors working in the community were obsessive compulsiveness, others, and somatization, and those among nurses were obsessive compulsiveness, others, and hostility. Sex, type of workers, and occupational exposure risk to COVID-19 were independent risk factors for the mental health status of the community healthcare workers. Overall, the community healthcare workers experienced psychological problems during the COVID-19 outbreak in Sichuan Province, China. More attention should be paid to the mental health of these workers, and their mental status should be regularly assessed. Psychological interventions should be provided to those with serious mental problems through networks or telephone visits.

1. **Exploring stress coping strategies of frontline emergency health workers dealing Covid-19 in Pakistan: A qualitative inquiry.**  
   Munawar K. American journal of infection control 2021;49(3):286-292.

BACKGROUND: The COVID-19 outbreak has gravely impacted the physical and psychological health of people. As the outbreak is ongoing, it is crucial to equip the emergency healthcare workers (HCWs) to be medically and psychologically prepared. OBJECTIVE: To examine the psychological impact of COVID-19 on emergency HCWs and to understand how they are dealing with COVID-19 pandemic, their stress coping strategies or protective factors, and challenges while dealing with COVID-19 patients. METHODS: Using a framework thematic analysis approach, 15 frontline emergency HCWs directly dealing with COVID-19 patients from April 2, 2020 to April 25, 2020. The semi-structured interviews were conducted face-to-face or by telephone. Data were analyzed using thematic analysis. RESULTS: Findings highlighted first major theme of stress coping, including, limiting media exposure, limited sharing of Covid-19 duty details, religious coping, just another emergency approach, altruism, and second major theme of Challenges includes, psychological response and noncompliance of public/denial by religious scholar. CONCLUSIONS: Participants practiced and recommended various coping strategies to deal with stress and anxiety emerging from COVID-19 pandemic. Media was reported to be a principal source of raising stress and anxiety among the public. Religious coping as well as their passion to serve humanity and country were the commonly employed coping strategies.

1. **Factors associated with work-related burnout in NHS staff during COVID-19: a cross-sectional mixed methods study.**  
   Gemine Rachel BMJ open 2021;11(1):e042591.

OBJECTIVESTo measure work-related burnout in all groups of health service staff during the COVID-19 pandemic and to identify factors associated with work-related burnout.DESIGNCross-sectional staff survey.SETTINGAll staff grades and types across primary and secondary care in a single National Health Service organisation.PARTICIPANTS257 staff members completed the survey, 251 had a work-related burnout score and 239 records were used in the regression analysis. PRIMARY AND SECONDARY OUTCOME MEASURES: (1) Work-related burnout as measured by the Copenhagen Burnout Inventory; (2) factors associated with work-related burnout identified through a multiple linear regression model; and (3) factors associated with work-related burnout identified through thematic analysis of free text responses.RESULTSAfter adjusting for other covariates (including age, sex, job, being able to take breaks and COVID-19 knowledge), we observed meaningful changes in work-related burnout associated with having different COVID-19 roles (p=0.03), differences in the ability to rest and recover during breaks (p<0.01) and having personal protective equipment concerns (p=0.04). Thematic analysis of the free text comments also linked burnout to changes in workload and responsibility and to a lack of control through redeployment and working patterns. Reduction in non-COVID-19 services has resulted in some members of staff feeling underutilised, with feelings of inequality in workload.CONCLUSIONSOur analyses support anecdotal reports of staff struggling with the additional pressures brought on by COVID-19. All three of the factors we found to be associated with work-related burnout are modifiable and hence their effects can be mitigated. When we next find ourselves in extraordinary times the ordinary considerations of rest and protection and monitoring of the impact of new roles will be more important than ever.

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1. **Factors Related to Care Competence, Workplace Stress, and Intention to Stay among Novice Nurses during the Coronavirus Disease (COVID-19) Pandemic.**  
   Chen HM International journal of environmental research and public health 2021;18(4):No page numbers.

The outbreak of coronavirus (COVID-19), a public health emergency of international concern, has made healthcare staff preparation and the nurturing of high-quality and adequate nursing professionals critical issues. This study aimed to explore registered nurses' competence in nursing care and their intention to stay in their current workplace. In this study, participants who had graduated from different nursing education systems were recruited. The results indicated that nurses' level of commitment to the workplace and clinical stress were positively correlated with the experience of working with patients. Stepwise regression analysis revealed the following significant predictors for intention to stay: clinical stress, frequency of caring for people with infections, and taking a course on infectious nursing. The novice nurses' competencies in the areas of pandemic disease care and care for infectious adults depended on the experience of nursing care and nursing competence in their professional careers, which may have impact on the nurses' intention to stay. Therefore, clinical stress, frequency of caring for patients, and taking nursing courses were correlated with novice nurses' intention to stay in their professional careers.

1. **Heat stress and PPE during COVID-19: impact on healthcare workers' performance, safety and well-being in NHS settings.**  
   Davey SL The Journal of hospital infection 2021;108:185-188.

Personal protective equipment (PPE) can potentiate heat stress, which may have a negative impact on the wearer's performance, safety and well-being. In view of this, a survey was distributed to healthcare workers (HCWs) required to wear PPE during the coronavirus disease 2019 pandemic in the UK to evaluate perceived levels of heat stress and its consequences. Respondents reported experiencing several heat-related illness symptoms, and heat stress impaired both cognitive and physical performance. The majority of respondents stated that wearing PPE made their job more difficult. These, and additional, responses suggest that modification to current working practices is required urgently to improve the resilience of HCWs to wearing PPE during pandemics.

1. **ICU nursing shortage can no longer be ignored: COVID-19's second wave is challenging traumatised staff, even though our knowledge bank is greater this time around.**  
   Credland Emergency Nurse 2021;:14-14.

So here we are. COVID-19 is still with us, the country still has lockdown measures in place to varying degrees and the NHS is facing both continuing and new challenges.

1. **Impact of burnout, secondary traumatic stress and compassion satisfaction on hand hygiene of healthcare workers during the COVID-19 pandemic.**  
   Zhou Q. Nursing open 2021;:No page numbers.

AIM: To assess the prevalence of burnout, secondary traumatic stress, and compassion satisfaction and explore their impacts on self-reported hand hygiene among medical aid teams in the COVID-19 period in Wuhan, China. DESIGN: Cross-sectional study. METHOD: A total of 1,734 healthcare workers from 17 medical aid teams were surveyed. The survey included burnout, secondary traumatic stress and compassion satisfaction measured by the professional quality of life scale and self-reported hand hygiene. Data were collected between 5-7 March 2020. Multiple regression analyses were performed. RESULTS: Burnout and secondary trauma stress were at low and average levels, and compassion satisfaction was at average and high levels. Burnout was negatively associated with hand hygiene, while compassion satisfaction was positively associated. Hospital administrators should pay attention to burnout and compassion satisfaction to improve infection control behaviours. Management of healthcare workers in our study may be constructive in emerging infectious diseases.

1. **Impact of COVID-19 on Anxiety, Stress, and Coping Styles in Nurses in Emergency Departments and Fever Clinics: A Cross-Sectional Survey.**  
   Cui S. Risk management and healthcare policy 2021;14:585-594.

BACKGROUND: During the Coronavirus Disease 2019 (COVID-19) pandemic, emergency departments and fever clinics nurses acted as gatekeepers to the health care system. To manage the psychological problems that these nurses experience, we should develop appropriate training and intervention programs. OBJECTIVE: To identify the impact of COVID-19 on the psychology of Chinese nurses in emergency departments and fever clinics and to identify associated factors. METHODS: This online cross-sectional study recruited participants through snowball sampling between 13 February and 20 February 2020. Nurses self-administered the online questionnaires, including a general information questionnaire, the Self-Rating Anxiety Scale, the Perceived Stress Scale-14, and the Simplified Coping Style Questionnaire. RESULTS: We obtained 481 responses, of which 453 were valid, an effective response rate of 94.18%. Participants who had the following characteristics had more mental health problems: female gender, fear of infection among family members, regretting being a nurse, less rest time, more night shifts, having children, lack of confidence in fighting transmission, not having emergency protection training, and negative professional attitude. CONCLUSION: Effective measures are necessary to preserve mental health of nurses in emergency departments and fever clinics. These include strengthening protective training, reducing night shifts, ensuring adequate rest time, and timely updating the latest pandemic situation.

1. **Impact of COVID-19 outbreak on nurses' mental health: A prospective cohort study.**  
   Sampaio F. Environmental research 2021;194:110620.

OBJECTIVES: To evaluate variations in nurses' sleep quality and symptoms of depression, anxiety and stress during the COVID-19 outbreak, and to evaluate whether the presence of potential risk factors influenced these symptoms over time. METHODS: This prospective cohort study surveyed nurses three times - surveying personal factors, working conditions, family dynamics, and attitude towards COVID-19 - between March 31 and May 4, 2020. Nurses' mental health was assessed through Depression Anxiety Stress Scales - short version (DASS-21); their sleep quality was assessed through a 5-point Likert scale question. RESULTS: Nurses' sleep quality and symptoms of depression, anxiety and stress presented a positive variation over the COVID-19 outbreak. The only factors which are directly related to the COVID-19 outbreak and that were associated with the positive variation in nurses' symptoms of depression, anxiety and stress were the fear to infect others and the fear to be infected (higher fear of being infected or to infect someone corresponded to increased symptoms of depression, anxiety and stress). CONCLUSIONS: Although the COVID-19 outbreak seems to have had an immediate impact on nurses' mental health, a psychological adaptation phenomenon was also observed. Future research should focus on assessing nurses' symptoms of depression, anxiety and stress, after the COVID-19 pandemic, in order to compare and contrast the findings with the results of our study.

1. **Impact of the COVID-19 Pandemic on the Mental Health of Healthcare Workers.**  
   Chatzittofis A. International journal of environmental research and public health 2021;18(4):No page numbers.

The coronavirus disease 2019 (COVID-19) has a great impact on healthcare workers (HCWs) that includes negative mental health outcomes, such as post-traumatic stress, anxiety and depressive symptoms. In this cross-sectional study, we report on mental health outcomes among HCWs in Cyprus. Data were collected between 3 May and 27 May 2020, with the use of an online questionnaire that included demographics (sex, age, occupation, education, work sector, years of work experience), the 9-item Patient Health Questionnaire (PHQ-9) which assesses depressive symptoms, the Impact of Events Scale Revised (IES-R), which measures post-traumatic stress disorder (PTSD) symptoms, and the-10 item Perceived Stress Scale (PSS-10) which quantifies stress responses. Participants (42% physicians, 24% nurses, 18% physiotherapists, 16% classified as "other") were 58% of female gender and aged 21-76. A total of 79 (18.6%) and 62 HCWs (14.6%) reported clinically significant depressive (PHQ-9 ≥ 10) and post-traumatic stress (IES-R > 33) symptoms respectively. Nurses were more likely than physicians to suffer from depression (adjusted prevalence ratio 1.7 (1.06-2.73); p = 0.035) and PTSD (adjusted prevalence ratio 2.51 (1.49-4.23); p = 0.001). Even in a country with a rather low spread of the COVID-19, such as Cyprus, HCWs reported a substantial mental health burden, with nurses reporting increased depressive and PTSD symptoms compared to other HCWs.

1. **Levels of burn-out among healthcare workers during the COVID-19 pandemic and their associated factors: a cross-sectional study in a tertiary hospital of a highly burdened area of north-east Italy.**  
   Lasalvia A. BMJ open 2021;11(1):e045127.

OBJECTIVE: To determine burn-out levels and associated factors among healthcare personnel working in a tertiary hospital of a highly burdened area of north-east Italy during the COVID-19 pandemic. DESIGN: Observational study conducted from 21 April to 6 May 2020 using a web-based questionnaire. SETTING: Research conducted in the Verona University Hospital (Veneto, Italy). PARTICIPANTS: Out of 2195 eligible participants, 1961 healthcare workers with the full range of professional profiles (89.3%) completed the survey. PRIMARY OUTCOME MEASURE: Levels of burn-out, assessed by the Maslach Burnout Inventory-General Survey (MBI-GS). Multivariable logistic regression analysis was performed to identify factors associated with burn-out in each MBI-GS dimension (emotional exhaustion, EX; professional efficacy, EF; cynicism, CY). RESULTS: Overall, 38.3% displayed high EX, 46.5% low EF and 26.5% high CY. Burn-out was frequent among staff working in intensive care units (EX 57.0%; EF 47.8%; CY 40.1%), and among residents (EX 34.9%; EF 63.9%; CY 33.4%) and nurses (EX 49.2%; EF 46.9%; CY 29.7%). Being a resident increased the risk of burn-out (by nearly 2.5 times) in all the three MBI subscales and being a nurse increased the risk of burn-out in the EX dimension in comparison to physicians. Healthcare staff directly engaged with patients with COVID-19 showed more EX and CY than those working in non-COVID wards. Finally, the risk of burn-out was higher in staff showing pre-existing psychological problems, in those having experienced a COVID-related traumatic event and in those having experienced interpersonal avoidance in the workplace and personal life. CONCLUSIONS: Burn-out represents a great concern for healthcare staff working in a large tertiary hospital during the COVID-19 pandemic and its impact is more burdensome for front-line junior physicians. This study underlines the need to carefully address psychological well-being of healthcare workers to prevent the increase of burn-out in the event of a new COVID-19 healthcare emergency.

1. **Mental health among healthcare personnel during COVID-19 in Asia: A systematic review.**  
   Thatrimontrichai A. Journal of the Formosan Medical Association = Taiwan yi zhi 2021;:No page numbers.

The COVID-19 pandemic has been associated with an insidious wave of psychological stress among healthcare personnel (HCP) in Asia. Mental exhaustion, burnout, fear, depression, anxiety, insomnia, and psychological stress among HCPs have intensified a daunting challenge during the COVID-19 pandemic. The consequences of such stress may negatively impact patient and HCP safety. This review article reports the associations of mental health status attributed to the COVID-19 pandemic among HCP and their impact on patient safety, and infection prevention and control practices during pandemics.

1. **Mental Health Among Medical Professionals During the COVID-19 Pandemic in Eight European Countries: Cross-sectional Survey Study.**  
   Hummel Svenja Journal of medical Internet research 2021;23(1):e24983.

BACKGROUNDThe death toll of COVID-19 topped 170,000 in Europe by the end of May 2020. COVID-19 has caused an immense psychological burden on the population, especially among doctors and nurses who are faced with high infection risks and increased workload.OBJECTIVEThe aim of this study was to compare the mental health of medical professionals with nonmedical professionals in different European countries during the COVID-19 pandemic. We hypothesized that medical professionals, particularly those exposed to COVID-19 at work, would have higher levels of depression, anxiety, and stress. We also aimed to determine their main stressors and most frequently used coping strategies during the crisis.METHODSA cross-sectional online survey was conducted during peak COVID-19 months in 8 European countries. The questionnaire included demographic data and inquired whether the participants were exposed to COVID-19 at work or not. Mental health was assessed via the Depression Anxiety Stress Scales32 (23.53)-21 (DASS-21). A 12-item checklist on preferred coping strategies and another 23-item questionnaire on major stressors were completed by medical professionals.RESULTSThe sample (N=609) consisted of 189 doctors, 165 nurses, and 255 nonmedical professionals. Participants from France and the United Kingdom reported experiencing severe/extremely severe depression, anxiety, and stress more often compared to those from the other countries. Nonmedical professionals had significantly higher scores for depression and anxiety. Among medical professionals, no significant link was reported between direct contact with patients with COVID-19 at work and anxiety, depression, or stress. "Uncertainty about when the epidemic will be under control" caused the most amount of stress for health care professionals while "taking protective measures" was the most frequently used coping strategy among all participants.CONCLUSIONSCOVID-19 poses a major challenge to the mental health of working professionals as a considerable proportion of our participants showed high values for depression, anxiety, and stress. Even though medical professionals exhibited less mental stress than nonmedical professionals, sufficient help should be offered to all occupational groups with an emphasis on effective coping strategies.

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1. **Mental Health Consequences for Healthcare Workers During the COVID-19 Pandemic: A Scoping Review to Draw Lessons for LMICs.**  
   Moitra M. Frontiers in psychiatry 2021;12:602614.

Background: The COVID-19 pandemic has had a significant impact on the mental health of healthcare workers (HCWs) particularly in low and middle-income countries (LMICs). This scoping review provides a summary of current evidence on the mental health consequences of COVID on HCWs. Methods: A scoping review was conducted searching PubMed and Embase for articles relevant to mental health conditions among HCWs during COVID-19. Relevant articles were screened and extracted to summarize key outcomes and findings. Results: A total of fifty-one studies were included in this review. Depressive symptoms, anxiety symptoms, psychological trauma, insomnia and sleep quality, workplace burnout and fatigue, and distress were the main outcomes reviewed. Most studies found a high number of symptoms endorsed for depression, anxiety, and other conditions. We found differences in symptoms by sex, age, and HCW role, with female, younger-aged, frontline workers, and non-physician workers being affected more than other subgroups. Conclusion: This review highlights the existing burden of mental health conditions reported by HCWs during COVID-19. It also demonstrates emerging disparities among affected HCW subgroups. This scoping review emphasizes the importance of generating high quality evidence and developing informed interventions for HCW mental health with a focus on LMICs.

1. **Mental health interventions for healthcare workers during the first wave of COVID-19 pandemic in Spain.**  
   Priede A. Revista de psiquiatria y salud mental 2021;:No page numbers.

OBJECTIVE: In order to reduce distress associated with working with COVID-19 patients, several psychological intervention programmes for healthcare workers have been developed in Spain. We aimed to describe the main characteristics and components of these programmes for healthcare workers treating COVID-19 patients in Spanish hospitals. MATERIAL AND METHODS: An online survey was designed to evaluate the main characteristics of psychological intervention programmes for healthcare workers during the first wave of COVID-19 pandemic. RESULTS: Valid responses were received from 36 hospitals. Most of these programmes offered both in-person and online therapy. The most common aim of these interventions was emotional regulation, which was treated by psychoeducational and cognitive-behavioural techniques in individual interventions. Group interventions mainly used psychoeducation and mindfulness. Only half of the teams that offered in-person interventions received training in the proper use of personal protective equipment. CONCLUSIONS: Several hospitals in Spain have developed mental health interventions for healthcare workers during the COVID-19 pandemic, deploying a wide range of therapeutic modalities and techniques. The rapid implementation of these programmes during the pandemic suggests that safety may not have received sufficient attention. The planning and development of interventions for healthcare workers during pandemics merits greater attention by national and regional authorities and institutions.

1. **Mental health of frontline help-seeking healthcare workers during the COVID-19 outbreak in the first affected hospital in Lombardy, Italy.**  
   Carmassi C. Psychiatry research 2021;298:113763.

• The study aimed at examining the psychopathological burden in HCWs facing the COVID-19 pandemic. • 45 HCWs were enrolled in the Italian epicenter of Codogno. • Assessments include IES-r, GAD-7, PHQ-9, RS and WSAS. • 28 HCWs were screened positive for PTSD, 11 for depression and 14 for anxiety. • A significant positive association emerged between the IES-r and the WSAS.

1. **Mental health problems and social supports in the COVID-19 healthcare workers: a Chinese explanatory study.**  
   Fang XH BMC psychiatry 2021;21(1):34.

BACKGROUND: Coronavirus disease 2019 (COVID-19) has spread rapidly in China and other overseas areas, which has aroused widespread concern. The sharp increase in the number of patients has led to great psychological pressure on health care workers. The purpose of this study was to understand their mental health status and needs, so as to provide a scientific basis for alleviating the psychological pressure of health care workers. METHODS: Using a cross-sectional study design, 540 health care workers were randomly selected from two designated tuberculosis medical institutions in Anhui Province. The basic situation, perceived social support, depression level, loneliness and COVID-19 related knowledge were collected and analyzed by questionnaire. RESULTS: A total of 511 valid questionnaires were finally retrieved. There were 139 people in epidemic prevention and control positions (27.20%). Depression level: People in isolation ward, fever clinic and pre-check triage were at the level of mild to moderate depression. Female was higher than male; nurse was higher than doctor; middle and junior job titles were higher than senior titles; junior college degree or below were higher than bachelor's degree, master's degree and above; isolation ward, fever clinic and pre-check triage were significantly higher than those of non-prevention and control positions (p < 0.05). Loneliness scores: Doctors were higher than that of medical technicians, and isolation ward, fever clinic and pre-check triage were higher than those of other medical departments (p < 0.05). Social support: Doctors were lower than that of medical technicians, and isolation ward, fever clinic and pre-check triage were significantly lower than those of other departments (p < 0.05). The score of social support was negatively correlated with depression and loneliness (p < 0.001), while depression was positively correlated with loneliness (p < 0.001). Health care workers most want to receive one-to-one psychological counseling (29.75%), and provide crisis management (24.07%). The awareness rate of health care workers on COVID-19's knowledge was relatively high. CONCLUSIONS: The psychological problems of health care workers, especially women, nurses with low educational background, low professional title, and staff in the epidemic prevention and control positions are relatively serious.

1. **Nurses' Workplace Conditions Impacting Their Mental Health during COVID-19: A Cross-Sectional Survey Study.**  
   Havaei F. Healthcare (Basel, Switzerland) 2021;9(1):No page numbers.

Among health workers, nurses are at the greatest risk of COVID-19 exposure and mortality due to their workplace conditions, including shortages of personal protective equipment (PPE), insufficient staffing, and inadequate safety precautions. The purpose of this study was to examine the impact of COVID-19 workplace conditions on nurses' mental health outcomes. A cross-sectional correlational design was used. An electronic survey was emailed to nurses in one Canadian province between June and July of 2020. A total of 3676 responses were included in this study. We found concerning prevalence rates for post-traumatic stress disorder (47%), anxiety (38%), depression (41%), and high emotional exhaustion (60%). Negative ratings of workplace relations, organizational support, organizational preparedness, workplace safety, and access to supplies and resources were associated with higher scores on all of the adverse mental health outcomes included in this study. Better workplace policies and practices are urgently required to prevent and mitigate nurses' suboptimal work conditions, given their concerning mental health self-reports during the COVID-19 pandemic.

1. **Occupational stress, job satisfaction, and intent to leave: nurses working on front lines during COVID-19 pandemic in Zagazig City, Egypt.**  
   Said RM Environmental science and pollution research international 2021;28(7):8791-8801.

During epidemics, the medical working environment is highly stressful especially for the nurses. The purpose of this study was to assess occupational stress, job satisfaction, and intent to leave among nurses dealing with suspected COVID-19 patients. A comparative cross-sectional study was conducted among 210 nurses from Zagazig Fever Hospital (ZFH) which is one of COVID-19 Triage Hospitals (Group I) versus 210 nurses from Zagazig General Hospital (ZGH) (Group II) which is neither triage nor isolation hospital; dealing only with suspected COVID-19 patients in emergency at Sharkia Governorate, Egypt, from 10th to 24th of April 2020. Assessment was done through online questionnaire formed of the Expanded Nursing Stress Scale, the McCloskey/Mueller Satisfaction Scale, and questionnaire assessing specific COVID-19-associated stressors and nurses' intent to leave. Three quarters of nurses (75.2%) in ZFH had high stress level versus 60.5% in ZGH. Workload (98.6%), dealing with death and dying (96.7%), personal demands and fears (95.7%), employing strict biosecurity measures (95.2%), and stigma (90.5%) represented the highest priority stressors in ZFH, while exposure to infection risk (97.6%) was the stressor of highest priority among ZGH according to Pareto analysis. More than half of nurses (51.0%) in ZFH reported low satisfaction level versus 41.9% in ZGH. Only 4.8% of nurses in ZFH definitely had no intent to leave their present job. Type of hospital and its related workload were the most significant predictor of all the studied outcomes.

1. **Occupational stressors, mental health, and sleep difficulty among nurses during the COVID-19 pandemic: The mediating roles of cognitive fusion and cognitive reappraisal.**  
   Zhang CQ Journal of contextual behavioral science 2021;19:64-71.

This study aimed to examine the relationships between occupational stressors, mental health problems, and sleep difficulty, and the mediating roles of cognitive fusion and cognitive reappraisal on the relationships in Chinese nurses. A total of 323 nurses (mean age = 32.11 ± 6.75 years) from 25 hospitals in China participated a cross-sectional online survey. Participants were asked to refer to the period during the severest time of the COVID-19 pandemic in China (January to March 2020) when assessing the psychological variables. The direct links from occupational stressors to cognitive fusion, cognitive reappraisal, mental health and sleep difficulty were significant. Cognitive fusion and cognitive reappraisal mediated the links from occupational stressors to mental health problems, while cognitive fusion and mental health problems mediated the links from occupational stressors to sleep difficulty. The sequential mediation via cognitive fusion and mental health problems as well as via cognitive reappraisal and mental health problems on the links from occupational stressors to sleep difficulty were also significant. Findings from the current study indicate that intervention strategies focusing on the reduction of cognitive fusion and improvement of cognitive reappraisal could help better prepare nurses to alleviate mental health problems and sleep difficulties that are related to COVID-19 and potentially similar pandemics in the future.

1. **Post-Traumatic Stress Symptoms in Healthcare Workers Dealing with the COVID-19 Pandemic: A Systematic Review.**  
   d'Ettorre G. International journal of environmental research and public health 2021;18(2):No page numbers.

Prevention of post-traumatic stress symptoms (PTSS) in healthcare workers (HCWs) facing the current COVID-19 pandemic is a challenge worldwide as HCWs are likely to experience acute and chronic, often unpredictable, occupational stressors leading to PTSS. This review aims to analyze the literature to discover which topics have been focused on and what the latest developments are in managing the occupational risk of PTSS in HCWs during the current pandemic. For the purpose of this review, we searched for publications in MEDLINE/Pubmed using selected keywords. The articles were reviewed and categorized into one or more of the following categories based on their subject matter: risk assessment, risk management, occurrence rates. A total of 16 publications matched our inclusion criteria. The topics discussed were: "Risk Assessment", "Occurrence Rates", and "Risk Management". Young age, low work experience, female gender, heavy workload, working in unsafe settings, and lack of training and social support were found to be predictors of PTSS. This review's findings showed the need for urgent interventions aimed at protecting HCWs from the psychological impact of traumatic events related to the pandemic and leading to PTSS; healthcare policies need to consider preventive and management strategies toward PTSS, and the related psychic sequelae, in HCWs.

1. **Predictors of poor mental health among nurses during COVID-19 pandemic.**  
   Kim SC Nursing open 2021;8(2):900-907.

AIMS: To examine the impact of various factors affecting nurses' mental health during the COVID-19 pandemic. DESIGN: An online cross-sectional study. METHODS: Registered nurses who graduated from a nursing school in Southern California, USA, participated in the study from 20 April-10 May 2020 (N = 320). Kendall's tau correlations and multivariate logistic regression procedures were performed with stress, anxiety and depression as outcome variables. RESULTS: Most nurses reported moderate/high stress (80.1%), while 43% and 26% reported moderate/severe anxiety and depression, respectively. COVID-19 patient care was positively associated with moderate/severe high stress (OR = 2.25; p = .012) and moderate/severe anxiety (OR = 3.04; p < .001), whereas quarantine was associated with moderate/severe depression (OR = 2.68; p < .001). High levels of family functioning, resilience and spirituality predicted two- to sixfold lower odds of moderate/severe stress, anxiety or depression. High resilience, spirituality and family functioning appear to be good coping mechanisms for nurses against stress, anxiety and depression during the pandemic.

1. **Prevalence and associated factors of depression, anxiety, and stress among Hubei pediatric nurses during COVID-19 pandemic.**  
   Zheng R. Comprehensive psychiatry 2021;104:152217.

BACKGROUND: The COVID-19 pandemic is putting healthcare workers across the world in an unprecedented situation. The purpose of this study was to evaluate the levels of depression, anxiety, and stress among Hubei pediatric nurses during the COVID-19 pandemic and to analyze the potential factors associated with them. MATERIALS AND METHODS: A self-designed online questionnaire survey, which consisted of the demographic and selected features, the occupational protection knowledge, attitudes, and practices of COVID-19, and the Chinese version of Depression, Anxiety, and Stress Scale, were used to assess the levels of depression, anxiety, and stress among Hubei pediatric nurses during COVID-19 pandemic. The logistic regression analyses were performed to analyze the potential factors associated with depression, anxiety, and stress. RESULTS: A total of 617 pediatric nurses were included in the survey. A considerable proportion of pediatric nurses reported symptoms of depression (95 [15.4%]), anxiety (201 [32.6%]), and stress (111 [18.0%]). Results of multivariable logistic regression analyses indicated that the good occupational protection practices (for depression: OR = 0.455, 95%CI: 0.281 to 0.739; for anxiety: OR = 0.597, 95%CI: 0.419 to 0.851; for stress: OR = 0.269, 95%CI: 0.166 to 0.438) and the personal protective equipment (PPE) meeting work requirements (for depression: OR = 0.438, 95%CI: 0.246 to 0.778; for anxiety: OR = 0.581, 95%CI: 0.352 to 0.959; for stress: OR = 0.504, 95%CI: 0.283 to 0.898) were independent protective factors against depression, anxiety, and stress, respectively. Yet, working in an isolation ward or fever clinic was an independent risk factor associated with depression, anxiety, and stress, respectively (for depression: OR = 1.809, 95%CI: 1.103 to 2.966; for anxiety: OR = 1.864, 95%CI: 1.221 to 2.846; for stress: OR = 2.974, 95%CI: 1.866 to 4.741). Having suspected or confirmed COVID-19 patients in the departments (OR = 1.554, 95%CI: 1.053 to 2.294) and coming in contact with the patient's bodily fluids or blood (OR = 1.469, 95%CI: 1.031 to 2.095) were independent risk factors for anxiety, while >3 times of training for COVID-19 related information was an independent protective factor for depression (OR = 0.592, 95%CI: 0.360 to 0.974). Moreover, >10 years of working was an independent risk factor for stress (OR = 1.678, 95%CI: 1.075 to 2.618). CONCLUSION: During the COVID-19 outbreak, a considerable proportion of Hubei pediatric nurses had psychological problems. The pediatric nurses endorsing the higher number of risk factors should be given special attention and necessary psychological intervention. Improving the levels of PPE so as to meet the work requirements and intensifying occupational protection practices might help safeguard pediatric nurses from depression, anxiety, and stress.

1. **Prevalence of stress, depression, anxiety and sleep disturbance among nurses during the COVID-19 pandemic: A systematic review and meta-analysis.**  
   Al Maqbali M. Journal of psychosomatic research 2021;141:110343.

BACKGROUND: The new coronavirus disease's (COVID-19) high risk of infection can increase the workload of healthcare workers, especially nurses, as they are most of the healthcare workforce. These problems can lead to psychological problems. Therefore, the aim of this systematic review and meta-analysis to ascertain the present impact of the COVID-19 outbreak on the prevalence of stress, anxiety, depression and sleep disturbance among nurses. METHODS: A systematic review and meta-analysis were conducted. The following databases were searched: PubMed, CHINAL, MEDLINE, EMBASE, PsycINFO, MedRxiv and Google Scholar, from January 2020 up to 26th October 2020. Prevalence rates were pooled with meta-analysis using a random-effects model. Heterogeneity was tested using I-squared (I(2)) statistics. RESULTS: A total of 93 studies (n = 93,112), published between January 2020 and September 2020, met the inclusion criteria. The overall prevalence of stress was assessed in 40 studies which accounted for 43% (95% CI 37-49). The pooled prevalence of anxiety was 37% (95% CI 32-41) in 73 studies. Depression was assessed in 62 studies, with a pooled prevalence of 35% (95% CI 31-39). Finally, 18 studies assessed sleep disturbance and the pooled prevalence was 43% (95% CI 36-50). CONCLUSION: This meta-analysis found that approximately one third of nurses working during the COVID-19 epidemic were suffering from psychological symptoms. This highlights the importance of providing comprehensive support strategies to reduce the psychological impact of the COVID-19 outbreak among nurses under pandemic conditions. Further longitudinal study is needed to distinguish of psychological symptoms during and after the infectious disease outbreaks.

1. **Recovery, restoration, and risk: a cross-sectional survey of the impact of COVID-19 on GPs in the first UK city to lock down.**  
   Trivedi Namrata BJGP open 2021;5(1):No page numbers.

BACKGROUNDThe COVID-19 pandemic has impacted GPs immensely. Work patterns have changed, risk stratification has been proposed, and the mental health of clinicians has been adversely affected. The COVID-19 prevalence among GPs is unknown. This study focuses on assessing the impact of COVID-19 on GPs in Leicestershire, the first UK city to lock down locally.AIMThis survey assessed the prevalence of COVID-19 in GPs and explored GP work patterns in comparison with national guidance. It used a validated perceived stress tool to evaluate the impact of COVID-19 on GP stress perception.DESIGN & SETTINGThe cross-sectional retrospective survey was sent to all the GPs in Leicestershire.METHODA total of 111 GPs in Leicestershire took part voluntarily in an anonymised questionnaire-based study. A 29-item survey using SmartSurvey software was designed with multiple choice and Likert response scale questions.RESULTSCOVID-19 prevalence in GPs in Leicestershire was 8.1%; 70.3% of GPs were of Black, Asian, and minority ethnic (BAME) origin; 91.9% of GPs had undergone risk stratification; and 79.3% of GPs felt supported by their practice, but only 59.5% felt supported with mental health. GPs described feeling more stressed during the COVID-19 pandemic than they had been previously.CONCLUSIONThis is the first study evaluating COVID-19 prevalence among GPs in Leicestershire. Despite government interventions, GPs felt less supported with their mental health compared with pre-COVID-19 times. Thus, the NHS in England should focus on GP stress and wellbeing as they work towards the restoration and recovery of primary care while battling the second wave.

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1. **Risk of Contracting COVID-19, Personal Resources and Subjective Well-Being among Healthcare Workers: The Mediating Role of Stress and Meaning-Making.**  
   Krok D. Journal of clinical medicine 2021;10(1):No page numbers.

The latest research suggests that the relationships between the risk of contracting COVID-19, personal resources and subjective well-being have rather an indirect character and can include the occurrence of mediating factors related to meaning-making processes and stress experiences. Protection motivation theory offers a theoretical paradigm that enables these associations to be thoroughly investigated and understood. The current study aimed to examine the mediating roles of meaning-making and stress in the relationship of risk of contracting COVID-19 and personal resources (self-efficacy and meaning in life) with subjective well-being among healthcare workers. A total of 225 healthcare workers from hospitals, medical centres and diagnostic units completed a set of questionnaires during the first few months of the COVID-19 lockdown period (March-May 2020). The results revealed that greater self-efficacy and meaning in life were associated with higher cognitive and affective dimensions of subjective well-being, whereas a lesser risk of contracting COVID-19 was only associated with the higher affective dimension. The central finding demonstrated different mediating roles of stress and meaning-making in the relationship of risk of contracting COVID-19 and personal resources with the cognitive and affective dimensions of subjective well-being. This confirmed the applicability of meaning-oriented and stress management processes for understanding how healthcare workers' well-being is affected during the COVID-19 pandemic.

1. **Secondary Traumatic Stress and Burnout in Healthcare Workers during COVID-19 Outbreak.**  
   Orrù G International journal of environmental research and public health 2021;18(1):No page numbers.

(1) Background: The present study aims to assess the level of professional burnout and secondary traumatic stress (STS), and to identify potential risk or protective factors among health care workers (HCWs) during the coronavirus disease 2019 (COVID-19) outbreak.; (2) Methods: This cross-sectional study, based on an online survey, collected demographic data and mental distress outcomes from 184 HCWs from 1 May 2020, to 15 June 2020, from 45 different countries. The degree of STS, perceived stress and burnout was assessed using the Secondary Traumatic Stress Scale (STSS), the Perceived Stress Scale (PSS) and Maslach Burnout Inventory Human Service Survey (MBI-HSS) respectively. Stepwise multiple regression analysis was performed to identify potential risk and protective factors for STS; (3) Results: 184 HCWs (M = 90; Age mean: 46.45; SD: 11.02) completed the survey. A considerable proportion of HCWs had symptoms of STS (41.3%), emotional exhaustion (56.0%), and depersonalization (48.9%). The prevalence of STS was 47.5% in frontline HCWs while in HCWs working in other units it was 30.3% (p < 0.023); 67.1% for the HCWs exposed to patients' death and 32.9% for those HCWs which were not exposed to the same condition (p < 0.001). In stepwise multiple regression analysis, perceived stress, emotional exhaustion, and exposure to patients' death remained as significant predictors in the final model for STS (adjusted R2 = 0.537, p < 0.001); (4) Conclusions: During the current COVID-19 pandemic, HCWs facing patients' physical pain, psychological suffering, and death are more likely to develop STS.

1. **Socio-ecological predictors of mental health outcomes among healthcare workers during the COVID-19 pandemic in the United States.**  
   Hennein R. PloS one 2021;16(2):e0246602.

BACKGROUND: Healthcare workers are at increased risk of adverse mental health outcomes during the COVID-19 pandemic. Studies are warranted that examine socio-ecological factors associated with these outcomes to inform interventions that support healthcare workers during future disease outbreaks. METHODS: We conducted an online cross-sectional study of healthcare workers during May 2020 to assess the socio-ecological predictors of mental health outcomes during the COVID-19 pandemic. We assessed factors at four socio-ecological levels: individual (e.g., gender), interpersonal (e.g., social support), institutional (e.g., personal protective equipment availability), and community (e.g., healthcare worker stigma). The Personal Health Questionnaire-9, Generalized Anxiety Disorder-7, Primary Care Post-Traumatic Stress Disorder, and Alcohol Use Disorders Identification Test-Concise scales assessed probable major depression (MD), generalized anxiety disorder (GAD), posttraumatic stress disorder (PTSD), and alcohol use disorder (AUD), respectively. Multivariable logistic regression models were used to assess unadjusted and adjusted associations between socio-ecological factors and mental health outcomes. RESULTS: Of the 1,092 participants, 72.0% were female, 51.9% were frontline workers, and the mean age was 40.4 years (standard deviation = 11.5). Based on cut-off scores, 13.9%, 15.6%, 22.8%, and 42.8% had probable MD, GAD, PTSD, and AUD, respectively. In the multivariable adjusted models, needing more social support was associated with significantly higher odds of probable MD, GAD, PTSD, and AUD. The significance of other factors varied across the outcomes. For example, at the individual level, female gender was associated with probable PTSD. At the institutional level, lower team cohesion was associated with probable PTSD, and difficulty following hospital policies with probable MD. At the community level, higher healthcare worker stigma was associated with probable PTSD and AUD, decreased satisfaction with the national government response with probable GAD, and higher media exposure with probable GAD and PTSD. CONCLUSIONS: These findings can inform targeted interventions that promote healthcare workers' psychological resilience during disease outbreaks.

1. **Stress, Sleep and Psychological Impact in Healthcare Workers During the Early Phase of COVID-19 in India: A Factor Analysis.**  
   Chatterjee SS Frontiers in psychology 2021;12:611314.

Background: Risks to healthcare workers have escalated during the pandemic and they are likely to experience a greater level of stress. This cross-sectional study investigated mental distress among healthcare workers during the early phase of Coronavirus disease-2019 (COVID-19) outbreak in India. Method: 140 healthcare workers of a tertiary care hospital in India were assessed for perceived stress and insomnia. A factor analysis with principal component method reduced these questions to four components which were categorized as insomnia, stress-related anxiety, stress-related irritability, and stress-related hopelessness. Further statistical analyses were done on these factor scores to identify the predictors and investigate the differences between the different categories of healthcare workers. Result: Doctors had the highest level of anxiety among the healthcare workers. Both doctors and nurses perceived a greater level of irritability than the other HCWs. Compared to doctors and nurses, other HCWs were more likely to experience insomnia. Lower age, higher education, female gender, and urban habitat were associated with greater perception of anxiety. Older age, being quarantined, and single marital status were the significant predictors of irritability. Female gender, single marital-status, and higher number of medical ailments contributed to perceived hopelessness. Quarantine significantly predicted insomnia. Conclusion: Different categories of healthcare workers are experiencing varied mental health problems owing to their heterogeneous socio-demographic backgrounds. Tailored and personalized care, as well as policies, might help in alleviating their problems. Further research is warranted to explore the psychological distress and remedies among these frontline workers during and after the ongoing pandemic crisis.

1. **The effect of Emotional Freedom Techniques on nurses' stress, anxiety, and burnout levels during the COVID-19 pandemic: A randomized controlled trial.**  
   Dincer B. Explore (New York, N.Y.) 2021;17(2):109-114.

BACKGROUND AND OBJECTIVE: Infectious disease outbreaks pose psychological challenges to the general population, and especially to healthcare workers. Nurses who work with COVID-19 patients are particularly vulnerable to emotions such as fear and anxiety, due to fatigue, discomfort, and helplessness related to their high intensity work. This study aims to investigate the efficacy of a brief online form of Emotional Freedom Techniques (EFT) in the prevention of stress, anxiety, and burnout in nurses involved in the treatment of COVID patients. METHODS: The study is a randomized controlled trial. It complies with the guidelines prescribed by the Consolidated Standards of Reporting Trials (CONSORT) checklist. It was conducted in a COVID-19 department at a university hospital in Turkey. We recruited nurses who care for patients infected with COVID-19 and randomly allocated them into an intervention group (n = 35) and a no-treatment control group (n = 37). The intervention group received one guided online group EFT session. RESULTS: Reductions in stress (p < .001), anxiety (p < .001), and burnout (p < .001) reached high levels of statistical significance for the intervention group. The control group showed no statistically significant changes on these measures (p > .05). CONCLUSIONS: A single online group EFT session reduced stress, anxiety, and burnout levels in nurses treating COVID-19.

1. **The use of mental health promotion strategies by nurses to reduce anxiety, stress, and depression during the COVID-19 outbreak: A prospective cohort study.**  
   Pinho L. Environmental research 2021;195:110828.

OBJECTIVES: To evaluate and compare nurses' depression, anxiety and stress symptoms at the beginning of the COVID-19 pandemic and after six months; to evaluate and compare the frequency of use of mental health promotion strategies during the same period; and to identify the relationship between the frequency of use of mental health promotion strategies, during the same period, with nurses' depression, anxiety and stress symptoms. METHODS: Data collection was carried out in two moments: at baseline and after six months. An online questionnaire was applied to nurses to assess the frequency of use of some mental health promotion strategies and their depression, anxiety, and stress symptoms (through the Depression Anxiety Stress Scales - short version (DASS-21)). RESULTS: The anxiety and stress symptoms significantly decreased over time. The physical activity increased, and a decrease was observed in the remote social contacts after six months. The stress, anxiety and depression scores were significantly lower in nurses who frequently or always used all strategies compared to participants who never or rarely used them, except for one strategy (rejecting information about COVID-19 from unreliable sources). CONCLUSIONS: Mental health promotion strategies, such as physical activity, relaxation activity, recreational activity, healthy diet, adequate water intake, breaks between work shifts, maintenance of remote social contacts, and verbalization of feelings/emotions, are crucial to reduce nurses' stress, anxiety and depression symptoms during the COVID-19 outbreak.

1. **TheCovid Chronicles: Developing a departmental newsletter to relay pertinent information and boost morale**  
   Singhal M. Anaesthesia 2021;76:94.

As the COVID-19 pandemic swept the world, there was a scramble to release guidance amidst a rapidly evolving situation. As our understanding grew, recommendations continued to be modified. We were bombarded with emails and alerts on a daily, sometimes hourly, basis. This fostered 'guidance fatigue', frustration and confusion amongst colleagues. There were concerns in the department that vital, relevant details may be missed within this surge of information release, potentially impacting on both clinician and patient safety. Moreover, there was uncertainty and anxiety surrounding changes in working patterns, training and wellbeing. Our aims were to create a means to summarise relevant up to date information, inform staff of the ongoing impact of cases within Altnagelvin intensive care unit (ICU) and boost morale. Methods A single-page departmental newsletter, The Covid Chronicles, was created, which was to be released twice a week. It would contain a summary of any policies and guidelines released from the department, Trust or national bodies over the preceding days. It would provide an update on ICU case numbers and ventilation status. Any relevant departmental news (e.g., new appointments, surge plans) would be included. There would be a section on morale and wellbeing, which could comprise of riddles, emoji quizzes, prizes, NHS discount codes and baking recipes. Links to further reading would also be supplied. Feedback would be collected by means of a qualitative questionnaire. Results The newsletter was circulated twice a week for 4 weeks before a survey was released and completed by 35 respondents. Data showed they had been receiving information from over seven sources, causing difficulty in keeping abreast of the changing situation. The vast majority (&gt;90%) agreed that the newsletter was a useful summary that was quick, easy to read and an appropriate length. There was engagement with quizzes, riddles and prizes. Feedback was overwhelmingly positive; the various sections were well received and there was widespread agreement (&gt;90%) to continue the newsletter in the future. Discussion We demonstrate the development of a departmental newsletter that presented a focused, pragmatic summary of information around COVID-19. The inclusion of more light-hearted sections fostered comradery and encouraged engagement. We plan to continue this project in the future. As we emerge from the pandemic and adapt to a 'new normal', as will this newsletter and the material it contains.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=4ec3886b90a699e95d06337b4f197f1f)

1. **Worry, Severity, Controllability, and Preventive Behaviours of COVID-19 and Their Associations with Mental Health of Turkish Healthcare Workers Working at a Pandemic Hospital.**  
   Yıldırım M. International journal of mental health and addiction 2021;:1-15.

Previous research suggests that psychological and behavioural factors such as worry, severity, controllability, and preventive behaviours are associated with mental health and well-being. Less is known about simultaneous effects of those factors in predicting mental health and well-being. This study aimed to present the prevalence of mental health problems and identify the predictors of mental health and subjective well-being of healthcare workers during the COVID-19 pandemic. Participants included 245 healthcare workers (M (age)  = 33.16 ± 7.33; 50.61% females) from a pandemic hospital in Turkey. Healthcare workers reported mild/severe depression, anxiety, and stress. Females tended to be more vulnerable to developing psychiatric symptoms. Worry, severity, and controllability significantly predicted depression, anxiety, stress, and subjective well-being while preventive behaviours only predicted subjective well-being. These findings suggest the importance of assessing healthcare workers' experiences of mental health and subjective well-being and their associated factors to assist mental health providers tailor assessments and treatment during a pandemic.

1. **'Huge swathes' of doctors could quit without mental health support.**  
   Anon. Occupational Health & Wellbeing 2020;72(8):4-4.

The article offers a statement that the British government, National Health Service and private healthcare providers need to develop a plan to support the mental wellbeing and support of doctors following the Covid-19 pandemic, or risk seeing "huge swathes"" leaving the profession.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=26a6350bcde1cdb5a5895e161a81e8c9)

1. **A Comparison of Burnout Frequency Among Oncology Physicians and Nurses Working on the Frontline and Usual Wards During the COVID-19 Epidemic in Wuhan, China.**  
   Wu Y. Journal of pain and symptom management 2020;60(1):e60-e65.

CONTEXT: The epidemic of coronavirus disease 2019 (COVID-19) was first identified in Wuhan, China and has now spread worldwide. In the affected countries, physicians and nurses are under heavy workload conditions and are at high risk of infection. OBJECTIVES: The aim of this study was to compare the frequency of burnout between physicians and nurses on the frontline (FL) wards and those working in usual wards (UWs). METHODS: A survey with a total of 49 questions was administered to 220 medical staff members from the COVID-19 FL and UWs, with a ratio of 1:1. General information, such as age, gender, marriage status, and the Maslach Burnout Inventory-medical personnel, were gathered and compared. RESULTS: The group working on the FLs had a lower frequency of burnout (13% vs. 39%; P < 0.0001) and were less worried about being infected compared with the UW group. CONCLUSION: Compared with medical staff working on their UWs for uninfected patients, medical staff working on the COVID-19 FL ward had a lower frequency of burnout. These results suggest that in the face of the COVID-19 crisis, both FL ward and UW staff should be considered when policies and procedures to support the well-being of health care workers are devised.

1. **A cross-sectional study of mental health status and self-psychological adjustment in nurses who supported Wuhan for fighting against the COVID-19.**  
   Chen H. Journal of clinical nursing 2020;29(21-22):4161-4170.

AIMS AND OBJECTIVES: To evaluate the mental health status, stressors and self-adjustment of nurses in isolation wards at different periods in Wuhan, China. BACKGROUND: Mental health issues easily occurred among the frontline medical workers of a major epidemic. However, the stressors and psychological adjustments experienced by nurses have not been well described. This is crucial to improving clinical quality and nursing safety and ensuring nurses' physical and psychological health. METHODS: We performed a cross-sectional prospective study using the Self Reporting Questionnaire-20, stressor and self-adjustment questionnaire administered to frontline nurses in Wuhan at two time points: after they had worked in isolation wards for 7-10 days (T(1) ) and 2 months (T(2) ). This paper complies with the STROBE reporting guideline for cross-sectional studies. RESULTS: T(1) has 92 respondents, and T(2) has 86. The positive rates of mental health problems were 26.09% and 9.30%, respectively, showing significantly different in the two periods. The main factors influenced mental health were self-perceived stress and only child status. The most common stressors were as follows: a large infected population, high infectivity; concerned about family's health status; high mortality if not treated in time (T(1) ); and long duration of the epidemic, separate from family for a long time (T(2) ). In terms of self-adjustment, 97.83%(T(1) )/88.04%(T(2) ) of nurses thought it was necessary, but 9(T(1) ) /5(T(2) ) chose to avoid addressing it, and 8(T(1) ) /5(T(2) ) utilised a professional psychological counselling hotline. CONCLUSIONS: Mental health problems among frontline nurses fighting COVID-19 need special attention, so administrators should offer timely counselling and strengthen effective psychosocial support to improve their mental resilience. RELEVANCE TO CLINICAL PRACTICE: This study surveyed the mental problems and self-adjustment status among nurses working Wuhan during the outbreak of COVID-19, to provide administrators with a scientific basis to effectively intervene.

1. **A New Rating Scale (SAVE-9) to Demonstrate the Stress and Anxiety in the Healthcare Workers During the COVID-19 Viral Epidemic.**  
   Tavormina G. Psychiatria Danubina 2020;32(Suppl 1):5-9.

The COVID-19 epidemic has been a major global public health problem during past months in Italy and in several other Countries and on the date of publication of this article, is still a serious public health problem. The health staff, engaged in the care of the sick and in the prevention of the spread of the infection have been subjected to a further increase in psychological difficulties and work-related stress, related to the workload for the continuous influx of sick and intense and close working shifts for the viral emergency. The SAVE-9 (Stress and Anxiety to Viral Epidemics - 9 items) scale has been developed as a tool for assessing work anxiety and stress in response to the viral epidemic of health professionals working to prevent the spread of the virus and to treat infected people.

1. **A Study to Evaluate Depression and Perceived Stress Among Frontline Indian Doctors Combating the COVID-19 Pandemic.**  
   Das A. The primary care companion for CNS disorders 2020;22(5):No page numbers.

OBJECTIVE: Amid the ongoing coronavirus disease 2019 (COVID-19) pandemic, health care workers of multiple disciplines have been designated as frontline doctors. This unforeseen situation has led to psychological problems among these health care workers. The objective of this study was to evaluate the mental health status of pan-Indian frontline doctors combating the COVID-19 pandemic. METHODS: A cross-sectional, observational study was conducted among frontline doctors of tertiary care hospitals in India (East: Kolkata, West Bengal; North: New Delhi; West: Nagpur, Maharashtra; and South: Thiruvananthapuram, Kerala) from May 23, 2020, to June 6, 2020. Doctors involved in clinical services in outpatient departments, designated COVID-19 wards, screening blocks, fever clinics, and intensive care units completed an online questionnaire. The 9-item Patient Health Questionnaire and the Perceived Stress Scale were used to assess depression and perceived stress. RESULTS: The results of 422 responses revealed a 63.5% and 45% prevalence of symptoms of depression and stress, respectively, among frontline COVID-19 doctors. Postgraduate trainees constituted the majority (45.5%) of the respondents. Moderately severe and severe depression was noted in 14.2% and 3.8% of the doctors, respectively. Moderate and severe stress was noted in 37.4% and 7.6% of participants, respectively. Multivariate regression analysis showed working ≥ 6 hours/day (adjusted odds ratio: 3.5; 95% CI, 1.9-6.3; P < .0001) to be a significant risk factor for moderate or severe perceived stress, while single relationship status (adjusted odds ratio: 2.9; 95% CI, 1.5-5.9; P = .002) and working ≥ 6 hours/day (adjusted odds ratio: 10.3; 95% CI, 4.3-24.6; P < .0001) significantly contributed to the development of moderate, moderately severe, or severe depression. CONCLUSIONS: The pandemic has taken a serious toll on the physical and mental health of doctors, as evident from our study. Regular screening of medical personnel involved in the diagnosis and treatment of patients with COVID-19 should be conducted to evaluate for stress, anxiety, and depression.

1. **Acute stress disorder, coping self-efficacy and subsequent psychological distress among nurses amid COVID-19.**  
   Shahrour G. Journal of nursing management 2020;28(7):1686-1695.

PURPOSE: Health care professionals, particularly nurses, are considered a vulnerable group to experience acute stress disorder (ASD) and subsequent psychological distress amid COVID-19 pandemic. This study aims to establish the prevalence of acute stress disorder and predictors of psychological distress among Jordanian nurses. METHODS: A quantitative, cross-sectional, descriptive and comparative design was used. Data were collected using a Web-based survey. A total of 448 Jordanian nurses (73% females) completed and returned the study questionnaire. RESULTS: The majority of nurses (64%) are experiencing ASD due to the COVID-19 pandemic and thus are at risk for PTSD predisposition. More than one-third of nurses (41%) are also suffering significant psychological distress. Among our sample, age, ASD and coping self-efficacy significantly predicted psychological distress. More specifically, younger nurses are more prone to experience psychological distress than older ones. While higher scores on ASD showed more resultant psychological distress, coping self-efficacy was a protective factor. CONCLUSION: Given that individuals who suffer from ASD are predisposed to PTSD, follow-up with nurses to screen for PTSD and referral to appropriate psychological services is pivotal. Coping self-efficacy is found to ameliorate the effect of psychological distress on nurses' traumatic experience. Such findings warrant intensive efforts from health care institutions to provide psychosocial support services for nurses and ongoing efforts to screen them for traumatic and psychological distress symptoms. IMPLICATIONS FOR NURSING MANAGEMENT: Nursing leaders and managers are in the forefront of responding to the unique needs of their workforces during the COVID-19 crisis. They need to implement stress-reduction strategies for nurses through providing consecutive rest days, rotating allocations of complex patients, arranging support services and being accessible to staff. They also need to ensure nurses' personal safety through securing and providing personal safety measures and undertake briefings to ensure their staff's physical and mental well-being, as well as providing referrals to appropriate psychological services.

1. **Assessing the Impact of COVID-19 on the Mental Health of Healthcare Workers in Three Metropolitan Cities of Pakistan.**  
   Arshad MS Psychology research and behavior management 2020;13:1047-1055.

PURPOSE: The COVID-19 (coronavirus disease-2019) has been associated with psychological distress during its rapid rise period in Pakistan. The present study aimed to assess the mental health of healthcare workers (HCWs) in the three metropolitan cities of Pakistan. METHODS: A cross-sectional, web-based study was conducted in 276 HCWs from April 10, 2020, to June 5, 2020. Depression, anxiety, and stress scale (DASS-21) were used for the mental health assessment of the HCWs. Multivariable logistic regression analysis (MLRA) was performed to measure the association between the demographics and the occurrence of depression, anxiety, and stress (DAS). RESULTS: The frequency of DAS in the HCWs was 10.1%, 25.4%, and 7.3%, respectively. The MLRA showed that the depression in HCWs was significantly associated with the profession (P<0.001). The anxiety in HCWs was significantly associated with their age (P=0.005), profession (P<0.05), and residence (P<0.05). The stress in HCWs was significantly associated with their age (P<0.05). LIMITATION: This study was conducted in the early phase of the COVID-19 pandemic, when the number of COVID-19 cases was on the rise in Pakistan and it only represents a definite period (April to June 2020). CONCLUSION: The symptoms of DAS are present in the HCWs of Pakistan and to manage the psychological health of HCWs, there is a need for the initiation of psychological well-being programs.

1. **Attitude, practice, behavior, and mental health impact of COVID-19 on doctors.**  
   Chatterjee SS Indian journal of psychiatry 2020;62(3):257-265.

BACKGROUND: COVID-19, like every other pandemic, has imposed an unprecedented threat to doctors' physical and mental health. Literature in this area is sparse. The present study has been done to explore the knowledge, attitude, and behavior of doctors regarding this pandemic and how it influences their depression, anxiety, and stress level. MATERIALS AND METHODS: This online survey has been done for 10 days. Data were collected on background characteristics, knowledge, attitude, and behavior of the respondents in a semi-structured pro forma, and psychiatric morbidity was measured by the Depression, Anxiety, and Stress Scale-21. A total of 152 complete responses have been received. The data were assessed using SPSS software. RESULTS: Out of 152 study participants, 34.9% were depressed and 39.5% and 32.9% were having anxiety and stress, respectively. Significant predictors for psychiatric morbidities were experience in health sector, duty hours, use of protective measures, and altruistic coping. Multivariable logistic regression showed most of the factors to be significantly associated with depression, anxiety, and stress level. DISCUSSION: Doctors who were working during COVID pandemic have a high prevalence of psychiatric morbidity. Age and having multiple comorbidities are significant predictive factors. Adequate protective measures should be warranted. Altruistic coping and a sense of greater goal are significant among the doctor community, in this pressing time. The doctors are pushing themselves to the best of their capacity and also protecting their patients' best interest. A large-scale, multicentric study will probably give a larger picture and will guide us for better service planning and delivery.

1. **Authors' responses to the comments on "Attitude, practice, behavior, and mental health impact of COVID-19 on doctors".**  
   Chatterjee SS Indian journal of psychiatry 2020;62(4):446-447.

1. **Avoiding burnout of the care home workforce during the COVID19 pandemic and beyond: Sharing national learning and local initiatives**  
   Malcolm C. European Geriatric Medicine 2020;11:No page numbers.

Introduction: COVID-19 in care homes has heightened the risk of staff burnout, undermining already problematic staff retention and low morale. There has been an associated proliferation of resourcesand online initiatives to support frontline workers, however, few of these are directly targeted at the care home workforce. Care home workers are highly skilled in caring for people with complex needs, but have very variable levels of formal training, and just over half of care homes in Scotland include registered nurses. This project will rapidly collate existing resources and identify, direct from care home workers, their best practice, initiatives, and resources used to support resilience and retention during this pandemic and moving forward. <br/>Method(s): (1) Rapid review of care home specific evidence and resources (including published research and social media); (2) Online survey of Enabling Research in Care Homes (ENRICH) members across Scotland (n = 55); (3) Case studies within six care homes to identify what is working well and what is not in terms of promoting resilience and emotional support. <br/>Result(s): The rapid review has identified a wide range of resources directed at supporting staff working in care homes; the survey and case studies will provide data on the key learning and resources that have supported staff, and outline the challenges identified. Key onclusions: This comprehensive review of resources and initiatives will make a valuable contribution to policy and practice designed to reduce burnout and foster retention not just in care homes but more widely across health and social care.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=b4ad75f13653c0ee792733bc35ddfe73)

1. **Burnout among Healthcare Workers during COVID-19 Pandemic in India: Results of a Questionnaire-based Survey.**  
   Khasne RW Indian journal of critical care medicine : peer-reviewed, official publication of Indian Society of Critical Care Medicine 2020;24(8):664-671.

BACKGROUND: Burnout, a state of physical and emotional exhaustion, in healthcare workers (HCWs) is a major concern. The prevalence of burnout, due to COVID-19 pandemic in India, is unknown. We therefore conducted this survey. MATERIALS AND METHODS: A questionnaire-based survey using Copenhagen Burnout Inventory was carried out among HCWs looking after COVID-19 patients. Questionnaire was sent to the HCWs, using WhatsApp Messenger, and voluntary participation was sought. We received responses from 2026 HCWs. Burnout was assessed in personal, work, and client-related (COVID-19 pandemic-related) domains. Burnout was defined at a cut-off score of 50 for each domain. RESULTS: The prevalence of personal burnout was 44.6% (903), work-related burn-out was only 26.9% (544), while greater than half of the respondents (1,069, 52.8%) had pandemic-related burnout. Younger respondents (21-30 years) had higher personal and work-related burnout. The prevalence of personal and work-related burnout was significantly (p < 0.01) higher among females. The doctors were 1.64 times, and the support staff were 5 times more likely to experience pandemic-related burnout. CONCLUSION: There is a significant prevalence of burnout during the COVID-19 pandemic among HCWs, in particular, doctors and support staff. Female respondents had higher prevalence. We suggest that the management should be proactive and supportive in improving working conditions and providing assurance to the HCWs. The long-term effects of the current pandemic need to be assessed later. HOW TO CITE THIS ARTICLE: Khasne RW, Dhakulkar BS, Mahajan HC, Kulkarni AP. Burnout among Healthcare Workers during COVID-19 Pandemic in India: Results of a Questionnaire-based Survey. Indian J Crit Care Med 2020;24(8):664-671.

1. **Burnout among Portuguese healthcare workers during the COVID-19 pandemic.**  
   Duarte I. BMC public health 2020;20(1):1885.

BACKGROUND: During COVID-19 pandemic, healthcare workers (HCWs) have had high workload and have been exposed to multiple psychosocial stressors. The aim of this study was to evaluate HCWs in terms of the relative contributions of socio-demographic and mental health variables on three burnout dimensions: personal, work-related, and client-related burnout. METHODS: A cross-sectional study was performed using an online questionnaire spread via social networks. A snowball technique supported by health care institutions and professional organizations was applied. RESULTS: A total of 2008 subjects completed the survey. Gender, parental status, marriage status, and salary reduction were found to be significant factors for personal burnout. Health problems and direct contact with infected people were significantly associated with more susceptibility to high personal and work-related burnout. Frontline working positions were associated with all three dimensions. Higher levels of stress and depression in HCWs were significantly associated with increased levels of all burnout dimensions. Higher levels of satisfaction with life and resilience were significantly associated with lower levels of all burnout dimensions. CONCLUSIONS: All three burnout dimensions were associated with a specific set of covariates. Consideration of these three dimensions is important when designing future burnout prevention programs for HCWs.

1. **Burnout amongst emergency healthcare workers during the COVID-19 pandemic: A multi-center study.**  
   Chor WPD The American journal of emergency medicine 2020;:No page numbers.

1. **Burnout and its influencing factors between frontline nurses and nurses from other wards during the outbreak of Coronavirus Disease -COVID-19- in Iran.**  
   Sarboozi Hoseinabadi T. Investigacion y educacion en enfermeria 2020;38(2):No page numbers.

OBJECTIVES: To assess burnout level during an outbreak of COVID-19 and to identify influencing factors between frontline nurses and nurses from other wards. METHODS: This cross-sectional study makes comparison between two groups of nurses including frontline (exposure group) and other nurses working in usual wards (non-exposure group) in Torbat Heydariyeh city, Iran. Oldenburg Burnout Inventory (OLBI), Job stress questionnaire (JSQ), and questionnaires of hospital resources, family support, and measuring the fear of COVID-19 were used as research instruments. RESULTS: The scores of job stress and burnout in the exposure group with COVID-19 infection were significantly higher than in the non-exposure group (p=0.006 and p=0.002, respectively). Although, in univariate linear regression, employment status (p=0.047), experience in taking care of patient confirmed or suspected with COVID-19 infection (p=0.006), hospital resources (p=0.047), and job stress (p < 0.001) were considered as significant risk factors for COVID-19-related burnout. In multivariate regression analysis, job stress (p=0.031, β=0.308) was considered as an only factor that has a significant relationship with COVID-19-related burnout. CONCLUSIONS: The burnout level in frontline nurses was higher than other nurses, the most important influencing factor was the job stress. Regarding to negative effects of burnout on both physical and mental health nurses, it is suggested that a strong strategy be considered to reduce nurses' burnout to be able to control ongoing and future outbreaks successfully.

1. **Burnout and job satisfaction of healthcare workers in Slovenian nursing homes in rural areas during the COVID-19 pandemic.**  
   Leskovic L. Annals of agricultural and environmental medicine : AAEM 2020;27(4):664-671.

INTRODUCTION AND OBJECTIVE: Since there is no study on burnout and job satisfaction in Slovenian nursing homes during the COVID-19 pandemic, this study aims to analyse job satisfaction and burnout levels of healthcare professionals working in Slovenian nursing homes in rural areas during the COVID-19 pandemic, and make a comparison with the results of the same services in 2013. MATERIAL AND METHODS: The study is based on a cross-organisational and descriptive quantitative study conducted in spring 2013 (n = 556) and spring 2020 at the peak of the pandemic in Eastern Europe (n = 781) to identify the relationships and the changes in the satisfaction and burnout levels of healthcare professionals working in Slovenian nursing homes in rural areas, and on a qualitative study conducted in 2020, to identify in-depth relationships and changes in both studies during the COVID-19 pandemic. RESULTS: An increase in burnout syndromes between 2013 - 2020 was observed. The respondents experienced intensified emotional exhaustion and lack of personal accomplishment during the COVID-19 pandemic; however, depersonalisation did not differ statistically over the years. During the pandemic crisis, healthcare workers were less satisfied with their job than in spring 2013. Their job satisfaction was related to satisfaction with the work of nursing homes and with the work of state institutions and politicians who directly affected their working conditions and recognition in society. CONCLUSIONS: The COVID-19 pandemic significantly exacerbated already existing burnout syndromes of nursing homes healthcare workers in Slovenian rural areas. Job satisfaction proved to be a relevant predictor of burnout syndrome. A negative correlation was observed between job satisfaction in 2020 and emotional exhaustion and personal accomplishment in 2013 and 2020.

1. **Burnout and Resilience among Frontline Nurses during COVID-19 Pandemic: A Cross-sectional Study in the Emergency Department of a Tertiary Care Center, North India.**  
   Jose S. Indian journal of critical care medicine : peer-reviewed, official publication of Indian Society of Critical Care Medicine 2020;24(11):1081-1088.

BACKGROUND: The COVID-19 pandemic had a massive impact on healthcare systems, increasing the risks of psychological distress in health professionals. Burnout is a prolonged response to chronic emotional and interpersonal stressors on the job and is defined by the three dimensions of emotional exhaustion, cynicism, and personal inefficacy. METHODOLOGY: A cross-sectional descriptive design was used to assess the burnout and resilience among frontline nurses in the emergency department of a tertiary care center in North India during COVID-19 pandemic. The sample consisted of 120 frontline nurses working in the emergency department, selected by a simple random sampling method. Data were collected using the Maslach burnout inventory-general survey and the Connor-Davidson Resilience Scale. RESULTS: The nurses in the emergency during pandemic experienced a moderate-to-severe level of burnout in emotional exhaustion (29.13 ± 10.30) and depersonalization (12.90 ± 4.67) but mild-to-moderate level of burnout in reduced personal accomplishment (37.68 ± 5.17) and showed a moderate to a high level of resilience (77.77 ± 12.41). The two metrics of burnout viz., emotional exhaustion and personal inefficacy had a significantly negative correlation with resilience among the frontline nurses in the emergency (r = 0.25, p < 0.05 and r = 0.31, p < 0.01, respectively). A significant negative correlation has been identified between burnout and resilience that informs the role of resilience in alleviating burnout during this pandemic. CONCLUSION: Effective interventions for improving resilience are needed to relieve nurses' burnout and workplace stressors. Also, the administration should ensure a healthy workplace and adopt a positive attitude and harmonious relationship with the frontline workers in the mitigation of the pandemic. HOW TO CITE THIS ARTICLE: Jose S, Dhandapani M, Cyriac MC. Burnout and Resilience among Frontline Nurses during COVID-19 Pandemic: A Cross-sectional Study in the Emergency Department of a Tertiary Care Center, North India. Indian J Crit Care Med 2020;24(11):1081-1088.

1. **Burnout Syndrome Among Hospital Healthcare Workers During the COVID-19 Pandemic and Civil War: A Cross-Sectional Study.**  
   Elhadi M. Frontiers in psychiatry 2020;11:579563.

Objective: We aimed to determine the prevalence of burnout among hospital healthcare workers in Libya during the coronavirus disease (COVID-19) pandemic and civil war. Methods: A cross-sectional study was conducted from April 18 to May 2, 2020 among Libyan healthcare workers. Data on participant characteristics were collected with a specifically designed questionnaire. Burnout was assessed with the abbreviated Maslach Burnout Inventory (aMBI) comprising three subscales: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA), with each sub-scale score range from 0 to 18. For EE and DP, scores of 10 to 18 were regarded as "moderate to severe burnout." PA was scored inversely, where a score ≤ 10 indicated severe burnout. Results: The study yielded a sample size of 532 participants. Of these, 357 (67.1%) reported emotional exhaustion (EE Score ≥ 10), 252 (47.4%) reported depersonalization (DP score ≥ 10), and 121 (22.7%) reported a lower sense of personal accomplishment (PA score ≤ 10). Verbal abuse was experienced by 304 participants (57.1%) and physical abuse in 93 (17.5). Gender was associated with high emotional exhaustion and high depersonalization. Being 35 years or older was associated with high depersonalization. Professional specialty was significantly associated with high emotional exhaustion and depersonalization. Fear of COVID-19 infection was associated with high emotional exhaustion and high depersonalization. Conclusion: The rising prevalence of mental disorders and inadequate availability of health services facilities during the COVID-19 pandemic and civil war demonstrated the need for healthcare policies to address the well-being of healthcare workers to decrease the risk of loss, suicide, and medical negligence.

1. **Burnout, depersonalization, and anxiety contribute to post-traumatic stress in frontline health workers at COVID-19 patient care, a follow-up study.**  
   Miguel-Puga JA Brain and behavior 2020;:e02007.

INTRODUCTION: We designed a follow-up study of frontline health workers at COVID-19 patient care, within the same working conditions, to assess the influence of their general characteristics and pre-existing anxiety/depression/dissociative symptoms and resilience on the development of symptoms of post-traumatic stress disorder (PTSD), while monitoring their quality of sleep, depersonalization/derealization symptoms, acute stress, state anxiety, and burnout. METHODS: In a Hospital reconfigured to address the surge of patients with COVID-19, 204 frontline health workers accepted to participate. They completed validated questionnaires to assess mental health: before, during, and after the peak of inpatient admissions. After each evaluation, a psychiatrist reviewed the questionnaires, using the accepted criteria for each instrument. Correlations were assessed using multivariable and multivariate analyses, with a significance level of .05. RESULTS: Compared to men, women reporting pre-existing anxiety were more prone to acute stress; and younger age was related to both pre-existent common psychological symptoms and less resilience. Overall the evaluations, sleep quality was bad on the majority of participants, with an increase during the epidemic crisis, while persistent burnout had influence on state anxiety, acute stress, and symptoms of depersonalization/derealization. PTSD symptoms were related to pre-existent anxiety/depression and dissociative symptoms, as well as to acute stress and acute anxiety, and negatively related to resilience. CONCLUSIONS: Pre-existent anxiety/depression, dissociative symptoms, and coexisting acute anxiety and acute stress contribute to PTSD symptoms. During an infectious outbreak, psychological screening could provide valuable information to prevent or mitigate against adverse psychological reactions by frontline healthcare workers caring for patients.

1. **Comment on "Attitude, practice, behavior, and mental health impact of COVID-19 on doctors".**  
   Somani A. Indian journal of psychiatry 2020;62(4):445-446.

1. **Coping Mechanisms: Exploring Strategies Utilized by Japanese Healthcare Workers to Reduce Stress and Improve Mental Health during the COVID-19 Pandemic.**  
   Tahara M. International journal of environmental research and public health 2020;18(1):No page numbers.

The COVID-19 pandemic is a major problem affecting the mental health of millions of people, including healthcare workers. In this study, we analyzed risk factors and coping mechanisms that could reduce the risk of poor mental health among healthcare workers during the COVID-19 pandemic in Japan. A cross-sectional survey was conducted for 7 days from 30 April 2020 using a web-based questionnaire. The survey assessed various outcome measures, including the General Health Questionnaire-12 (GHQ-12), health status, satisfaction with daily life activities, work, leisure, and new activities, and anxiety over COVID-19. Data from 661 participants were analyzed, and 440 participants (66.6%) showed poor mental health (GHQ-12 ≥ 4). Also, our result showed that female gender, lower levels of communication with friends, and high anxiety were associated with poorer mental health. In contrast, good health status, high work satisfaction, and high satisfaction from new activities were associated with buffering mental health problem. Most participants chose an escape-avoidance coping strategy, and participants with worse mental health were more likely to adopt seeking social support as a coping strategy. These results may support healthcare workers to cope with mental health problems associated with the COVID-19 pandemic.

1. **Correction: Stress and sleep: a survey based on wearable sleep trackers among medical and nursing staff in Wuhan during the COVID-19 pandemic.**  
   Anon. General psychiatry 2020;33(4):e100260corr1.

[This corrects the article DOI: 10.1136/gpsych-2020-100260.].

1. **COVID-19 confessions: A qualitative exploration of healthcare workers experiences of working with COVID-19**  
   Bennett P. BMJ Open 2020;10(12):No page numbers.

Objectives To gain insight into the experiences and concerns of front-line National Health Service (NHS) workers while caring for patients with COVID-19. Design Qualitative analysis of data collected through an anonymous website (www.covidconfidential) provided a repository of uncensored COVID-19 experiences of front-line NHS workers, accessed via a link advertised on the Twitter feed of two high profile medical tweeters and their retweets. Setting Community of NHS workers who accessed this social media. Participants 54 healthcare workers, including doctors, nurses and physiotherapists, accessed the website and left a a 'story'. Results Stories ranged from 1 word to 10 min in length. Thematic analysis identified common themes, with a central aspect being the experience and psychological consequence of trauma. Specific themes were: (1) the shock of the virus, (2) staff sacrifice and dedication, (3) collateral damage ranging from personal health concerns to the long-term impact on, and care of, discharged patients and (4) a hierarchy of power and inequality within the healthcare system. Conclusions COVID-19 confidential gave an outlet for unprompted and uncensored stories of healthcare workers in the context of COVID-19. In addition to personal experiences of trauma, there were perceptions that many operational difficulties stemmed from inequalities of power between management and front-line workers. Learning from these experiences will reduce staff distress and improve patient care in the face of further waves of the pandemic. <br/>Copyright &#xa9; 2020 Author(s) (or their employer(s)).

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1. **COVID-19 emergency response assessment study: A prospective longitudinal survey of frontline doctors in the UK and Ireland: study protocol**  
   Roberts T. BMJ Open 2020;10(8):No page numbers.

Introduction The COVID-19 pandemic is putting an unprecedented strain on healthcare systems globally. The psychological impact on frontline doctors of dealing with the COVID-19 pandemic is currently unknown. This longitudinal professional survey aims to understand the evolving and cumulative effects of working during the COVID-19 outbreak on the psychological well-being of doctors working in emergency departments (ED), intensive care units (ICU) and anaesthetics during the pandemic. Methods and analysis This study is a longitudinal questionnaire-based study with three predefined time points spanning the acceleration, peak and deceleration phases of the COVID-19 pandemic. The primary outcomes are psychological distress and post-trauma stress as measured by the General Health Questionnaire-12 (GHQ-12) and Impact of Events Scale-Revised (IES-R). Data related to personal and professional characteristics will also be collected. Questionnaires will be administered prospectively to all doctors working in ED, ICU and anaesthetics in the UK and Ireland via existing research networks during the sampling period. Data from the questionnaires will be analysed to assess the prevalence and degree of psychological distress and trauma, and the nature of the relationship between personal and professional characteristics and the primary outcomes. Data will be described, analysed and disseminated at each time point; however, the primary endpoint will be psychological distress and trauma at the final time point. Ethics and dissemination Ethical approval was obtained from the University of Bath, UK (ref: 4421), and Children's Health Ireland at Crumlin, Ethics Committee. Regulatory approval from the Health Regulation Authority (UK), Health and Care Research Wales (IRAS: 281944). This study is limited by the fact that it focuses on doctors only and is survey based without further qualitative interviews of participants. It is expected this study will provide clear evidence of the psychological impact of COVID-19 on doctors and will allow present and future planning to mitigate against any psychological impact. Trial registration number ISRCTN10666798. <br/>Copyright &#xa9; Author(s) (or their employer(s)) 2020.

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1. **COVID-19 helpline opens for nurses.**  
   Anon. Cancer Nursing Practice 2020;19(3):6-6.

The article reports on a mental health telephone helpline provided by the British National Health Service (NHS) to support nurses during the COVID-19 pandemic.

1. **COVID-19 Outbreak and Its Association with Healthcare Workers' Emotional Stress: a Cross-Sectional Study.**  
   Park C. Journal of Korean medical science 2020;35(41):e372.

BACKGROUND: The coronavirus disease 2019 (COVID-19) outbreak has exposed healthcare workers to extreme physical workloads and psychological challenges. Thus, we aimed to assess the immediate correlates of emotional stress and to identify which specific jobs, departments, and exposure types are risk factors for emotional stress in healthcare workers. METHODS: In this cross-sectional study conducted from April 2 to 10, 2020, university hospital workers were administered self-reported questionnaires that covered general characteristics and included the Patient Health Questionnaire, Generalized Anxiety Disorder scale, and a visual analog scale. At-risk groups for depression and anxiety were identified, and the odds ratios for depression and anxiety were analyzed after adjusting for age, gender, education, marital status, and duration of employment. RESULTS: The data of 1,003 participants were analyzed. Of these, 14.2% worked in wards for confirmed COVID-19 cases and 15.2% had had direct contact with these patients. Treating patients with COVID-19 was associated with depression and anxiety, while dealing with COVID-19 test samples was associated with depression. Exposure to random or unspecified patients was also associated with depression. Lastly, social rejection and other negative experiences were associated with depression and anxiety. CONCLUSION: The COVID-19 outbreak is correlated with healthcare workers' emotional stress, and specific types of jobs and duties involving close contact with these patients can be risk factors. Interestingly, even low-exposure groups reported significant depression and anxiety as a result of social stigma and uncertainty. Adequate and timely management measures for emotional stress are required for vulnerable and at-risk groups.

1. **Covid-19 pandemic and the surge of panic attacks among NHS nursing staff: An ethnographical perspective**  
   Lusher J. Journal of Advanced Nursing 2020;:No page numbers.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=cf1c6a17613f3a0d449df8518ec4d1ab)

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1. **COVID-19 pandemic: Impact on doctors in training**  
   Farooq A.R. Annals of Oncology 2020;31:No page numbers.

Background: The COVID 19 pandemic is a healthcare crisis leading to unprecedented impact upon healthcare services, notable morbidity and mortality of the public and healthcare professionals, significant psychological effects, and economic repercussions. Junior doctors and those in training are at the forefront of medical care for these patients. We present survey results outlining the concerns of doctors in training. <br/>Method(s): A questionnaire was developed and delivered via Survey Monkey relevant to doctors in training during the COVID-19 pandemic. The Perceived Stress Scale was incorporated to gauge participant stress in the weeks leading up to the expected surge of COVID-19 patients. Ethical approval was obtained. <br/>Result(s): A total of 285 participants engaged with the survey but 197 (69%) completed all answers. Almost 86% of respondents had been trained in donning and doffing personal protective equipment (PPE) and nearly 85% felt significantly confident in the process. Overall, most respondents felt somewhat prepared (60%) or well prepared (20%) to treat COVID-19 patients. However, 42% of respondents worried that their hospital would struggle, or could not cope at all, with COVID-19 patients. Nearly 91% of respondents were concerned that their hospital might run out of PPE. When asked to report their concerns, family health (86%), personal health (72%) and social life (47%) topped the list. According to the Perceived Stress Scale, the majority of respondents (62%) had moderate stress. <br/>Conclusion(s): This survey is the first known effort to gauge the concerns of doctors in training in Ireland with regard to the COVID-19 pandemic. Our results show that most junior doctors were trained and relatively confident in donning and doffing PPE and managing COVID-19 patients. However, significant percentage of doctors in training worried that their hospital might run out of PPE and would struggle with COVID-19 patients. They reported concerns regarding their personal and family health as well as impact on social life. A significant finding was that a majority of junior doctors had moderate stress at baseline. A follow-up survey to gauge the stress of doctors in training after the surge of COVID-19 patients is planned. Legal entity responsible for the study: The authors. <br/>Funding(s): Has not received any funding. Disclosure: D. Collins: Honoraria (self): Pfizer; Honoraria (self), Travel/Accommodation/Expenses: Genmab; Honoraria (self), Travel/Accommodation/Expenses: Astra Zeneca; Honoraria (self): Eli Lilly; Honoraria (self), Travel/Accommodation/Expenses: Roche; Advisory/Consultancy, Travel/Accommodation/Expenses: MSD; Advisory/Consultancy: Seattle Genetics. All other authors have declared no conflicts of interest.<br/>Copyright &#xa9; 2020

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1. **COVID-19, Mentally Ill and Mental Health Workers.**  
   Cioffi A. Psychiatria Danubina 2020;32(2):307.

1. **COVID-19: implications for NHS Staff.**  
   Glasper Alan British Journal of Healthcare Assistants 2020;14(4):193-197.

In light of the emergence in China of COVID-19, the novel corona virus, emeritus professor Alan Glasper, from the University of Southampton discusses the role of the World Health Organization and other public health institutions in responding to potential new global pandemics and deliberates on the role of NHS staff in coping with infectious disease in clinical environments .

1. **COVID-19: it happens to nurses too--a case study.**  
   McDonald British Journal of Community Nursing 2020;25(12):594-596.

The COVID-19 pandemic will have long-term ramifications for many patients, including those who work in the NHS and have been victims of the disease. This short case study describes the journey of an emergency department (ED) charge nurse who contracted COVID-19 and was hospitalised in the intensive care unit (ICU). Post-discharge, he experienced a multitude of physical and mental health complications, which ultimately impacted on each other. Therefore, a bio-psycho-pharmaco-social approach to care is recommended from admission through ICU, discharge and beyond. From this and other narratives, it appears that COVID-19 patients are not adequately followed up after ICU discharge, something that must be considered going forward.

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1. **Covid-19: Supporting nurses' psychological and mental health.**  
   Maben J. Journal of clinical nursing 2020;29(15-16):2742-2750.

At the time of writing (11th April 2020) there are 1.72 million Covid‐19 infections and 104,889 deaths worldwide. In the UK the first recorded death was on the 5th of March 2020 and in just 37 days 9,875 deaths in hospital have been recorded. The 10th of April saw the highest number of UK daily deaths (980) to date. These UK figures do not include those who died in care homes or in the community. Similar death rates have been experienced in China earlier this year (3,339) and are rising globally with particularly high death rates in the US (18,761 with over half of deaths in New York State), Italy (18,939), Spain (16,353) and France (13,197).

1. **Doctors' Mental Health in the Midst of COVID-19 Pandemic: The Roles of Work Demands and Recovery Experiences.**  
   Mohd Fauzi MF International journal of environmental research and public health 2020;17(19):No page numbers.

The COVID-19 pandemic potentially increases doctors' work demands and limits their recovery opportunity; this consequently puts them at a high risk of adverse mental health impacts. This study aims to estimate the level of doctors' fatigue, recovery, depression, anxiety, and stress, and exploring their association with work demands and recovery experiences. This was a cross-sectional study among all medical doctors working at all government health facilities in Selangor, Malaysia. Data were collected in May 2020 immediately following the COVID-19 contagion peak in Malaysia by using self-reported questionnaires through an online medium. The total participants were 1050 doctors. The majority of participants were non-resident non-specialist medical officers (55.7%) and work in the hospital setting (76.3%). The highest magnitude of work demands was mental demand (M = 7.54, SD = 1.998) while the lowest magnitude of recovery experiences was detachment (M = 9.22, SD = 5.043). Participants reported a higher acute fatigue level (M = 63.33, SD = 19.025) than chronic fatigue (M = 49.37, SD = 24.473) and intershift recovery (M = 49.97, SD = 19.480). The majority of them had no depression (69.0%), no anxiety (70.3%), and no stress (76.5%). Higher work demands and lower recovery experiences were generally associated with adverse mental health. For instance, emotional demands were positively associated with acute fatigue (adj. b = 2.73), chronic fatigue (adj. b = 3.64), depression (adj. b = 0.57), anxiety (adj. b = 0.47), and stress (adj. b = 0.64), while relaxation experiences were negatively associated with acute fatigue (adj. b = -0.53), chronic fatigue (adj. b = -0.53), depression (adj. b = -0.14), anxiety (adj. b = -0.11), and stress (adj. b = -0.15). However, higher detachment experience was associated with multiple mental health parameters in the opposite of the expected direction such as higher level of chronic fatigue (adj. b = 0.74), depression (adj. b = 0.15), anxiety (adj. b = 0.11), and stress (adj. b = 0.11), and lower level of intershift recovery (adj. b = -0.21). In conclusion, work demands generally worsen, while recovery experiences protect mental health during the COVID-19 pandemic with the caveat of the role of detachment experiences.

1. **Effect of Emotional Intelligence and Psychosocial Risks on Burnout, Job Satisfaction, and Nurses' Health during the COVID-19 Pandemic.**  
   Soto-Rubio A. International journal of environmental research and public health 2020;17(21):No page numbers.

Nurses are exposed to psychosocial risks that can affect both psychological and physical health through stress. Prolonged stress at work can lead to burnout syndrome. An essential protective factor against psychosocial risks is emotional intelligence, which has been related to physical and psychological health, job satisfaction, increased job commitment, and burnout reduction. The present study aimed to analyze the effect of psychosocial risks and emotional intelligence on nurses' health, well-being, burnout level, and job satisfaction during the rise and main peak of the COVID-19 pandemic in Spain. It is a cross-sectional study conducted on a convenience sample of 125 Spanish nurses. Multiple hierarchical linear regression models were calculated considering emotional intelligence levels, psychosocial demand factors (interpersonal conflict, lack of organizational justice, role conflict, and workload), social support and emotional work on burnout, job satisfaction, and nurses' health. Finally, the moderating effect of emotional intelligence levels, psychosocial factors, social support, and emotional work on burnout, job satisfaction, and nurses' health was calculated. Overall, this research data points to a protective effect of emotional intelligence against the adverse effects of psychosocial risks such as burnout, psychosomatic complaints, and a favorable effect on job satisfaction.

1. **Efficacy of an online cognitive behavioral therapy program developed for healthcare workers during the COVID-19 pandemic: the REduction of STress (REST) study protocol for a randomized controlled trial.**  
   Weiner L. Trials 2020;21(1):870.

BACKGROUND: The acknowledgment of the mental health toll of the COVID-19 epidemic in healthcare workers has increased considerably as the disease evolved into a pandemic status. Indeed, high prevalence rates of depression, sleep disorders, and post-traumatic stress disorder (PTSD) have been reported in Chinese healthcare workers during the epidemic peak. Symptoms of psychological distress are expected to be long-lasting and have a systemic impact on healthcare systems, warranting the need for evidence-based psychological treatments aiming at relieving immediate stress and preventing the onset of psychological disorders in this population. In the current COVID-19 context, internet-based interventions have the potential to circumvent the pitfalls of face-to-face formats and provide the flexibility required to facilitate accessibility to healthcare workers. Online cognitive behavioral therapy (CBT) in particular has proved to be effective in treating and preventing a number of stress-related disorders in populations other than healthcare workers. The aim of our randomized controlled trial study protocol is to evaluate the efficacy of the 'My Health too' CBT program-a program we have developed for healthcare workers facing the pandemic-on immediate perceived stress and on the emergence of psychiatric disorders at 3- and 6-month follow-up compared to an active control group (i.e., bibliotherapy). METHODS: Powered for superiority testing, this six-site open trial involves the random assignment of 120 healthcare workers with stress levels > 16 on the Perceived Stress Scale (PSS-10) to either the 7-session online CBT program or bibliotherapy. The primary outcome is the decrease of PSS-10 scores at 8 weeks. Secondary outcomes include depression, insomnia, and PTSD symptoms; self-reported resilience and rumination; and credibility and satisfaction. Assessments are scheduled at pretreatment, mid-treatment (at 4 weeks), end of active treatment (at 8 weeks), and at 3-month and 6-month follow-up. DISCUSSION: This is the first study assessing the efficacy and the acceptability of a brief online CBT program specifically developed for healthcare workers. Given the potential short- and long-term consequences of the COVID-19 pandemic on healthcare workers' mental health, but also on healthcare systems, our findings can significantly impact clinical practice and management of the ongoing, and probably long-lasting, health crisis. TRIAL REGISTRATION: ClinicalTrials.gov NCT04362358 , registered on April 24, 2020.

1. **Exploring the vulnerability of frontline nurses to COVID-19 and its impact on perceived stress.**  
   Pasay-An E. Journal of Taibah University Medical Sciences 2020;15(5):404-409.

OBJECTIVES: This study aimed at exploring and comparing the vulnerability to COVID-19, demographic variables and perceived stress of frontline nurses. METHODS: This study employed a quantitative comparative-correlational approach. Using the snowball sampling technique, we conducted this study involving 176 frontline nurses from hospitals of the Hail region, KSA. RESULTS: The frontline nurses showed high perceived infectability (x = 4.36) and germ aversion (x = 5.65) but were moderately stressed (19.19). Of the examined variables, only years of experience resulted in significant differences in germ aversion (F [3] = 8.980, p < 0.01). There was no statistically significant difference in perceived infectability and stress. Perceived infectability (r = -0.152, p < 0.05) and germ aversion (r = 0.007, p > 0.05) were negatively correlated to perceived stress. CONCLUSION: In this study, frontline nurses perceived moderate to high stress vulnerability to COVID-19. There were significant differences in germ aversion based on the duration of experience. It is noteworthy that perceived vulnerability to COVID-19 did not impact stress. Paying attention to concerns of nurses can potentially improve preventive practices and positive behaviours in combating the pandemic.

1. **Factors associated with mental health outcomes across healthcare settings in Oman during COVID-19: frontline versus non-frontline healthcare workers.**  
   Alshekaili M. BMJ open 2020;10(10):e042030.

OBJECTIVE: This study aims to assess and compare demographic and psychological factors and sleep status of frontline healthcare workers (HCWs) in relation to non-frontline HCWs. DESIGN, SETTINGS, PARTICIPANTS AND OUTCOMES: This cross-sectional study was conducted from 8 April 2020 to 17 April 2020 using an online survey across varied healthcare settings in Oman accruing 1139 HCWs.The primary and secondary outcomes were mental health status and sociodemographic data, respectively. Mental health status was assessed using the Depression, Anxiety, and Stress Scale (DASS-21), and insomnia was evaluated by the Insomnia Severity Index. Samples were categorised into the frontline and non-frontline groups. χ(2) and t-tests were used to compare groups by demographic data. The Mantel-Haenszel OR was used to compare groups by mental health outcomes adjusted by all sociodemographic factors. RESULTS: This study included 1139 HCWs working in Oman. While working during the pandemic period, a total of 368 (32.3%), 388 (34.1%), 271 (23.8%) and 211 (18.5%) respondents were reported to have depression, anxiety, stress and insomnia, respectively. HCWs in the frontline group were 1.5 times more likely to report anxiety (OR=1.557, p=0.004), stress (OR=1.506, p=0.016) and insomnia (OR=1.586, p=0.013) as compared with those in the non-frontline group. No significant differences in depression status were found between the frontline and non-frontline groups (p=0.201). CONCLUSIONS: To our knowledge, this is the first study to explore the differential impacts of the COVID-19 pandemic on different grades of HCWs. This study suggests that frontline HCWs are disproportionally affected compared to non-frontline HCWs, with managing sleep-wake cycles and anxiety symptoms being highly endorsed among frontline HCWs. As psychosocial interventions are likely to be constrained owing to the pandemic, mental healthcare must first be directed to frontline HCWs.

1. **Factors contributing to healthcare professional burnout during the COVID-19 pandemic: A rapid turnaround global survey.**  
   Morgantini LA PloS one 2020;15(9):e0238217.

BACKGROUND: Healthcare professionals (HCPs) on the front lines against COVID-19 may face increased workload and stress. Understanding HCPs' risk for burnout is critical to supporting HCPs and maintaining the quality of healthcare during the pandemic. METHODS: To assess exposure, perceptions, workload, and possible burnout of HCPs during the COVID-19 pandemic we conducted a cross-sectional survey. The main outcomes and measures were HCPs' self-assessment of burnout, indicated by a single item measure of emotional exhaustion, and other experiences and attitudes associated with working during the COVID-19 pandemic. FINDINGS: A total of 2,707 HCPs from 60 countries participated in this study. Fifty-one percent of HCPs reported burnout. Burnout was associated with work impacting household activities (RR = 1·57, 95% CI = 1·39-1·78, P<0·001), feeling pushed beyond training (RR = 1·32, 95% CI = 1·20-1·47, P<0·001), exposure to COVID-19 patients (RR = 1·18, 95% CI = 1·05-1·32, P = 0·005), and making life prioritizing decisions (RR = 1·16, 95% CI = 1·02-1·31, P = 0·03). Adequate personal protective equipment (PPE) was protective against burnout (RR = 0·88, 95% CI = 0·79-0·97, P = 0·01). Burnout was higher in high-income countries (HICs) compared to low- and middle-income countries (LMICs) (RR = 1·18; 95% CI = 1·02-1·36, P = 0·018). INTERPRETATION: Burnout is present at higher than previously reported rates among HCPs working during the COVID-19 pandemic and is related to high workload, job stress, and time pressure, and limited organizational support. Current and future burnout among HCPs could be mitigated by actions from healthcare institutions and other governmental and non-governmental stakeholders aimed at potentially modifiable factors, including providing additional training, organizational support, and support for family, PPE, and mental health resources.

1. **Feelings, Stress, and Adaptation Strategies of Nurses against COVID-19 in Guayaquil.**  
   Franco JA Investigacion y educacion en enfermeria 2020;38(3):No page numbers.

OBJECTIVES: To explore the feelings, stress factors, and adaptation strategies of nurses during the COVID-19 pandemic in Guayaquil, Ecuador. METHODS: A cross-sectional, descriptive quantitative study, conducted through the application of a 52-item questionnaire with four sections (feelings, perceived stress, stress-reducing factors, and adaptation strategies). The study population was 227 nursing professionals from "Hospital General del Guasmo Sur" of the Ministry of Public Health, who worked during the peak of the pandemic from March to May 2020. The sample comprised 155 nurses who voluntarily accepted to participate. The study received 127 complete questionnaires for analysis. RESULTS: The data showed the priority of humanist feelings and professional duty for these nurses, mostly young (59% under 35 years of age and with the professional exercise of three and fewer years), against the fear of contagion and the stress of strenuous work. They also revealed the great importance for them of the institutional support, recognition to the staff, and strict organization of safe care, like strategies for coping with this difficult experience. CONCLUSIONS: The COVID-19 pandemic represented for nurses from Guayaquil a great professional and emotional challenge. Health services and society could consider these findings to avoid burning out nurses and their professional desertion.

1. **Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study.**  
   Hu D. EClinicalMedicine 2020;24:100424.

BACKGROUND: During the Coronavirus Disease 2019 (COVID-19) pandemic, frontline nurses face enormous mental health challenges. Epidemiological data on the mental health statuses of frontline nurses are still limited. The aim of this study was to examine mental health (burnout, anxiety, depression, and fear) and their associated factors among frontline nurses who were caring for COVID-19 patients in Wuhan, China. METHODS: A large-scale cross-sectional, descriptive, correlational study design was used. A total of 2,014 eligible frontline nurses from two hospitals in Wuhan, China, participated in the study. Besides sociodemographic and background data, a set of valid and reliable instruments were used to measure outcomes of burnout, anxiety, depression, fear, skin lesion, self-efficacy, resilience, and social support via the online survey in February 2020. FINDINGS: On average, the participants had a moderate level of burnout and a high level of fear. About half of the nurses reported moderate and high work burnout, as shown in emotional exhaustion (n = 1,218, 60.5%), depersonalization (n = 853, 42.3%), and personal accomplishment (n = 1,219, 60.6%). The findings showed that 288 (14.3%), 217 (10.7%), and 1,837 (91.2%) nurses reported moderate and high levels of anxiety, depression, and fear, respectively. The majority of the nurses (n = 1,910, 94.8%) had one or more skin lesions, and 1,950 (96.8%) nurses expressed their frontline work willingness. Mental health outcomes were statistically positively correlated with skin lesion and negatively correlated with self-efficacy, resilience, social support, and frontline work willingness. INTERPRETATION: The frontline nurses experienced a variety of mental health challenges, especially burnout and fear, which warrant attention and support from policymakers. Future interventions at the national and organisational levels are needed to improve mental health during this pandemic by preventing and managing skin lesions, building self-efficacy and resilience, providing sufficient social support, and ensuring frontline work willingness.

1. **Harness this crisis to come out stronger: COVID-19 is putting nurses under extreme pressure, and creating anxiety and fear. Here's how to help colleagues cope.**  
   Sanders-Crook Nursing Standard 2020;35(6):33-34.

The COVID-19 pandemic has put the NHS under unprecedented pressure. As nurses and other healthcare staff strive to deliver safe and effective care, they will likely experience a range of emotions, including fear and anxiety.

1. **Heat Stress and Thermal Perception amongst Healthcare Workers during the COVID-19 Pandemic in India and Singapore.**  
   Lee J. International journal of environmental research and public health 2020;17(21):No page numbers.

The need for healthcare workers (HCWs) to wear personal protective equipment (PPE) during the coronavirus disease 2019 (COVID-19) pandemic heightens their risk of thermal stress. We assessed the knowledge, attitudes, and practices of HCWs from India and Singapore regarding PPE usage and heat stress when performing treatment and care activities. One hundred sixty-five HCWs from India (n = 110) and Singapore (n = 55) participated in a survey. Thirty-seven HCWs from Singapore provided thermal comfort ratings before and after ice slurry ingestion. Differences in responses between India and Singapore HCWs were compared. A p-value cut-off of 0.05 depicted statistical significance. Median wet-bulb globe temperature was higher in India (30.2 °C (interquartile range [IQR] 29.1-31.8 °C)) than in Singapore (22.0 °C (IQR 18.8-24.8 °C)) (p < 0.001). Respondents from both countries reported thirst (n = 144, 87%), excessive sweating (n = 145, 88%), exhaustion (n = 128, 78%), and desire to go to comfort zones (n = 136, 84%). In Singapore, reports of air-conditioning at worksites (n = 34, 62%), dedicated rest area availability (n = 55, 100%), and PPE removal during breaks (n = 54, 98.2%) were higher than in India (n = 27, 25%; n = 46, 42%; and n = 66, 60%, respectively) (p < 0.001). Median thermal comfort rating improved from 2 (IQR 1-2) to 0 (IQR 0-1) after ice slurry ingestion in Singapore (p < 0.001). HCWs are cognizant of the effects of heat stress but might not adopt best practices due to various constraints. Thermal stress management is better in Singapore than in India. Ice slurry ingestion is shown to be practical and effective in promoting thermal comfort. Adverse effects of heat stress on productivity and judgment of HCWs warrant further investigation.

1. **How can we protect BAME nurses during the COVID-19 crisis?: The pandemic has disproportionately affected black and minority ethnic people and the NHS has been slow to react.**  
   Dean Erin Nursing Standard 2020;35(6):8-10.

Working in the NHS during the COVID-19 pandemic has left Filipino nurse Angelica (not her real name) feeling stressed; she has had anxiety attacks and insomnia.

1. **How Institutions Can Protect the Mental Health and Psychosocial Well-Being of Their Healthcare Workers in the Current COVID-19 Pandemic.**  
   Fukuti P. Clinics (Sao Paulo, Brazil) 2020;75:e1963.

1. **Immediate impact of COVID-19 on mental health and its associated factors among healthcare workers: A global perspective across 31 countries.**  
   Htay MNN Journal of global health 2020;10(2):020381.

1. **Impact of COVID-19 on mental health: Update from the United Kingdom**  
   Burn W. Indian Journal of Psychiatry 2020;62(9):No page numbers.

In January 2020, the World Health Organisation (WHO) declared the outbreak of a new corona virus disease, COVID-19 to be public health Emergency of International concern and by March 2020 it had progressed rapidly across several continents to be a pandemic. After COVID-19 was declared a global pandemic the U.K. Government placed strict measures in mid-March 2020 to limit spread by enforcing social distancing, travel restrictions and complete lockdown. In U.K. by end of April 2020 official estimates of confirmed COVID-19 positive cases reached 161,000 and the number of deaths has exceeded 26,000 in hospitals and in care homes. COVID-19 continues to have an impact on all aspects of life in U.K. The Royal College of Psychiatrists (RCPsych), London, a leading professional body of U.K. and global mental health professionals was prompt to act in this public health emergency. RCPsych has issued guidance for clinicians, patients & carers, organised a series of webinars to support members and undertook a membership survey. It has played a crucial role in influencing national policy decisions. This article will focus on mental health impact of COVID-19 pandemic in U.K. and the initiatives taken by RCPsych.<br/>Copyright &#xa9; 2020 Indian Journal of Psychiatry Published by Wolters Kluwer-Medknow.

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[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=ee16baa2f818cb7e0c9c4b28ca5d6211)

1. **Impact of the COVID-19 pandemic on radiography practice: findings from a UK radiography workforce survey.**  
   Akudjedu Theophilus N. BJR open 2020;2(1):20200023.

ObjectivesRadiographers are key patient-facing healthcare professionals involved in many aspects of patient care. The working patterns and professional practice of the radiography workforce (RW) has been altered during the COVID-19 pandemic. This survey aimed to assess the impact of the pandemic on radiography practice in the United Kingdom (UK).MethodsAn online cross-sectional survey of the UK RW was performed (March 25th to April 26th, 2020). The survey sought information regarding 1. Demographics 2. Impact of the pandemic on professional practice 3. Infection prevention/control and 4. COVID-19 related stress. Data collected was analysed using the Statistical Package for Social Sciences (v.26).ResultsA total of 522 responses were received, comprising n = 412 (78.9%) diagnostic and n = 110 (21.1%) therapeutic RW categories from across the UK. 12.5% (65/522) of the respondents were redeployed. Redeployment did not appear to contribute (p = 0.31) to work-related stress. However, fear of contracting the infection and perceived inadequate personal protective equipment (PPE) were identified as key contributors to stress during the study period. Compared to the therapeutic RW, a significantly higher proportion of the diagnostic RW identified fear of being infected as a major stressor (166/412 (40.3%) vs 30/110 (27.3%), p = 0.01).ConclusionThis survey has demonstrated changes to clinical practice, in particular to working patterns, service delivery and infection prevention and control were key contributors to workplace-related stress during the pandemic.Advances in knowledgeTimely and adequate staff training and availability of PPE as well as psychosocial support during future pandemics would enhance quality patient and staff safety.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=f1c3014382bee3b1a7b6566c6294b50e)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=5d46f0720f4a4938fb2d88149648a42f)

1. **Insomnia, fatigue and psychosocial well-being during COVID-19 pandemic: A cross-sectional survey of hospital nursing staff in the United States.**  
   Sagherian K. Journal of clinical nursing 2020;:No page numbers.

AIMS AND OBJECTIVES: To describe the levels of insomnia, fatigue and intershift recovery, and psychological well-being (burnout, post-traumatic stress and psychological distress), and to examine differences in these measures based on work-related characteristics among nursing staff during COVID-19 pandemic in the United States. BACKGROUND: The COVID-19 pandemic has created a major physical and psychological burden on nursing staff in the United States and worldwide. A better understanding of these conditions will lead to tailored support and resources for nursing staff during and after the pandemic. DESIGN: Cross-sectional study. METHODS: Hospital nurses and nursing assistants (N = 587) were recruited online between May-June 2020. The survey included measures on insomnia (Insomnia Severity Index) fatigue and intershift recovery (Occupational Fatigue and Exhaustion Recovery-15), burnout (Maslach Burnout Inventory-Human Services Survey), post-traumatic stress (Short Post-Traumatic Stress Disorder Rating Interview) and psychological distress (Patient Health Questionnaire-4), and questions on work and demographics. The STROBE checklist was followed for reporting. RESULTS: The sample had subthreshold insomnia, moderate-to-high chronic fatigue, high acute fatigue and low-to-moderate intershift recovery. The sample experienced increased emotional exhaustion and depersonalisation, increased personal accomplishment, moderate psychological distress and high post-traumatic stress. Nurses who cared for COVID-19 patients had significantly scored worse on almost all measures than their co-workers. Certain factors such as working hours per week and the frequency of 30-min breaks were significant. CONCLUSION: Nursing staff experienced poor sleep, fatigue and multiple psychological problems during the COVID-19 pandemic. Moreover, staff who were involved in the care of COVID-19 patients, worked more than 40 h per week and skipped 30-min breaks showed generally worse self-reported outcomes. RELEVANCE TO CLINICAL PRACTICE: Nursing administration is recommended to monitor for fatigue and distress on nursing units, re-visit current scheduling practices, reinforce rest breaks and provide access to mental health and sleep wellness resources with additional support for their front-line nursing groups.

1. **It's vital nurses take time out for their mental health: Prioritising time for yourself during the COVID-19 pandemic is not optional, it's critical, says a leading nurse.**  
   Cable Primary Health Care 2020;30(3):12-12.

In my role as chief executive and nurse director of the Queen's Nursing Institute Scotland, I hear nurses trying to make sense of the COVID-19 situation, and realise the enormity of what we are facing collectively.

1. **Knowledge and Psychological Stress Related to COVID-19 Among Nursing Staff in a Hospital in China: Cross-Sectional Survey Study.**  
   Huang H. JMIR formative research 2020;4(9):e20606.

BACKGROUND: Since December 2019, coronavirus disease (COVID-19) has been rapidly spreading worldwide. Nurses play a key role in fighting this disease and are at risk of COVID-19 infection. Therefore, there is an urgent need to assess the mental health condition of nurses and establish appropriate interventions to reduce the negative psychiatric outcomes of the pandemic. OBJECTIVE: The objectives of this study were to evaluate the knowledge and psychological stress related to COVID-19 among nursing staff and to provide evidence of the need for targeted training and psychological intervention. METHODS: This cross-sectional web-based survey study was performed in a class 3 grade A general hospital in a southwest province of China from March 1 to March 15, 2020. A self-designed questionnaire with questions about COVID-19-related prevention and control knowledge and the Triage Assessment Form (TAF) were used to assess nursing staff's knowledge of COVID-19 and their degree of psychological stress, respectively. SPSS 23.0 was applied for statistical analysis of the collected data. RESULTS: A total of 979 nurses completed the questionnaire. The results showed that the nursing staff provided the fewest correct answers to questions about continuous viral nucleic acid testing specifications (379/979 correct answers, 38.7%), isolation/discharge criteria (539/979 correct answers, 55.1%), and management measures for patients with suspected symptoms (713/979 correct answers, 72.8%). The median total score of the TAF was 7.0 (IQR 5.0-12.0), and there were statistically significant differences in scores between different nursing roles, years of work experience, and hospital departments (P<.05). CONCLUSIONS: This study indicated that nursing staff have insufficient knowledge about COVID-19. Meanwhile, although the psychological damage to nurses during the pandemic was found to be low, nurse managers must continue to monitor the mental health of nursing staff and perform timely interventions.

1. **Labour Market Attachment, Workplace Infection Control Procedures and Mental Health: A Cross-Sectional Survey of Canadian Non-healthcare Workers during the COVID-19 Pandemic.**  
   Smith PM Annals of work exposures and health 2020;:No page numbers.

BACKGROUND: The COVID-19 pandemic has led to large proportions of the labour market moving to remote work, while others have become unemployed. Those still at their physical workplace likely face increased risk of infection, compared to other workers. The objective of this paper is to understand the relationship between working arrangements, infection control programs (ICP), and symptoms of anxiety and depression among Canadian workers, not specifically working in healthcare. METHODS: A convenience-based internet survey of Canadian non-healthcare workers was facilitated through various labour organizations between April 26 and June 6, 2020. A total of 5180 respondents started the survey, of which 3779 were assessed as employed in a full-time or part-time capacity on 2 March 2020 (prior to large-scale COVID-19 pandemic responses in Canada). Of this sample, 3305 (87.5%) had complete information on main exposures and outcomes. Anxiety symptoms were measured using the Generalised Anxiety Disorder screener (GAD-2), and depressive symptoms using the Patient Health Questionnaire screener (PHQ-2). For workers at their physical workplace (site-based workers) we asked questions about the adequacy and implementation of 11 different types of ICP, and the adequacy and supply of eight different types of personal protective equipment (PPE). Respondents were classified as either: working remotely; site-based workers with 100% of their ICP/PPE needs met; site-based workers with 50-99% of ICP/PPE needs met; site-based workers with 1-49% of ICP/PPE needs met; site-based workers with none of ICP/PPE needs met; or no longer employed. Regression analyses examined the association between working arrangements and ICP/PPE adequacy and having GAD-2 and PHQ-2 scores of three and higher (a common screening point in both scales). Models were adjusted for a range of demographic, occupation, workplace, and COVID-19-specific factors. RESULTS: A total of 42.3% (95% CI: 40.6-44.0%) of the sample had GAD-2 scores of 3 and higher, and 34.6% (95% CI: 32.-36.2%) had PHQ-2 scores of 3 and higher. In initial analyses, symptoms of anxiety and depression were lowest among those working remotely (35.4 and 27.5%), compared to site-based workers (43.5 and 34.7%) and those who had lost their jobs (44.1 and 35.9%). When adequacy of ICP and PPE was taken into account, the lowest prevalence of anxiety and depressive symptoms was observed among site-based workers with all of their ICP needs being met (29.8% prevalence for GAD-2 scores of 3 and higher, and 23.0% prevalence for PHQ-2 scores of 3 and higher), while the highest prevalence was observed among site-based workers with none of their ICP needs being met (52.3% for GAD-2 scores of 3 and higher, and 45.8% for PHQ-2 scores of 3 and higher). CONCLUSION: Our results suggest that the adequate design and implementation of employer-based ICP have implications for the mental health of site-based workers. As economies re-open the ongoing assessment of ICP and associated mental health outcomes among the workforce is warranted.

1. **Measuring the extent of stress and fear among Registered Nurses in KSA during the COVID-19 Outbreak.**  
   Tayyib NA Journal of Taibah University Medical Sciences 2020;15(5):410-416.

OBJECTIVES: The novel Coronavirus Disease 2019 (COVID-19), also known as severe acute respiratory syndrome coronavirus, was officially recognised in the KSA in March 2020. Registered nurses (RNs) play a frontline role in the delivery of healthcare services to the COVID-19 patients. This role has potentially exposed RNs to infection with its associated consequences. We conducted this study to assess the psychological effects of fear and stress, and level of resilience to the COVID-19 outbreak by RNs in KSA. METHODS: In this cross-sectional study, we recruited all RNs working with patients with the COVID-19 in KSA during the outbreak. All participants completed an anonymous questionnaire, which included items about their sociodemographic details, job stress related to the COVID-19, and fear of infection. Data were analysed with descriptive correlation statistics and multiple regression tests. RESULTS: In total, 314 RNs responded to our survey. The results showed that the RNs had high levels of anxiety and stress during the COVID-19 outbreak. RNs were fearful about their safety and the well-being of their families. However, RNs felt more responsible for providing care to the COVID-19 patients. Moreover, our results signalled some predictive factors that increased RNs' level of fear, such as social media (β = 0.76, p = 0.03), exposure to trauma prior to the outbreak (β = -0.95, p = 0.003), and readiness to care for infected patients (β = -0.21, p = 0.001). CONCLUSION: This study reports high levels of perceived stress and fear among RNs in KSA while caring for patients with the COVID-19. Furthermore, certain factors have a significant impact on RNs' psychological status, which may affect the quality of patient care and safety.

1. **Mental health amongst obstetrics and gynaecology doctors during the COVID-19 pandemic: Results of a UK-wide study.**  
   Shah N. European journal of obstetrics, gynecology, and reproductive biology 2020;253:90-94.

OBJECTIVE: To explore the impact of the COVID-19 pandemic on the mental health of Obstetricians and Gynaecologists. STUDY DESIGN: A cross-section survey-based study amongst doctors working within Obstetrics and Gynaecology in the United Kingdom. RESULTS: A total of 207 doctors completed the survey. Obstetricians and Gynaecologists reported significantly higher rates of both Major Depressive Disorder (versus, p = 0.023) and Generalised Anxiety Disorder (versus, p = 0.044) as compared to the UK-wide estimates. Sub-group analysis showed that anxiety was more common amongst female doctors as compared to males (versus, p = 0.047). Although the prevalence of GAD was higher amongst registrars compared to their Consultant and/or Senior House Officer counterparts, this was not statistically significant. Respondents felt that the most significant factor for work-related changes to mental health was keeping up to date with frequently changing guidelines and protocols related to COVID-19. Only of respondents felt able to talk to colleagues about their mental health. CONCLUSIONS: Key findings include the high prevalence of mental health conditions amongst doctors, demonstration of the persistent taboo that mental health carries within the speciality and the key contributory factors to poor mental health. Further work should be done to assess if changes to the way new and updating guidelines, protocols and pathways are disseminated reduces the impact on the mental health of doctors. With the threat of a second COVID-19 peak looming, now more than ever, it is vital that steps are taken to break the stigmatisation of mental health amongst doctors, encouraging doctors to seek help when required.

1. **Mental Health and Health-Related Quality-of-Life Outcomes Among Frontline Health Workers During the Peak of COVID-19 Outbreak in Vietnam: A Cross-Sectional Study.**  
   Manh Than H. Risk management and healthcare policy 2020;13:2927-2936.

PURPOSE: Mental health is an important component of the protection strategy for healthcare workers (HCWs). However, it has not been well described in Vietnam during the COVID-19 outbreak. This study aims to measure the psychological distress and health-related quality-of-life among frontline healthcare workers during the peak of the outbreak in Vietnam. PATIENTS AND METHODS: We conducted a cross-sectional survey on 173 health workers at two national tertiary hospitals in Hanoi, Vietnam from March to April 2020. The psychological distress was measured by the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21), Impact of Event Scale - Revised (IES-R), and the Insomnia Severity Index (ISI). EQ-5D-5L was used to determine the health-related quality-of-life (HRQoL) outcomes. RESULTS: Among 173 HCWs, the proportion of reported depression symptoms, anxiety symptoms, and stress was 20.2%, 33.5%, and 12.7%, respectively. The median EQ-5D-5L index score was 0.93 (IQR=0.85-0.94), and the anxiety/depression aspect had the highest reported problems. The most COVID-19-specific concerns among frontline HCWs were the reduction of income (59%) and the increase of living costs (54.3%). HCWs working in the COVID-19-designated hospital had a significantly higher rate of mental health problems and had a lower HRQoL outcome than those working in non-COVID-19-designated hospitals. Other factors associated with psychological distress and sleep problems include age, job title, income, chronic diseases status, and years of working in healthcare settings. HCWs who were ≥30 years old, had higher working years, had higher incomes, and had mental health and sleep problems were more likely to have lower HRQoL scores. CONCLUSION: We reported a moderate rate of psychological distress and lower HRQoL outcomes among frontline HCWs during the COVID-19 outbreak in Vietnam. Various factors were found to be associated with mental health and HRQoL that might be useful for implementing appropriate interventions for HCWs in low-resource settings.

1. **Mental health and risk perception among Italian healthcare workers during the second month of the Covid-19 pandemic.**  
   Gorini A. Archives of psychiatric nursing 2020;34(6):537-544.

A multicentre cross-sectional study was conducted to assess perceived risk and fear of contagion, as well as mental health outcomes among 650 Italian healthcare workers during the COVID-19 outbreak. A relevant proportion of the sample reported symptoms of anxiety, depression, and distress. Female sex, nursing profession, fear of being infected, as well as the time of exposure to the COVID-19 spread and the fact of directly attending infected patients were the main risk factors for developing mental health disturbances. Tailored interventions need to be implemented to reduce psychological burden in healthcare workers, with a particular attention to nurses.

1. **Mental health and well-being of healthcare workers during the COVID-19 pandemic in the UK: contrasting guidelines with experiences in practice.**  
   Vera San Juan N. BJPsych open 2020;7(1):e15.

BACKGROUND: Substantial evidence has highlighted the importance of considering the mental health of healthcare workers during the COVID-19 pandemic, and several organisations have issued guidelines with recommendations. However, the definition of well-being and the evidence base behind such guidelines remain unclear. AIMS: The aims of the study are to assess the applicability of well-being guidelines in practice, identify unaddressed healthcare workers' needs and provide recommendations for supporting front-line staff during the current and future pandemics. METHOD: This paper discusses the findings of a qualitative study based on interviews with front-line healthcare workers in the UK (n = 33), and examines them in relation to a rapid review of well-being guidelines developed in response to the COVID-19 pandemic (n = 14). RESULTS: The guidelines placed greater emphasis on individual mental health and psychological support, whereas healthcare workers placed greater emphasis on structural conditions at work, responsibilities outside the hospital and the invaluable support of the community. The well-being support interventions proposed in the guidelines did not always respond to the lived experiences of staff, as some reported not being able to participate in these interventions because of understaffing, exhaustion or clashing schedules. CONCLUSIONS: Healthcare workers expressed well-being needs that aligned with socio-ecological conceptualisations of well-being related to quality of life. This approach to well-being has been highlighted in literature on support of healthcare workers in previous health emergencies, but it has not been monitored during this pandemic. Well-being guidelines should explore the needs of healthcare workers, and contextual characteristics affecting the implementation of recommendations.

1. **Mental health care for medical staff and affiliated healthcare workers during the COVID-19 pandemic.**  
   Walton M. European heart journal. Acute cardiovascular care 2020;9(3):241-247.

The COVID-19 pandemic is an unprecedented challenge for society. Supporting the mental health of medical staff and affiliated healthcare workers (staff) is a critical part of the public health response. This paper details the effects on staff and addresses some of the organisational, team and individual considerations for supporting staff (pragmatically) during this pandemic. Leaders at all levels of health care organisations will find this a valuable resource.

1. **Mental health impact of COVID-19 pandemic on Spanish healthcare workers.**  
   García-Fernández L. Psychological medicine 2020;:1-3.

1. **Mental health impact of the first wave of COVID-19 pandemic on Spanish healthcare workers: A large cross-sectional survey.**  
   Alonso J. Revista de psiquiatria y salud mental 2020;:No page numbers.

INTRODUCTION: Healthcare workers are vulnerable to adverse mental health impacts of the COVID-19 pandemic. We assessed prevalence of mental disorders and associated factors during the first wave of the pandemic among healthcare professionals in Spain. METHODS: All workers in 18 healthcare institutions (6 AACC) in Spain were invited to web-based surveys assessing individual characteristics, COVID-19 infection status and exposure, and mental health status (May 5 - September 7, 2020). We report: probable current mental disorders (Major Depressive Disorder-MDD- [PHQ-8≥10], Generalized Anxiety Disorder-GAD- [GAD-7≥10], Panic attacks, Posttraumatic Stress Disorder -PTSD- [PCL-5≥7]; and Substance Use Disorder -SUD-[CAGE-AID≥2]. Severe disability assessed by the Sheehan Disability Scale was used to identify probable "disabling" current mental disorders. RESULTS: 9,138 healthcare workers participated. Prevalence of screen-positive disorder: 28.1% MDD; 22.5% GAD, 24.0% Panic; 22.2% PTSD; and 6.2% SUD. Overall 45.7% presented any current and 14.5% any disabling current mental disorder. Workers with pre-pandemic lifetime mental disorders had almost twice the prevalence than those without. Adjusting for all other variables, odds of any disabling mental disorder were: prior lifetime disorders (TUS: OR=5.74; 95%CI 2.53-13.03; Mood: OR=3.23; 95%CI:2.27-4.60; Anxiety: OR=3.03; 95%CI:2.53-3.62); age category 18-29 years (OR=1.36; 95%CI:1.02-1.82), caring "all of the time" for COVID-19 patients (OR=5.19; 95%CI: 3.61-7.46), female gender (OR=1.58; 95%CI: 1.27-1.96) and having being in quarantine or isolated (OR= 1.60; 95CI:1.31-1.95). CONCLUSIONS: One in seven Spanish healthcare workers screened positive for a disabling mental disorder during the first wave of the COVID-19 pandemic. Workers reporting pre-pandemic lifetime mental disorders, those frequently exposed to COVID-19 patients, infected or quarantined/isolated, female workers, and auxiliary nurses should be considered groups in need of mental health monitoring and support.

1. **Mental health impacts among health workers during COVID-19 in a low resource setting: a cross-sectional survey from Nepal.**  
   Khanal P. Globalization and health 2020;16(1):89.

BACKGROUND: Health care workers exposed to COVID-19 might be at increased risk of developing mental health problems. The study aimed to identify factors associated with anxiety, depression and insomnia among health workers involved in COVID-19 response in Nepal. METHODS: This was a cross-sectional web-based survey conducted between April 26 and May 12, 2020. A total of 475 health workers participated in the study. Anxiety and depression were measured using a 14-item Hospital Anxiety and Depression Scale (HADS: 0-21) and insomnia was measured by using a 7-item Insomnia Severity Index (ISI: 0-28). Multivariable logistic regression analysis was done to determine the risk factors of mental health outcomes. RESULTS: Overall, 41.9% of health workers had symptoms of anxiety, 37.5% had depression symptoms and 33.9% had symptoms of insomnia. Stigma faced by health workers was significantly associated with higher odds of experiencing symptoms of anxiety (AOR: 2.47; 95% CI: 1.62-3.76), depression (AOR: 2.05; 95% CI: 1.34-3.11) and insomnia (AOR: 2.37; 95% CI: 1.46-3.84). History of medication for mental health problems was significantly associated with a higher likelihood of experiencing symptoms of anxiety (AOR: 3.40; 95% CI:1.31-8.81), depression (AOR: 3.83; 95% CI: 1.45-10.14) and insomnia (AOR: 3.82; 95% CI: 1.52-9.62) while inadequate precautionary measures in the workplace was significantly associated with higher odds of exhibiting symptoms of anxiety (AOR: 1.89; 95% CI: 1.12-3.19) and depression (AOR: 1.97; 95% CI: 1.16-3.37). Nurses (AOR: 2.33; 95% CI: 1.21-4.47) were significantly more likely to experience anxiety symptoms than other health workers. CONCLUSION: The study findings revealed a considerate proportion of anxiety, depression and insomnia symptoms among health workers during the early phase of the pandemic in Nepal. Health workers facing stigma, those with history of medication for mental health problems, and those reporting inadequate precautionary measures in their workplace were more at risk of developing mental health outcomes. A focus on improving mental wellbeing of health workers should be immediately initiated with attention to reduction of stigma, ensuring an adequate support system such as personal protective equipments, and family support for those with history of mental health problems.

1. **Mental health of healthcare workers during the COVID-19 outbreak: A rapid scoping review to inform provincial guidelines in South Africa.**  
   Robertson LJ South African medical journal = Suid-Afrikaanse tydskrif vir geneeskunde 2020;110(10):1010-1019.

COVID-19 is prevalent in sub-Saharan Africa. The healthcare response to the pandemic depends upon a mentally and physically healthy workforce. Infectious disease outbreaks cause high psychosocial stress among healthcare workers, which may impact negatively on workplace functioning. To understand which mental health conditions may occur and which interventions could be considered, we conducted a rapid scoping review. Using a 2018 systematic review as the starting point, PubMed, Cochrane, Web of Science and MEDLINE databases were searched for any type of evidence published in English between 2014 and 2020 on mental health of healthcare workers exposed to infectious disease outbreaks; 19 primary studies and 13 opinion pieces were included. Depression, anxiety, post-traumatic stress, and other mental health conditions were noted among healthcare workers exposed to COVID-19 and other outbreaks. Although no effectiveness studies were identified, certain proposed interventions may be implemented by healthcare leaders. Further research is recommended.

1. **Mental Health Outcomes Among Healthcare Workers and the General Population During the COVID-19 in Italy.**  
   Rossi R. Frontiers in psychology 2020;11:608986.

INTRODUCTION: During the COVID-19 pandemic, healthcare workers in Italy have been exposed to an unprecedented pressure and traumatic events. However, no direct comparison with the general population is available so far. The aim of this study is to detail mental health outcomes in healthcare workers compared to the general population. METHODS: 24050 respondents completed an on-line questionnaire during the contagion peak, 21342 general population, 1295 second-line healthcare workers, and 1411 front-line healthcare workers. Depressive, anxious, post-traumatic symptoms and insomnia were assessed. Specific COVID-19 related potential risk factors were also considered in healthcare workers. RESULTS: Depressive symptoms were more frequent in the general population (28.12%) and front-line healthcare workers (28.35%) compared to the second-line healthcare workers (19.98%) groups. Anxiety symptoms showed a prevalence of 21.25% in the general population, 18.05% for second-line healthcare workers, and 20.55% for front-line healthcare workers. Insomnia showed a prevalence of 7.82, 6.58, and 9.92% for the general population, second-line healthcare workers, and front-line healthcare workers, respectively. Compared to the general population, front-line healthcare workers had higher odds of endorsing total trauma-related symptoms. Both second-line healthcare workers and front-line healthcare workers had higher odds of endorsing core post-traumatic symptoms compared to the general population, while second-line healthcare workers had lower odds of endorsing negative affect and dissociative symptoms. Higher total traumatic symptom score was associated with being a front-line healthcare worker, having a colleague infected, hospitalized, or deceased, being a nurse, female gender, and younger age. CONCLUSION: This study suggests a significant psychological impact of the COVID-19 pandemic on the Italian general population and healthcare workers. Front-line healthcare workers represent a specific at-risk population for post-traumatic symptoms. These findings underline the importance of monitoring and intervention strategies.

1. **Mental Health Outcomes in Healthcare Workers in COVID-19 and Non-COVID-19 Care Units: A Cross-Sectional Survey in Belgium.**  
   Tiete J. Frontiers in psychology 2020;11:612241.

BACKGROUND: The literature shows the negative psychological impact of the coronavirus disease 2019 (COVID-19) outbreak on frontline healthcare workers. However, few are known about the mental health of physicians and nurses working in general hospitals during the outbreak, caring for patients with COVID-19 or not. OBJECTIVES: This survey assessed differences in mental health in physicians and nurses working in COVID-19 or non-COVID-19 medical care units. DESIGN: A cross-sectional mixed-mode survey was used to assess burnout, insomnia, depression, anxiety, and stress. SETTING: A total of 1,244 physicians and nurses from five general hospitals in Belgium, working in COVID-19 care units (CCU), non-COVID-19 care units (NCCU), or both (CCU + NCCU) were informed of the study. PARTICIPANTS: Six hundred forty-seven healthcare workers participated in the survey (response rate = 52%). MEASUREMENTS: Validated instruments were used to assess the outcomes: the PFI (burnout/professional fulfillment), the ISI (insomnia), and the DASS-21 (depression, anxiety, and stress). RESULTS: Results showed high prevalence of burnout, insomnia, depression, and anxiety among participants. After adjusting for confounders, multivariate analysis of variance showed no differences between CCU, NCCU, and CCU + NCCU workers. Univariate general linear models showed higher level of burnout, insomnia, and anxiety among nurses in comparison to physicians. Being a nurse, young, isolated, with an increased workload were risk factors for worse mental health outcomes. LIMITATIONS: The mental health of the tested sample, before the outbreak, is unknown. Moreover, this cross-sectional design provides no information on the evolution of the mental health outcomes over time. CONCLUSION: Directly caring for patients with COVID-19 is not associated with worse mental health outcomes among healthcare workers in general hospitals. High prevalence of burnout, insomnia, depression, and anxiety among physicians and nurses requires special attention, and specific interventions need to be implemented. PROTOCOL REGISTRATION: ClinicalTrials.gov, identifier NCT04344145.

1. **Mental health problems among healthcare workers involved with the COVID-19 outbreak.**  
   Robles R. Revista brasileira de psiquiatria (Sao Paulo, Brazil : 1999) 2020;:No page numbers.

OBJECTIVE: The mental health problems and perceived needs of healthcare workers involved with coronavirus disease (COVID-19) may vary due to individual and contextual characteristics. The objective of this study was to evaluate healthcare workers' mental health problems during the common COVID-19 exposure scenario in Mexico, comparing those on the frontline with other healthcare workers according to gender and profession, determining the main risk factors for the most frequent mental health problems. METHODS: A cross-sectional online study was conducted with a non-probabilistic sample of 5,938 Mexican healthcare workers who completed brief screening measures of mental health problems and ad hoc questions about sociodemographic professional characteristics, conditions related to increased risk of COVID-19 infection, life stressors during the COVID-19 emergency, and perceived need to cope with COVID-19. RESULTS: The identified mental health problems were insomnia, depression, and posttraumatic stress disorder (PTSD), all of which were more frequent in frontline healthcare workers (52.1, 37.7, and 37.5%, respectively) and women (47.1, 33.0 %, and 16.3%, respectively). A lack of rest time was the main risk factor for insomnia (OR = 3.1, 95%CI 2.6-3.7, p ≤ 0.0001). Mourning the death of friends or loved ones due to COVID-19 was the main risk factor for depression (OR = 2.2, 95%CI 1.8-2.7, p ≤ 0.0001), and personal COVID-19 status was the main risk factor for PTSD (OR = 2.2, 95%CI 1.7-2.9, p ≤ 0.0001). CONCLUSION: The most frequent mental health problems during the common exposure scenario for COVID-19 in Mexico included the short-term psychological consequences of intense adversity. A comprehensive strategy for preventing mental health problems should focus on individuals with cumulative vulnerability and specific risk factors.

1. **Mental health problems faced by healthcare workers due to the COVID-19 pandemic-A review.**  
   Spoorthy MS Asian journal of psychiatry 2020;51:102119.

INTRODUCTION: The spread of novel corona virus (COVID-19) across the globe and the associated morbidity and mortality challenged the nations by several means. One such underrecognized and unaddressed area is the mental health issues medical staff develop during the pandemic. MATERIALS AND METHODS: This review aimed to review the literature about mental health problems faced by health care workers (HCW) during the COVID-19 pandemic. Literature search was conducted in the following databases: PubMed, Google Scholar, Cochrane Library, Embase. All types of articles published in the last 4 months (January 2020-April 2020) which were relevant to the subject of the review were searched. A total of 23 articles were selected by initial screening and 6 articles were included in the final review. RESULTS: Review of all the 6 articles showed that current research focused on assessing several aspects of mental health affected in HCW due to COVID-19. Several sociodemographic variables like gender, profession, age, place of work, department of work and psychological variables like poor social support, self-efficacy were associated with increased stress, anxiety, depressive symptoms, insomnia in HCW. There is increasing evidence that suggests that COVID-19 can be an independent risk factor for stress in HCW. CONCLUSION: Regular screening of medical personnel involved in treating, diagnosing patients with COVID-19 should be done for evaluating stress, depression and anxiety by using multidisciplinary Psychiatry teams.

1. **Mental Health Problems in Chinese Healthcare Workers Exposed to Workplace Violence During the COVID-19 Outbreak: A Cross-Sectional Study Using Propensity Score Matching Analysis.**  
   Wang W. Risk management and healthcare policy 2020;13:2827-2833.

OBJECTIVE: This study aimed at examining the effect of medical workplace violence (MWV) on the mental health of Chinese healthcare workers during the outbreak of coronavirus disease 2019 (COVID-19). METHODS: An anonymous online survey was issued to Chinese healthcare workers (N=1063) from 31 provinces and autonomous regions between February 13th and February 20th. Mental health was measured by the Chinese Depression Anxiety Stress Scales-21 (DASS-21). Medical workplace violence was measured using a single item, whether any type of workplace violence was experienced during the COVID-19 outbreak. Propensity score matching was used to assess the impact of MWV on mental health. RESULTS: Out of 1063, 217 (20.4%) reported experiencing MWV during the COVID-19 outbreak. Before matching, MWV was correlated with elevated mental health problems (b=8.248, p<0.001), after adjusting for other variables. After matching, Chinese healthcare workers who experienced MWV were more likely to suffer from mental health problems than those who did not. CONCLUSION: MWV exerts a detrimental effect on mental health among Chinese healthcare workers during the COVID-19 outbreak. It is necessary to create a more supportive and safer work environment for healthcare workers at this special context of the COVID-19 outbreak.

1. **Mental Health Status of Healthcare Workers in China for COVID-19 Epidemic.**  
   Liu Z. Annals of global health 2020;86(1):128.

BACKGROUND: COVID-19 first appeared in China in December 2019, with a high rate of infectivity and morbidity, which brought tremendous psychological pressure to healthcare workers. PURPOSE: To understand the psychological health status of healthcare workers during the COVID-19 outbreak and decline, and to provide a theoretical reference for the future establishment of a psychological crisis intervention system. METHODS: Healthcare workers were recruited using convenience sampling and snowball sampling methods, and the electronic version of the SCL-90 scale and a sociodemographic questionnaire were administered. In the pretest, a total of 5018 responses were collected; after six weeks, random sampling was performed. The SCL-90 and measures of other epidemic-related problems were administered, with 1570 responses received; then, the final data analysis was performed. RESULTS: After six weeks, the post-test GSI score; SCL-90 total score; and PST, PSDI, O-C, I-S, DEP, ANX, PHOB, PAR, PSY, and HOS scores were significantly lower than the corresponding pretest scores (p < 0.05). The results by occupational category showed that the scores of nursing staff decreased significantly for 12 indexes and that the scores of the doctors and other hospital staff also significantly decreased. There was a significant difference between the pretest (50.78 ± 28.18) and post-test (45.00 ± 28.49) scores for the degree of worry about the epidemic. Healthcare workers believed that the top three aspects of life affected by the epidemic were economic problems (816 people), interpersonal communication problems (731 people), and mental health (728 people). CONCLUSION: Over the course of the epidemic, the item scores generally declined significantly. Therefore, during an outbreak period, attention should be paid to psychological crisis interventions for healthcare workers; problems caused by psychological pressure, and even other psychological conditions, can be significantly alleviated to reduce the probability of subsequent health problems.

1. **Mental Health Status of University Healthcare Workers during the COVID-19 Pandemic: A Post-Movement Lockdown Assessment.**  
   Woon LS International journal of environmental research and public health 2020;17(24):No page numbers.

This study investigated the prevalence and severity of depression, anxiety, and stress and determined the association between various factors, social support, and depression, anxiety, and stress among university healthcare workers in Malaysia after the government lifted the movement control order (MCO) put in place to curb the coronavirus disease 2019 (COVID-19) pandemic. This online, cross-sectional survey recruited 399 participants from two university hospitals, and they were administered a self-reported questionnaire on demographic, personal, and clinical characteristics, as well as COVID-19-related stressors and coping. In addition, they completed the Multidimensional Scale of Perceived Social Support (MSPSS) to measure perceived social support, as well as the 21-item Depression, Anxiety, and Stress Scale (DASS-21) to assess depression, anxiety, and stress. We found that the prevalence rates of depression, anxiety, and stress were 21.8%, 31.6%, and 29.1%, respectively. Participants with moderate to extremely severe depression, anxiety, and stress made up 13.3%, 25.8%, and 8.1% of the sample, respectively. Being single or divorced, fear of frequent exposure to COVID-19 patients, agreeing that the area of living had a high prevalence of COVID-19 cases, uncertainty regarding the prevalence of COVID-19 cases in the area of living, and a history of pre-existing psychiatric illnesses were associated with higher odds of depression, anxiety, and stress. Conversely, having more than three children and greater perceived friend support were associated with lower odds of depression, anxiety, and stress. The prevalence of depression, anxiety, and stress remained elevated even after the MCO was lifted.

1. **Mental health symptoms in a cohort of hospital healthcare workers following the first peak of the COVID-19 pandemic in the UK.**  
   Wanigasooriya K. BJPsych open 2020;7(1):e24.

BACKGROUND: The coronavirus disease 2019 (COVID-19) pandemic is likely to lead to a significant increase in mental health disorders among healthcare workers (HCW). AIMS: We evaluated the rates of anxiety, depressive and post-traumatic stress disorder (PTSD) symptoms in a population of HCW in the UK. METHOD: An electronic survey was conducted between the 5 June 2020 and 31 July 2020 of all hospital HCW in the West Midlands, UK using clinically validated questionnaires: the 4-item Patient Health Questionnaire(PHQ-4) and the Impact of Event Scale-Revised (IES-R). Univariate analyses and adjusted logistic regression analyses were performed to estimate the strengths in associations between 24 independent variables and anxiety, depressive or PTSD symptoms. RESULTS: There were 2638 eligible participants who completed the survey (female: 79.5%, median age: 42 years, interquartile range: 32-51). The rates of clinically significant symptoms of anxiety, depression and PTSD were 34.3%, 31.2% and 24.5%, respectively. In adjusted analysis a history of mental health conditions was associated with clinically significant symptoms of anxiety (odds ratio (OR) = 2.3, 95% CI 1.9-2.7, P < 0.001), depression (OR = 2.5, 95% CI 2.1-3.0, P < 0.001) and PTSD (OR = 2.1, 95% CI 1.7-2.5, P < 0.001). The availability of adequate personal protective equipment (PPE), well-being support and lower exposure to moral dilemmas at work demonstrated significant negative associations with these symptoms (P ≤ 0.001). CONCLUSIONS: We report higher rates of clinically significant mental health symptoms among hospital HCW following the initial COVID-19 pandemic peak in the UK. Those with a history of mental health conditions were most at risk. Adequate PPE availability, access to well-being support and reduced exposure to moral dilemmas may protect hospital HCW from mental health symptoms.

1. **Mental Health Treatment for Front-Line Clinicians During and After the Coronavirus Disease 2019 (COVID-19) Pandemic: A Plea to the Medical Community.**  
   Taylor WD Annals of internal medicine 2020;173(7):574-575.

The COVID-19 pandemic has placed front-line health care professionals—who were already at higher risk for negative effects of chronic stress before the pandemic—at even greater risk for depression and anxiety. This article reminds us of the importance of mutual support and caring for our own mental health, including seeking help from our mental health colleagues when needed.

1. **Necessity of Attention to Mental Health of the Front Line Nurses against COVID-19: A Forgotten Requirement.**  
   Puradollah M. International journal of community based nursing and midwifery 2020;8(3):280-281.

1. **Nuances of COVID-19 and Psychosocial Work Environment on Nurses' Wellbeing: The Mediating Role of Stress and Eustress in Lieu to JD-R Theory.**  
   Meirun T. Frontiers in psychology 2020;11:570236.

BACKGROUND: The global spread of COVID-19 makes Pakistan as vulnerable as any other developing country and the risk posed by the weak health system increases the fears in people's minds. The government is strategically expanding the scope of community ownership and increasing understanding in the population through risk communication and engagement; still, the situation remains very austere and is even affecting the psychological health of caregivers. We, therefore, sought to determine the impact of psychosocial job demands and resources associated with the psychological health of nurses in a time lag duration of 3 months, i.e., since the start of the pandemic, from January to March 2020. We hypothesized the significant mediating roles of stress and eustress in a direct relationship with psychosocial work environment job demands, job resources, and nurses' wellbeing. METHODS: In this cross-sectional self-administrated study, we distributed the survey in two parts by using a time-lag strategy to collect data at the start of pandemic (Time 1) and then again 3 months later (Time 2). Data on 53 items was collected from 208 female nurses who had participated in both the time phases and met the eligibility protocols of the study (such as being certified female nurses who have a registration number (RN) through the Pakistan Nursing Council (PNC), having 4 years of a generic nursing degree, and 2 years of nursing experience). FINDINGS: We have achieved three stages through our analytic study on the nurses' samples to determine the predictive abilities for the quality of the psychosocial work environment model. The coefficient of determination is R2, while the effect size is f2. We found 29.0% variance, 0.05 and 0.03 effect size, and 0.153 predictive abilities on stress as explained by job demands, and 53.4% variance, 0.19 and 0.39 effect size, and 0.275 predictive abilities on eustress as explained by job resources. And finally, there was 71.2% variance, 0.00, 0.02, 0.02, 0.03, 0.42, and 0.07 effect sizes, and 0.545 predictive abilities on our third endogenous construct, wellbeing, which is explained by both the psychosocial job demands and job resource variables. From partial to full mediation, stress and eustress significantly impact the psychosocial work environment of nurses.

1. **Organizational Justice, Professional Identification, Empathy, and Meaningful Work During COVID-19 Pandemic: Are They Burnout Protectors in Physicians and Nurses?**  
   Correia I. Frontiers in psychology 2020;11:566139.

Burnout has been recognized as a serious health problem. In Portugal, before COVID-19 Pandemic, there were strong indicators of high prevalence of burnout in physicians and nurses. However, the Portuguese Health Care Service was able to efficiently respond to the increased demands. This study intends to understand how psychosocial variables might have been protective factors for burnout in physicians and nurses in Portugal. Specifically, we considered several psychosocial variables that have been found to be protective factors for burnout in previous research and we compared their predictive and unique impact in the prediction of burnout. These variables are perceptions of justice (distributive, procedural, justice from colleagues, justice from patients, and their families), professional identification, meaningful work and empathy. We also included workload, as a risk factor, and controlled other variables that can be confounds for burnout, such as socio-demographic variables, ideological variables (religiosity, political orientation), and specific variables related with COVID-19 pandemic. The sample of the present study is composed by 229 physicians (aged between 23 and 70 years old, M = 36.54; SD = 10.72; 48% male and 52% female) and 268 nurses (aged between 22 and 69 years old, M = 34.96; SD = 9.52; 27% male and 73% female). An online survey was created using Qualtrics and participants were recruited via Facebook and LinkedIn. The data were collected during 29 days (between the 45th and the 74th days after the first diagnosed case of COVID-19 in Portugal). The results showed that workload was a significant risk factor, except for disengagement in physicians. The most consistent protectors across samples were procedural justice (for both dimensions of burnout, both in physicians and nurses) and professional identification (for disengagement, both in physicians and nurses; for exhaustion only in physicians). This study suggests that decreasing workload and promoting procedural justice and professional identification are key factors that might be simultaneously and independently addressed in interventions for reducing the risk of burnout or preventing it from occurring in the first place.

1. **Perceived stress and associated factors among healthcare workers in a primary healthcare setting: the Psychological Readiness and Occupational Training Enhancement during COVID-19 Time (PROTECT) study.**  
   Lee ES Singapore medical journal 2020;:No page numbers.

INTRODUCTION: Disease outbreaks such as the coronavirus disease 2019 (COVID-19) pandemic significantly heighten the psychological stress of healthcare workers (HCWs). The objective of this study was to understand the factors contributing to the perceived stress levels of HCWs in a public primary care setting during the COVID-19 pandemic, including their training, protection and support (TPS), job stress (JS), and perceived stigma and interpersonal avoidance. METHODS: This cross-sectional study using an electronic self-administered questionnaire was conducted at the National Healthcare Group Polyclinics in March 2020. Data was collected anonymously. Analysis was performed using regression modelling. RESULTS: The response rate was 69.7% (n = 1,040). The mean perceived stress level of HCWs in various departments ranged from 17.2 to 20.3. Respondents who reported higher perceived stress were those who made alternative living arrangements, were more affected by the current pandemic, reported higher JS and were Muslims. Respondents who reported lower perceived stress were those who had been through the severe acute respiratory syndrome epidemic in 2003 and H1N1 pandemic in 2009 as HCWs, and those who had higher confidence in the organisation's TPS. CONCLUSION: All HCWs, regardless of scope of work, were similarly stressed by the current pandemic compared to the general population. Improving the confidence of HCWs in their training, protection and the support of personal protective equipment, and retaining experienced HCWs who can provide advice and emotional support to younger colleagues are important. Adequate psychological support for HCWs in the pandemic can be transformed into reserves of psychological resilience for future disease outbreaks.

1. **Perceived Stress and Stigma Among Doctors Working in COVID-19-Designated Hospitals in India.**  
   Uvais NA The primary care companion for CNS disorders 2020;22(4):No page numbers.

1. **Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review.**  
   Shaukat N. International journal of emergency medicine 2020;13(1):40.

BACKGROUND: Coronavirus disease (COVID-19) pandemic has spread to 198 countries, with approximately 2.4 million confirmed cases and 150,000 deaths globally as of April 18. Frontline healthcare workers (HCWs) face a substantially higher risk of infection and death due to excessive COVID-19 exposure. This review aimed at summarizing the evidence of the physical and mental health impacts of COVID-19 pandemic on health-care workers (HCWs). METHODS: We used the Arksey O'Malley framework to conduct a scoping review. A systematic literature search was conducted using two databases: PubMed and Google Scholar. We found 154 studies, and out of which 10 met our criteria. We collected information on the date of publication, first author's country, the title of the article, study design, study population, intervention and outcome, and key findings, and divided all research articles into two domains: physical and mental health impact. RESULTS: We reviewed a total of 154 articles from PubMed (126) and Google Scholar (28), of which 58 were found to be duplicate articles and were excluded. Of the remaining 96 articles, 82 were excluded after screening for eligibility, and 4 articles did not have available full texts. Ten full-text articles were reviewed and included in this study. Our findings identified the following risk factors for COVID-19-related health impact: working in a high-risk department, diagnosed family member, inadequate hand hygiene, suboptimal hand hygiene before and after contact with patients, improper PPE use, close contact with patients (≥ 12 times/day), long daily contact hours (≥ 15 h), and unprotected exposure. The most common symptoms identified amongst HCWs were fever (85%), cough (70%), and weakness (70%). Prolonged PPE usage led to cutaneous manifestations and skin damage (97%), with the nasal bridge (83%) most commonly affected site. HCWs experienced high levels of depression, anxiety, insomnia, and distress. Female HCWs and nurses were disproportionately affected. CONCLUSION: The frontline healthcare workers are at risk of physical and mental consequences directly as the result of providing care to patients with COVID-19. Even though there are few intervention studies, early data suggest implementation strategies to reduce the chances of infections, shorter shift lengths, and mechanisms for mental health support could reduce the morbidity and mortality amongst HCWs.

1. **Post pandemic physician vulnerability**  
   Casey S. Irish Medical Journal 2020;113(10):1-5.

Clinicians have adapted robustly since the first outbreak of COVID 19 in Ireland. This piece highlights physician vulnerability in a new era of telemedicine and explores the challenges we face in terms of stigma and burnout. It explores the consequences, both positive and negative, of living and working in a virtual world recommending strategies to optimise patient care, training and clinician wellbeing.<br/>Copyright &#xa9; 2020, Irish Medical Association. All rights reserved.

1. **Posttraumatic stress disorder symptoms in healthcare workers after the peak of the COVID-19 outbreak: A survey of a large tertiary care hospital in Wuhan.**  
   Zhang H. Psychiatry research 2020;294:113541.

This study examined the prevalence of posttraumatic stress disorder (PTSD) symptoms and assessed mental illness via an online survey among healthcare workers (HCWs) at the Central Hospital of Wuhan after the peak of the COVID-19 outbreak. PTSD symptoms were measured using the PTSD Checklist Civilian Version (PCL-C), with a cutoff score of 50. Among the 642 HCWs, the prevalence of probable PTSD was 20.87%. Additionally, 88.88%, 82.09%, 100%, and 95.52% of HCWs with probable PTSD reported varying degrees of anxiety, depression, somatic symptoms, and insomnia, respectively. HCWs with probable PTSD scored higher on the Hospital Anxiety and Depression Scale (HADS), Patient Health questionnaire-15 (PHQ-15), and Insomnia Severity Index (ISI) than non-PTSD HCWs (all p < 0.05). Multivariate regression analysis revealed that HCWs with negative COVID-19 tests (OR, 0.35; 95% CI, 0.21-0.58; p < 0.00), those with high Social Support Self-Rating Scale (SSRS) scores (OR, 0.30; 95% CI, 0.17-0.52; p < 0.00), and HCWs whose family members tested negative (OR, 0.64; 95% CI, 0.42-0.96; p = 0.03) were less likely to have probable PTSD. This study found a high prevalence of probable PTSD and severe mental illness among local HCWs. Our finding emphasizes the need to provide mental health support for HCWs.

1. **Predictive factors affecting stress among nurses providing care at COVID-19 isolation hospitals at Egypt.**  
   Hendy A. Nursing open 2020;8(1):498-505.

AIMS: To examine predictive factors affecting stress among nurses providing care at COVID-19 Isolation Hospitals at Egypt. METHODS: A cross-sectional study conducted in five Isolation governmental hospitals for COVID-19. 374 nurses included at the study. Characteristic forms, factors affecting nurses' stress and Nursing Stress Scale (NSS) were used to collect data. RESULTS: (52.1%) of studied nurses had moderate level of total nursing stress scale. Also, (26.2%) of them had severe level, while (13.4% & 8.3%) of them had mild and normal level, respectively. Mean SD score of studied nurses regarding to total nursing stress scale was 99.47 ± 10.671. CONCLUSIONS: Training for COVID-19, availability of PPE, educational level and attention of hospital administration were negative predictor factors for nurses' stress, while having children, people showed that COVID-19 is stigma, fears of infection, workplace, fear of transmission infection for family and nurse to patient ratio were positive predictors.

1. **Preserving mental health and resilience in frontline healthcare workers during COVID-19.**  
   Santarone K. The American journal of emergency medicine 2020;38(7):1530-1531.

1. **Prevalence and Influencing Factors on Fatigue of First-line Nurses Combating with COVID-19 in China: A Descriptive Cross-Sectional Study.**  
   Zhan YX Current medical science 2020;40(4):625-635.

Nurses' work-related fatigue has been recognized as a threat to nurse health and patient safety. The aim of this study was to assess the prevalence of fatigue among first-line nurses combating with COVID-19 in Wuhan, China, and to analyze its influencing factors on fatigue. A multi-center, descriptive, cross-sectional design with a convenience sample was used. The statistical population consisted of the first-line nurses in 7 tertiary general hospitals from March 3, 2020 to March 10, 2020 in Wuhan of China. A total of 2667 samples from 2768 contacted participants completed the investgation, with a response rate of 96.35%. Social-demographic questionnaire, work-related questionnaire, Fatigue Scale-14, Generalized Anxiety Disorder-7, Patient Health Questionnaire-9, and Chinese Perceived Stress Scale were used to conduct online survey. The descriptive statistic of nurses' social-demographic characteristics was conducted, and the related variables of work, anxiety, depression, perceived stress and fatigue were analyzed by t-tests, nonparametric test and Pearson's correlation analysis. The significant factors which resulted in nurses' fatigue were further analyzed by multiple linear regression analysis. The median score for the first-line nurses' fatigue in Wuhan was 4 (2, 8). The median score of physical and mental fatigue of them was 3 (1, 6) and 1 (0, 3) respectively. According to the scoring criteria, 35.06% nurses (n=935) of all participants were in the fatigue status, their median score of fatigue was 10 (8, 11), and the median score of physical and mental fatigue of them was 7 (5, 8) and 3 (2, 4) respectively. Multiple linear regression analysis revealed the participants in the risk groups of anxiety, depression and perceived stress had higher scores on physical and mental fatigue and the statistically significant positive correlation was observed between the variables and nurses' fatigue, the frequency of exercise and nurses' fatigue had a statistically significant negative correlation, and average daily working hours had a significantly positive correlation with nurses' fatigue, and the frequency of weekly night shift had a low positive correlation with nurses' fatigue (P<0.01). There was a moderate level of fatigue among the first-line nurses fighting against COVID-19 pandemic in Wuhan, China. Government and health authorities need to formulate and take effective intervention strategies according to the relevant risk factors, and undertake preventive measures aimed at reducing health hazards due to increased work-related fatigue among first-line nurses, and to enhance their health status and provide a safe occupational environment worldwide. Promoting both medical and nursing safety while combating with the pandemic currently is warranted.

1. **Prevalence and Predictors of Stress, anxiety, and Depression among Healthcare Workers Managing COVID-19 Pandemic in India: A Nationwide Observational Study.**  
   Wilson W. Indian journal of psychological medicine 2020;42(4):353-358.

BACKGROUND: The coronavirus disease 2019 (COVID-19) pandemic has caused great financial and psychological havoc. Healthcare professionals (HCPs) are among the many groups of people who are in the frontline and facing a risk of direct exposure to the virus. This study aimed to assess the prevalence and predictors of stress, depressive, and anxiety symptoms among HCPs of India. METHODS: It was a cross-sectional, online survey conducted in April 2020 among HCPs who are directly involved in the triage, screening, diagnosing, and treatment of COVID-19 patients and suspects. Stress was estimated using Cohen's perceived stress scale. Depression and anxiety were assessed using the tools Public Health Questionnaire-9 and Generalized Anxiety Disorder-7. Predictors were analyzed using univariate and multivariate binary logistic regression. RESULTS: A total of 433 online responses were obtained, and N = 350 were finally included. The prevalence (95% CI) of HCPs with high-level stress was 3.7% (2.2, 6.2), while the prevalence rates of HCPs with depressive symptoms requiring treatment and anxiety symptoms requiring further evaluation were 11.4% (8.3, 15.2) and 17.7% (13.9, 22.1), respectively. Women had approximately two times the increased odds of developing moderate- or high-level stress, depressive symptoms requiring treatment, and anxiety symptoms requiring further evaluation. Similarly, women staying in a hostel/temporary accommodation had two times the increased odds of developing depression or anxiety symptoms. CONCLUSION: The prevalence of stress, depressive, and anxiety symptoms among HCPs in India during the pandemic is comparable with other countries.

1. **Prevalence of mental health problems and associated risk factors among military healthcare workers in specialized COVID-19 hospitals in Wuhan, China: A cross-sectional survey.**  
   Pan X. Asia-Pacific psychiatry : official journal of the Pacific Rim College of Psychiatrists 2020;:e12427.

INTRODUCTION: China has been severely affected by coronavirus disease 2019 (COVID-19) since December 2019. Military healthcare workers in China have experienced many pressures when combating COVID-19. This study aimed to investigate the current psychological status and associated risk factors among military healthcare workers. METHODS: We collected data from 194 military healthcare workers from three inpatient wards in two specialized COVID-19 hospitals using a web-based cross-sectional survey. The survey covered demographic information, the patient health questionnaire-9, the Generalized Anxiety Disorder-7, and the patient health questionnaire-15. Hierarchical regression analysis was used to explore potential risk factors for mental health problems. RESULTS: The overall prevalence rates of depressive, generalized anxiety, and somatic symptoms were 37.6%, 32.5%, and 50%, respectively. Rates of severe depression, generalized anxiety, and somatic symptoms were 5.2%, 3.6%, and 15.5%, respectively. In 22.7% of cases, comorbidities existed between depression, generalized anxiety, and somatization. A junior-grade professional title was associated with depression, older age was associated with generalized anxiety and somatization, and short sleep duration and poor sleep quality were associated with all three symptoms. DISCUSSION: The prevalence of depression, generalized anxiety, and somatic symptoms among military healthcare workers in specialized COVID-19 hospitals is high during the current COVID-19 outbreak. A junior-grade professional title, older age, short sleep duration, and poor sleep quality significantly affect military healthcare workers' mental health. Continuous surveillance and monitoring of the psychological consequences of the COVID-19 outbreak should be routine to promote mental health among military healthcare workers.

1. **Prevalence of mental health symptoms in residential healthcare workers in Michigan during the covid-19 pandemic.**  
   Daugherty AM Psychiatry research 2020;291:113266.

1. **Prioritising staff well-being during COVID-19 in a busy London sexual health clinic: Results from a quantitative anonymised staff survey**  
   Plaha K. International Journal of STD and AIDS 2020;31:79-80.

Introduction: The COVID-19 pandemic has challenged how the NHS operates and increased pressure on its staff. Our Sexual Health service remained open and actively prioritised staff well-being through initiatives to relieve stress and create a positive work environment. We assessed the initiatives' impact on staff well-being. <br/>Method(s): All staff (n = 52) were asked to complete anonymous electronic questionnaires. Questions adapted from Edinburgh-Warwick Well-being Scale, Reeders Stress Scale and the Multidimensional Fatigue Inventory were used to assess well-being. A Likert scale compared their mental health prior to and during COVID-19, before and after implementing well-being initiatives: stretching exercises, dancing, mindfulness/meditation, team walks/chats, mindful colouring, masked singing, food and toiletry donations and well-being bags (containing masks, sanitising wipes, hand cream, tea and biscuits). Perceptions regarding initiative usefulness and the Trust's and Department's attitudes toward staff well-being were analysed. <br/>Result(s): The survey response rate was 60% (31/52). Respondents were mainly female (71%), aged between 25 and 64 years, comprising of doctors (n = 6), nurses (n = 7), healthcare assistants (n = 2), health advisors (n = 5) and administrative staff (n = 6). Median (IQR) Likert-scale scores before, at the start of COVID-19 and after initiatives (Table 1) were 3.57 (2.94,3.87), 3.31 (3.14,3.58) and 3.33 (2.98,3.58), respectively (P&gt;0.05). 74% engaged in the initiatives (Table 2). Reasons for non-engagement included embarrassment (n = 2), point-lessness (n = 6), worry about infection risk (n= 1) and not wanting to spend time with colleagues (n = 1). Three people felt pressured into participating. Nine working from home felt excluded. The most and least popular initiatives were stretching exercises and dancing, respectively. 55% and 39%, respectively, thought the Department and the Trust took their well-being seriously. <br/>Discussion(s): Most staff engaged in the initiatives, which helped maintain their well-being during a stressful and anxious period. As another COVID-19 peak remains imminent, we will use the feedback to develop our well-being service to support staff effectively.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=abb8f04aff48b15f5d7f221bd76cb356)

1. **Protecting health workers' mental health during COVID-19.**  
   Armitage R. Public health 2020;185:18.

1. **Protecting the health of doctors during the COVID-19 pandemic.**  
   Majeed British Journal of General Practice 2020;70(695):268-269.

On 11 March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic.[1] With a vaccine some time away, and no effective drug treatment currently available, the options for controlling the pandemic remain limited.[2] The virus causing COVID-19, SARS-CoV-2, is spread mainly through droplets and is highly contagious. The high proportion of deaths that have occurred in doctors aged >60 suggests that the NHS should be very cautious about placing these doctors in front-line clinical roles where they may be at risk of contracting COVID-19 infection. PROTECTING THE HEALTH OF DOCTORS AND HEALTHCARE WORKERS What else can we do to reduce the risks to doctors and other healthcare workers?.

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1. **Psychological Adjustment of Healthcare Workers in Italy during the COVID-19 Pandemic: Differences in Stress, Anxiety, Depression, Burnout, Secondary Trauma, and Compassion Satisfaction between Frontline and Non-Frontline Professionals.**  
   Trumello C. International journal of environmental research and public health 2020;17(22):No page numbers.

Emergency situations have been associated with negative psychological adjustment outcomes in healthcare professionals, although studies on the impact of the Coronavirus Disease 2019 (COVID-19) pandemic amongst Italian health workers are limited. The main aim of this study was to investigate the psychological adjustment of healthcare professionals during the peak of the COVID-19 pandemic, evaluating differences according to working or not with patients affected by COVID-19 and in areas with a more severe spread of this pandemic. Healthcare professionals' attitudes toward psychological support were analyzed. The levels of anxiety, depression, psychological stress, and professional quality of life (compassion satisfaction, burnout, and compassion fatigue) and attitudes toward psychological support were measured among 627 Italian healthcare workers (mean age = 40.55 years; SD = 11.49; range: 27-72). Significantly higher levels of stress, burnout, secondary trauma, anxiety, and depression were observed among professionals working with COVID-19 patients. Higher levels of stress and burnout and lower levels of compassion satisfaction were detected in professionals working in areas with higher rates of contagion. No interaction effects were found between working (or not) with patients affected by COVID-19 and working (or not) in areas with a more severe diffusion of this pandemic. Finally, in the group of professionals who worked with COVID-19 patients, the percentage of professionals who thought to ask for psychological support was twice that of the group that did not work with COVID-19 patients. The overall findings indicate that the mental health of frontline healthcare workers requires further consideration and that targeted prevention and intervention programs are necessary.

1. **Psychological impact of the COVID-19 pandemic on healthcare workers at acute hospital settings in the South-East of Ireland: an observational cohort multicentre study.**  
   Ali Saied BMJ open 2020;10(12):e042930.

OBJECTIVEOur study aims to understand the psychological impact of the COVID-19 pandemic among healthcare workers (HCWs) at acute hospital settings in the South-East of Ireland, as a crucial step in guiding policies and interventions to maintain their psychological well-being.DESIGNObservational cohort study.PARTICIPANTS AND SETTING472 HCWs participated from two distinct acute hospital settings, A and B, in the South-East of Ireland.PRIMARY AND SECONDARY OUTCOME MEASURESMeasures of psychological distress-depression, anxiety, acute and post-traumatic stress disorder (PTSD)-as dictated by the Depression, Anxiety and Stress Scale (DASS-21) and Impact of Event Scale-Revised (IES-R). An independent sample t-test and a Mann-Whitney U test was used to determine significance of difference in continuous variables between groups. Categorical variables were assessed for significance with a χ2 test for independence.RESULTSThe DASS-21 provided independent measures of depression (mean 4.57, IQR 2-7), anxiety (mean 3.87, IQR 1-6) and stress (mean 7.41, IQR 4-10). Positive scores were reflected in 201 workers (42.6%) for depression and 213 (45.1%) for both anxiety and stress. The IES-R measured subjective distress on three subscales: intrusion (mean 1.085, IQR 0.375-1.72), avoidance (mean 1.008, IQR 0.375-1.5) and hyperarousal (mean 1.084, IQR 0.5-1.667). Overall, 195 cases (41.3%) were concerning for PTSD. Site B scored significantly higher across all parameters of depression (5.24 vs 4.08, p<0.01), anxiety (4.66 vs 3.3, p<0.01), stress (8.91 vs 6.33, p<0.01) and PTSD (0.058 vs 0.043, p<0.01). Worse outcomes were also noted in HCWs with underlying medical ailments.CONCLUSIONPsychological distress is prevalent among HCWs during the COVID-19 pandemic; screening for adverse mental and emotional outcomes and developing timely tailored preventative measures with effective feedback are vital to protect their psychological well-being, both in the immediate and long-term.

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1. **Psychological stress of ICU nurses in the time of COVID-19.**  
   Shen X. Critical care (London, England) 2020;24(1):200.

1. **Psychosocial Support for Healthcare Workers During the COVID-19 Pandemic.**  
   Tomlin Jack Frontiers in psychology 2020;11:1960.

The novel corona virus disease COVID-19 was first diagnosed in humans in Wuhan, China in December 2019. Since then it had become a global pandemic. Such a pandemic leads to short- and long-term mental health burden for healthcare workers. Recent surveys suggest that rates of psychological stress, depression, anxiety, and insomnia and will be high for this group. Numerous organizations have since released guidance on how both healthcare workers and the general public can manage the mental health burden. However, these recommendations focus on specific healthcare workers (e.g., nurses or psychologists), are often not evidence-based, and typically do not situate guidance within a phased model that recognizes countries are at different stages of the COVID-19 pandemic. In this perspective paper we propose a phased model of mental health burden and responses. Building on work by the Intensive Care Society and the Royal College of Psychiatrists in the United Kingdom, we present a model that demonstrates how both staff and organizations might respond to the likely stressors that might occur at preparation-, pre-, initial and core-, and longer-term-phases of the pandemic. Staff within countries at different stages of the COVID-19 pandemic will be able to use this model. We suggest practical tips for both healthcare workers and organizations and embed this within up-to-date scientific literature. The phased model of mental health burden and responses can be a helpful guide for both staff and organizations operating at different stages of the pandemic.

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1. **Scientists in pyjamas: characterising the working arrangements and productivity of Australian medical researchers during the COVID-19 pandemic.**  
   Chapman David G. The Medical journal of Australia 2020;213(11):516-520.

OBJECTIVETo characterise the working arrangements of medical research scientists and support staff in Australia during the COVID-19 pandemic, and to evaluate factors (in particular: wearing pyjamas) that influence the self-assessed productivity and mental health of medical institute staff working from home.DESIGNProspective cohort survey study, 30 April - 18 May 2020.SETTING, PARTICIPANTSStaff (scientists and non-scientists) and students at five medical research institutes in Sydney, New South Wales.MAIN OUTCOME MEASURESSelf-assessed overall and task-specific productivity, and mental health.RESULTSThe proportions of non-scientists and scientists who wore pyjamas during the day were similar (3% v 11%; P = 0.31). Wearing pyjamas was not associated with differences in self-evaluated productivity, but was significantly associated with more frequent reporting of poorer mental health than non-pyjama wearers while working from home (59% v 26%; P < 0.001). Having children in the home were significantly associated with changes in productivity. Larger proportions of people with toddlers reported reduced overall productivity (63% v 32%; P = 0.008), and reduced productivity in writing manuscripts (50% v 17%; P = 0.023) and data analysis (63% v 23%; P = 0.002). People with primary school children more frequently reported reduced productivity in writing manuscripts (42% v 16%; P = 0.026) and generating new ideas (43% v 19%; P = 0.030). On a positive note, the presence of children in the home was not associated with changes in mental health during the pandemic. In contrast to established researchers, early career researchers frequently reported reduced productivity while working at home.CONCLUSIONSOur findings are probably applicable to scientists in other countries. They may help improve work-from-home policies by removing the stigma associated with pyjama wearing during work and by providing support for working parents and early career researchers.

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1. **Storytelling and poetry in the time of coronavirus.**  
   Barrett Elizabeth Irish journal of psychological medicine 2020;37(4):278-282.

The coronavirus crisis occurs at a time when many clinicians have already experienced burnout. One in three Irish doctors were suffering from burnout in the 2019 National Study of Wellbeing of Hospital Doctors in Ireland; rates are also high in Irish Psychiatry. We present a perspective on the use of narrative in medicine and recognise that storytelling, and the patient history are very much at the heart of medicine. Clinician storytelling, such as Schwartz Rounds and Balint group work, has very much come to the fore in Irish Psychiatry and in training. Projects such as MindReading have explored overlaps between clinicians, humanities experts and experts by experience. We give an overview of some approaches from the movement around narrative in medicine to bolster this. We explore why clinicians write as ways to support identification, catharsis and a way to process experiences. Clinicians and patients may also use literature and poetry to promote coping. The historical context and practical strategies are highlighted, particularly with reference to poetry use during the current crisis.

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1. **Stress and Anxiety among Healthcare Workers Associated with COVID-19 Pandemic in Russia.**  
   Mosolova E. Psychiatria Danubina 2020;32(3-4):549-556.

BACKGROUND: Mental health of medical workers treating patients with COVID-19 is an issue of increasing concern worldwide. The available data on stress and anxiety symptoms among healthcare workers during the COVID-19 are relatively limited and have not been evaluated in Russia yet. SUBJECTS AND METHODS: The cross-sectional anonymous survey included 1,090 healthcare workers. Stress and anxiety symptoms were assessed using Stress and Anxiety to Viral Epidemics - 9 (SAVE-9) and Generalized Anxiety Disorder - 7 (GAD-7) scales. Logistic regression, Kaiser-Meyer-Olkin two component factor model, Cronbach's alpha and ROC-analysis were performed to determine the influence of different variables, internal structure and consistency, sensitivity and specificity of SAVE-9 compared with GAD-7. RESULTS: The median scores on the GAD-7 and SAVE-9 were 5 and 14, respectively. 535 (49.1%) respondents had moderate and 239 (21.9%) had severe anxiety according to SAVE-9. 134 participants (12.3%) had severe anxiety, 144 (13.2%) had moderate according to GAD-7. The component model revealed two-factor structure of SAVE-9: "anxiety and somatic concern" and "social stress". Female gender (OR - 0.98, p=0.04) and younger age (OR - 0.65, p=0.04) were associated with higher level of anxiety according to regression model. The total score of SAVE-9 with a high degree of confidence predicted the GAD-7 value in comparative ROC analysis. CONCLUSIONS: Healthcare workers in Russia reported high rates of stress and anxiety. The Russian version of the SAVE-9 displayed a good ratio of sensitivity to specificity compared with GAD-7 and can be recommended as a screening instrument for detection of stress and anxiety in healthcare workers.

1. **Stress and sleep: a survey based on wearable sleep trackers among medical and nursing staff in Wuhan during the COVID-19 pandemic.**  
   Zhuo K. General psychiatry 2020;33(3):e100260.

BACKGROUD: COVID-19 pandemic has significantly affected the sleep health of local medical and nursing staff. AIM: We used wearable pulse oximeters to monitor and screen the medical and nursing staff working in hospitals designated for COVID-19 in the Wuhan area. This study aimed to establish a reliable basis to provide sleep intervention for the medical and nursing staff. METHODS: Thirty medical and nursing staff members with symptoms of insomnia were instructed to wear medical ring-shaped pulse oximeters to monitor their sleep overnight. We also used the Insomnia Severity Index (ISI) and the Chinese version of the Self-Reporting Questionnaire (SRQ-20) to evaluate the severity of insomnia and mental health status, respectively, for each participant. RESULTS: Among the 30 participants, only 26 completed the screening. Ten cases (38.5%) demonstrated moderate to severe sleep apnoea-hypopnea syndrome (SAHS) when using an oxygen desaturation index ≥15 times/hour as the cut-off value. Participants with comorbid moderate to severe SAHS had significantly higher ISI and SRQ scores (p values 0.034 and 0.016, respectively) than those in the insomnia group. Correlation analysis revealed that ISI was positively correlated with total sleep time (TST) (r=0.435, p=0.026), and negatively correlated with deep sleep (r=-0.495, p=0.010); furthermore, patient SRQ scores were positively correlated with TST, sleep efficiency (SE) and REM (rapid eyes movement) sleep % (r=0.454 and 0.389, 0.512; p=0.020, 0.050 and 0.008, respectively). Stepwise logistic regression indicated that SRQ-20 and sex were risk factors for insomnia with comorbid SAHS, and their OR values were 1.516 and 11.56 (95% CI 1.053 to 2.180 and 1.037 to 128.9), respectively. CONCLUSION: Medical and nursing staff with insomnia showed clear signs of comorbid sleep apnoea attributable to stress. The wearable pulse oximeters accurately monitored the participants' breathing when asleep.

1. **Stress, Burnout, and Coping Strategies of Frontline Nurses During the COVID-19 Epidemic in Wuhan and Shanghai, China.**  
   Zhang Y. Frontiers in psychiatry 2020;11:565520.

Background: Nurses at the frontline of caring for COVID-19 patients might experience mental health challenges and supportive coping strategies are needed to reduce their stress and burnout. The aim of this study was to identify stressors and burnout among frontline nurses caring for COVID-19 patients in Wuhan and Shanghai and to explore perceived effective morale support strategies. Method: A cross-sectional survey was conducted in March 2020 among 110 nurses from Zhongshan Hospital, Shanghai, who were deployed at COVID-19 units in Wuhan and Shanghai. A COVID-19 questionnaire was adapted from the previous developed "psychological impacts of SARS" questionnaire and included stressors (31 items), coping strategies (17 items), and effective support measures (16 items). Burnout was measured with the Maslach Burnout Inventory. Results: Totally, 107 (97%) nurses responded. Participants mean age was 30.28 years and 90.7% were females. Homesickness was most frequently reported as a stressor (96.3%). Seven of the 17 items related to coping strategies were undertaken by all participants. Burnout was observed in the emotional exhaustion and depersonalization subscales, with 78.5 and 92.5% of participants presenting mild levels of burnout, respectively. However, 52 (48.6%) participants experienced a severe lack of personal accomplishment. Participants with longer working hours in COVID-19 quarantine units presented higher emotional exhaustion (OR = 2.72, 95% CI 0.02-5.42; p = 0.049) and depersonalization (OR = 1.14, 95% CI 0.10-2.19; p = 0.033). Participants with younger age experienced higher emotional exhaustion (OR = 2.96, 95% CI 0.11-5.82; p = 0.042) and less personal accomplishment (OR = 3.80, 95% CI 0.47-7.13; p = 0.033). Conclusions: Nurses in this study experienced considerable stress and the most frequently reported stressors were related to families. Nurses who were younger and those working longer shift-time tended to present higher burnout levels. Psychological support strategies need to be organized and implemented to improve mental health among nurses during the COVID-19 pandemic.

1. **Support Groups and Individual Mental Health Care via Video Conferencing for Frontline Clinicians During the COVID-19 Pandemic.**  
   Viswanathan R. Psychosomatics 2020;61(5):538-543.

BACKGROUND: The current coronavirus disease 2019 (COVID-19) pandemic has put an enormous stress on the mental health of frontline health care workers. OBJECTIVE: Psychiatry departments in medical centers need to develop support systems to help our colleagues cope with this stress. METHODS: We developed recurring peer support groups via videoconferencing and telephone for physicians, resident physicians, and nursing staff, focusing on issues and emotions related to their frontline clinical work with COVID patients in our medical center which was designated as a COVID-only hospital by the state. These groups are led by attending psychiatrists and psychiatry residents. In addition, we also deployed a system of telehealth individual counseling by attending psychiatrists. RESULTS: Anxiety was high in the beginning of our weekly groups, dealing with fear of contracting COVID or spreading COVID to family members and the stress of social distancing. Later, the focus was also on the impairment of the traditional clinician-patient relationship by the characteristics of this disease and the associated moral challenges and trauma. Clinicians were helped to cope with these issues through group processes such as ventilation of feelings, peer support, consensual validation, peer-learning, and interventions by group facilitators. People with severe anxiety or desiring confidentiality were helped through individual interventions. CONCLUSIONS: Our experience suggests that this method of offering telehealth peer support groups and individual counseling is a useful model for other centers to adapt to emotionally support frontline clinical workers in this ongoing worldwide crisis.

1. **The consequences of the COVID-19 pandemic on perceived stress in clinical practice: Experience of Doctors in Iraqi Kurdistan.**  
   Abdulah DM Romanian journal of internal medicine = Revue roumaine de medecine interne 2020;:No page numbers.

INTRODUCTION: The healthcare workers are at high risk of developing stress-related problems during outbreaks. This study aimed to explore the perceived stress and its relation to the duration of dealing with COVID-19 patients in medical doctors. METHODS: The doctors who work in different medical settings in Iraqi Kurdistan during coronavirus outbreak were invited into this cross-sectional study. The doctors were invited from one pediatric, one emergency, one special corona, and one maternity and gynecology hospital. The "Perceived Stress Scale -10 (PSS)" measured the perceived degree of a doctor who experienced stress. The information was collected through a web-based technique to avoid the disease spread. RESULTS: Doctors' mean duration of dealing with suspected/confirmed cases of COVID-19 was 1.2 (Range: 0-16 days). The mean stress score was 18.81 out of 40. Most of the doctors had a moderate level of stress (69.4%), followed by a low (21.1%) and a high level of stress (9.6%). The general physicians and medical lab specialties had higher stress scores; 21.56 and 19.88, respectively. The high level of stress was among general physicians and community and family medicine doctors; 20.0% and 25.0%, respectively. Whether or not doctors dealt with suspected/confirmed cases of COVID-19, did not have a significant difference over the perceived stress score; 19.02 vs. 18.87; P=0.786). The mean score of stress was raised with increasing duration of dealing with suspected/confirmed cases of COVID-19; r=0.202; P=0.004 and decreased with increasing age (r=-0.141; P=0.045), and clinical experience (r=-0.139, P=0.048). CONCLUSION: This study showed that medical doctors are at a moderate level of perceived stress during the COVID-19 outbreak in Iraqi Kurdistan.

1. **The Current Situation and Influencing Factors of Job Stress Among Frontline Nurses Assisting in Wuhan in Fighting COVID-19.**  
   Zhan Y. Frontiers in public health 2020;8:579866.

Background: The coronavirus disease 2019 (COVID-19) pandemic continues to pose an unprecedented threat and challenge to public health around the world. Lacking sufficient human resources, nurses are required to undertake an increased workload at the clinical frontline of this epidemic. Additionally, nurses are at a high risk due to their working within close proximity to COVID-19 patients. As a result, they experience increased job stress. Objective: To explore the current situation and influencing factors of job stress among clinical first-line nurses fighting COVID-19. Methods: A convenience sampling method was used to conduct a questionnaire survey with 110 nurses who were on the clinical frontline of the COVID-19 epidemic in a hospital in Wuhan. Results: The job stress scores of clinical nurses on the frontline of the COVID-19 epidemic were collected (91.42 ± 26.09); the dimensions of work environment and resources as well as workload and time pressure were ranked first and second, respectively. The results of a multiple stepwise regression analysis showed that working hours per day, service years, number of night shifts per week, and level of academic qualification were the main factors affecting the job stress levels of nursing staff. Conclusions: The job stress of nurses on the clinical frontline of the COVID-19 epidemic was found to be at a medium level. Nursing leaders and hospital managers should pay attention to the impact of job stress on frontline nurses, while taking positive and effective measures aimed at eliminating the source of nursing work pressures to stabilize their nursing teams and promote their work in the fight against this epidemic.

1. **The deterioration of mental health among healthcare workers during the COVID-19 outbreak: A population-based cohort study of workers in Japan.**  
   Sasaki N. Scandinavian journal of work, environment & health 2020;46(6):639-644.

Objectives This study compared the longitudinal change in the mental health of healthcare and non-healthcare workers during two months of the COVID-19 outbreak in Japan. Methods Data were derived from a prospective online cohort study of 1448 full-time employees in Japan. Participants were surveyed at baseline from 19-22 March 2020 (T1) and at follow-up from 22-26 May 2020 (T2). A self-administered online questionnaire was used to assess participants' fear and worry of COVID-19, psychological distress, and physical symptoms at T1 and T2. A series of generalized linear models were created to assess changes in outcomes between healthcare and non-healthcare workers. Demographic variables (ie, sex, age, marital status, child[ren], education, and residential area) were included in the models as covariates. Results A total of 1032 participants completed the follow-up questionnaire at T2 (follow-up rate, 72.6%). After excluding unemployed respondents (N=17), the final sample comprised 1015 full-time employees (111 healthcare and 904 non-healthcare workers). After adjusting for the covariates, psychological distress (and subscales of fatigue, anxiety, and depression) as well as fear and worry of COVID-19 increased statistically significantly more among healthcare than non-healthcare workers from T1 to T2. Conclusions Psychological distress, together with fear and worry of COVID-19, increased more among healthcare compared to non-healthcare workers during the COVID-19 outbreak. The study confirmed that healthcare workers are an important target for mental healthcare during the COVID-19 outbreak.

1. **The Early Impact of the Covid-19 Emergency on Mental Health Workers: A Survey in Lombardy, Italy.**  
   Rapisarda F. International journal of environmental research and public health 2020;17(22):No page numbers.

Lombardy was the epicenter of the Covid-19 outbreak in Italy, and in March 2020 the rapid escalation in cases prompted the Italian Government to decree a mandatory lockdown and to introduce safety practices in mental health services. The general objective of the study is to evaluate the early impact of the Covid-19 emergency and quarantine on the well-being and work practices of mental health service personnel and professionals. Data were collected through an online survey of workers and professionals working with people with mental health problems in Lombardy in several outpatient and inpatient services. Their socio-demographic characteristics, professional background, description of working conditions during lockdown and psychological distress levels were collected. All analyses were performed on a sample of 241. Approximately, 31% of the participants obtained a severe score in at least one of the burnout dimensions, 11.6% showed moderate or severe levels of anxiety, and 6.6% had a moderate or severe level of depression. Different work conditions and patterns of distress were found for outpatient service workers and inpatient service workers. The overall impact of the Covid-19 emergency on mental health workers' level of distress was mild, although a significant number of workers experienced severe levels of depersonalization and anxiety. More research is needed to assess specific predictive factors.

1. **The effect of COVID-19 pandemic on the mental health of Canadian critical care nurses providing patient care during the early phase pandemic: A mixed method study.**  
   Crowe S. Intensive & critical care nursing 2020;:102999.

BACKGROUND: Healthcare workers have historically experienced symptoms of post-traumatic stress disorder, depression and anxiety with previous infectious outbreaks. It is unknown if critical care nurses have similar experiences. OBJECTIVES: The study aimed to examine the mental health of Critical Care Registered Nurses providing direct patient care during the initial phase of the COVID-19 pandemic in Canada. DESIGN: This was a convergent parallel mixed method study utilizing validated questionnaires and semi-structured qualitative interviews. SETTING: Critical care units in a single large 650 bed academic teaching hospital in western Canada. The critical care units serve a general mixed medical - surgical adult patient population. PARTICIPANTS: Critical Care Registered Nurses providing direct patient care in the intensive care and high acuity units at the designated site. METHODS: 109 participants completed two self-reported validated surveys, the Impact of Events Scale - Revised and the Depression, Anxiety and Stress Scale. 15 participants completed one-on-one semi-structured interviews that were analyzed using inductive thematic analysis. RESULTS: In the surveys, the participants reported clinical concern for (23%), probable (13%) and significant (38%) symptoms of post-traumatic stress disorder, as well as mild to severe depression (57%), anxiety (67%) and stress (54%). In the interviews, psychological distress was described as anxiety, worry, distress and fear related to: 1) rapidly changing policy and information, 2) overwhelming and unclear communication, 3) meeting patient care needs in new ways while staying safe, and 4) managing home and personal commitments to self and family. CONCLUSIONS: Critical care nurses experienced psychological distress associated with providing care to COVID-19 patients during the early phases of the pandemic.

1. **The impact of COVID-19 pandemic on mental health of Nurses.**  
   Chidiebere Okechukwu E. La Clinica terapeutica 2020;171(5):e399-e400.

COVID-19 pandemic affected the psychological health of nurses. Numerous nurses have been facing mental complications associated with quarantine such as psychological distress and fear. The gravity of COVID-19 pandemic is triggering further mental health challenges among nurses. The continuous stress nurses are facing, could trigger post-traumatic stress symptoms, poor service delivery, suicide ideation and suicide. Assessing and preserving the mental health of nurses and the health care workers in general is necessary for optimal disease control. Psychiatric interventions are needed to attend to the psychological need of nurses treating COVID-19 patients. Such interventions imply using E-learning and video platforms to educate nurses on communication skills, case handling skills and problem-solving tactics to deal with the possible psychological problems that might arise from treating COVID-19 patients.

1. **The mental health and well-being benefits of exercise during the COVID-19 pandemic: a cross-sectional study of medical students and newly qualified doctors in the UK.**  
   Coyle C. Irish journal of medical science 2020;:1-2.

BACKGROUND: University students have been uniquely affected by the COVID-19 pandemic. However, there is currently little data upon the measures that medical students and newly qualified doctors have taken to help their mental well-being and mood during the COVID-19 pandemic. AIM: We aimed to identify the activities respondents found beneficial for their well-being and mental health and recorded a mood score from survey respondents. METHODS: A nationwide study was completed to investigate the mental health impact of the COVID-19 pandemic upon medical students and newly qualified doctors (interim foundation year one). We received 2075 respondents from across the UK. RESULTS: Physical activity was found to be the most common activity used by the survey respondents to help with their mental well-being (80.1%) (medical students, 83.7%; interim foundation doctors, 72.3%). Participants who stated that exercise helped their well-being had a mean score (SD) of 52.3 (20.7) which was significantly higher (P = 0.048) than those who reported that they did not exercise (49.8 (21.1)). Respondents who stated they had used exercise to help with their mental well-being had (on average) a higher mood score than those who did not. This was seen in both the medical student and interim foundation doctor subgroups. DISCUSSION: Exercise can help to benefit the well-being of medical students and interim foundation doctors. It is hoped that higher education providers and employers recognise the importance of promoting physical activity for the well-being of their students and staff, respectively.

1. **The mental health impact of the covid-19 pandemic on healthcare workers, and interventions to help them: A rapid systematic review.**  
   Muller AE Psychiatry research 2020;293:113441.

The covid-19 pandemic has heavily burdened healthcare systems throughout the world. We performed a rapid systematic review to identify, assess and summarize research on the mental health impact of the covid-19 pandemic on HCWs (healthcare workers). We utilized the Norwegian Institute of Public Health's Live map of covid-19 evidence on 11 May and included 59 studies. Six reported on implementing interventions, but none reported on effects of the interventions. HCWs reported low interest in professional help, and greater reliance on social support and contact. Exposure to covid-19 was the most commonly reported correlate of mental health problems, followed by female gender, and worry about infection or about infecting others. Social support correlated with less mental health problems. HCWs reported anxiety, depression, sleep problems, and distress during the covid-19 pandemic. We assessed the certainty of the estimates of prevalence of these symptoms as very low using GRADE. Most studies did not report comparative data on mental health symptoms before the pandemic or in the general population. There seems to be a mismatch between risk factors for adverse mental health outcomes among HCWs in the current pandemic, their needs and preferences, and the individual psychopathology focus of current interventions.

1. **The mental health of doctors during the COVID-19 pandemic.**  
   Galbraith N. BJPsych bulletin 2020;:1-4.

A video abstract can be found at: https://vimeo.com/414651981. Doctors experience high levels of work stress even under normal circumstances, but many would be reluctant to disclose mental health difficulties or seek help for them, with stigma an often-cited reason. The coronavirus disease 2019 (COVID-19) crisis places additional pressure on doctors and on the healthcare system in general and research shows that such pressure brings a greater risk of psychological distress for doctors. For this reason, we argue that the authorities and healthcare executives must show strong leadership and support for doctors and their families during the COVID-19 outbreak and call for efforts to reduce mental health stigma in clinical workplaces. This can be facilitated by deliberately adding ‘healthcare staff mental health support process’ as an ongoing agenda item to high-level management planning meetings.

1. **The Mental Health of Female Physicians and Nurses in Oman during the COVID-19 Pandemic.**  
   Khamis F. Oman medical journal 2020;35(6):e203.

OBJECTIVES: We sought to assess the impact of the COVID-19 pandemic on female doctors and nurses' mental health in Oman. METHODS: We conducted a cross-sectional, web-based survey of 402 female doctors and nurses recruited from several health facilities in Oman. We used the Generalized Anxiety Disorder (GAD-7) scale, the Perceived Stress Scale (PSS-10), the WHO-5 Well-Being Index (WHO-5), and the Sleep Quality Scale to determine the prevalence rates of anxiety, stress, well-being, and sleep quality. RESULTS: A total of 231 (57.5%) Omanis and 171 (42.5%) non-Omanis participated in this study. Of the total 402 participants, 28.4% were physicians and 71.6% were nurses. One in four (27.9%) participants reported caring for COVID-19 patients. One in four (27.9%) had moderate to severe anxiety. A higher proportion of Omanis (32.0%) had moderate to severe anxiety than non-Omanis (22.2%). Six in 10 (60.7%) scored at or above the mean on the PSS-10. Doctors and nurses who cared for COVID-19 patients reported higher levels of stress than those who did not. Almost half (45.3%) of the participants scored 50% or less on the well-being scale. A higher proportion of Omanis and those who cared for COVID-19 cases scored ≤ 50. Four in 10 (39.3%) had poor sleep quality; this was particularly prevalent among Omanis. A multiple regression analysis revealed that anxiety, stress, and well-being were significant predictors of poor sleep quality. CONCLUSIONS: The COVID-19 pandemic is having a significant effect on the mental health of health care workers in Oman. In this study, nurses, Omanis, and frontline health care workers were the most impacted by the global health crisis. Urgent psychological, social, and administrative interventions and support should be implemented to mitigate mental health risks in these groups.

1. **The mental health of healthcare workers in the COVID-19 pandemic: A systematic review.**  
   Vizheh M. Journal of diabetes and metabolic disorders 2020;19(2):1-12.

PURPOSE: The novel coronavirus 2019 (COVID-19) is widely spreading all over the world, causing mental health problems for most people. The medical staff is also under considerable psychological pressure. This study aimed to review all research carried out on the mental health status of health care workers (HCWs) to bring policymakers and managers' attention. METHODS: A literature search conducted through e-databases, including PubMed, EMBASE, Scopus, and Web of Science (WoS) from December 2019 up to April 12th 2020. All cross- sectional studies published in English which assessed the health workers' psychological well-being during the SARS-CoV-2 pandemic included. Study quality was analyzed using NHLBI Study Quality assessment tools. RESULTS: One hundred relevant articles were identified through systematic search; of which eleven studies were eligible for this review. Their quality score was acceptable. The lowest reported prevalence of anxiety, depression, and stress among HCWs was 24.1%, 12.1%, and 29.8%, respectively. In addition, the highest reported values for the aforementioned parameters were 67.55%, 55.89%, and 62.99%, respectively. Nurses, female workers, front-line health care workers, younger medical staff, and workers in areas with higher infection rates reported more severe degrees of all psychological symptoms than other health care workers. Moreover, vicarious traumatization in non-front-line nurses and the general public was higher than that of the front-line nurses. CONCLUSION: During SARS-CoV-2 outbreak, the health care workers face aggravated psychological pressure and even mental illness. It would be recommended to the policymakers and managers to adopt the supportive, encouragement & motivational, protective, and training & educational interventions, especially through information and communication platform.

1. **The mental health of neurological doctors and nurses in Hunan Province, China during the initial stages of the COVID-19 outbreak.**  
   Ning X. BMC psychiatry 2020;20(1):436.

BACKGROUND: Neurological symptoms are increasingly being noted among COVID-19 patients. Currently, there is little data on the mental health of neurological healthcare workers. The aim of this study was to identify the prevalence and influencing factors on anxiety and depression in neurological healthcare workers in Hunan Province, China during the early stage of the Coronavirus Disease 2019 (COVID-19) outbreak. METHODS: An online cross-sectional study was conducted among neurological doctors and nurses in early February 2020 in Hunan Province. Symptoms of anxiety and depression were assessed by the Chinese version of the Self-Rating Anxiety Scale (SAS) (defined as a total score ≥ 50) and Self-Rating Depression Scale (SDS) (defined as a total score ≥ 53). The prevalences of probable anxiety and depression were compared between different groups, and multivariate logistic regression analysis was used to understand the independent influencing factors on anxiety and depression. RESULTS: The prevalence of probable anxiety and depression in neurological nurses (20.3 and 30.2%, respectively) was higher than that in doctors (12.6 and 20.2%, respectively). Female healthcare workers (18.4%) had a higher proportion of anxiety than males (10.8%). Probable anxiety and depression were more prevalent among nurses, younger workers (≤ 40 years), and medical staff with junior titles. Logistic regression analysis showed that a shortage of protective equipment was independently associated with probable anxiety (OR = 1.980, 95% CI: 1.241-3.160, P = 0.004), while young age was a risk factor for probable depression (OR = 2.293, 95% CI: 1.137-4.623, P = 0.020) among neurological healthcare workers. CONCLUSIONS: Probable anxiety and depression were more prevalent among neurological nurses than doctors in Hunan Province. The shortage of protective equipment led to probable anxiety, and young age led to probable depression in healthcare workers in neurology departments, which merits attention during the battle against COVID-19.

1. **The potential for COVID-19 to contribute to compassion fatigue in critical care nurses.**  
   Alharbi J. Journal of clinical nursing 2020;29(15-16):2762-2764.

1. **The prevalence of stress, anxiety and depression within front-line healthcare workers caring for COVID-19 patients: a systematic review and meta-regression.**  
   Salari N. Human resources for health 2020;18(1):100.

BACKGROUND: Stress, anxiety, and depression are some of the most important research and practice challenges for psychologists, psychiatrists, and behavioral scientists. Due to the importance of issue and the lack of general statistics on these disorders among the Hospital staff treating the COVID-19 patients, this study aims to systematically review and determine the prevalence of stress, anxiety and depression within front-line healthcare workers caring for COVID-19 patients. METHODS: In this research work, the systematic review, meta-analysis and meta-regression approaches are used to approximate the prevalence of stress, anxiety and depression within front-line healthcare workers caring for COVID-19 patients. The keywords of prevalence, anxiety, stress, depression, psychopathy, mental illness, mental disorder, doctor, physician, nurse, hospital staff, 2019-nCoV, COVID-19, SARS-CoV-2 and Coronaviruses were used for searching the SID, MagIran, IranMedex, IranDoc, ScienceDirect, Embase, Scopus, PubMed, Web of Science (ISI) and Google Scholar databases. The search process was conducted in December 2019 to June 2020. In order to amalgamate and analyze the reported results within the collected studies, the random effects model is used. The heterogeneity of the studies is assessed using the I(2) index. Lastly, the data analysis is performed within the Comprehensive Meta-Analysis software. RESULTS: Of the 29 studies with a total sample size of 22,380, 21 papers have reported the prevalence of depression, 23 have reported the prevalence of anxiety, and 9 studies have reported the prevalence of stress. The prevalence of depression is 24.3% (18% CI 18.2-31.6%), the prevalence of anxiety is 25.8% (95% CI 20.5-31.9%), and the prevalence of stress is 45% (95% CI 24.3-67.5%) among the hospitals' Hospital staff caring for the COVID-19 patients. According to the results of meta-regression analysis, with increasing the sample size, the prevalence of depression and anxiety decreased, and this was statistically significant (P < 0.05), however, the prevalence of stress increased with increasing the sample size, yet this was not statistically significant (P = 0.829). CONCLUSION: The results of this study clearly demonstrate that the prevalence of stress, anxiety and depression within front-line healthcare workers caring for COVID-19 patients is high. Therefore, the health policy-makers should take measures to control and prevent mental disorders in the Hospital staff.

1. **The Role of Psychiatry in Treating Burnout Among Nurses During the Covid-19 Pandemic.**  
   Janeway D. Journal of radiology nursing 2020;39(3):176-178.

The prevalence of burnout among US registered nurses ranges from 35 to 45%. In one study, nurses had twice the rate of depression compared with other health care professionals. Owing to the Covid-19 pandemic, burnout is a major threat to the stability of the workforce on the front lines. Consultation-liaison (C/L) psychiatry can provide assistance through liaison meetings, stress management programs, and curbside consults to help reduce the risk of burnout. Narrative medicine programs, mindfulness-based stress reduction, and meditation apps are additional means to alleviate stress. Given the current challenges facing C/L psychiatry and the mental health field in general, there is an urgent need to overcome stigma and financial barriers to make treatment readily accessible.

1. **The Severity of Traumatic Stress Associated with COVID-19 Pandemic, Perception of Support, Sense of Security, and Sense of Meaning in Life among Nurses: Research Protocol and Preliminary Results from Poland.**  
   Nowicki GJ International journal of environmental research and public health 2020;17(18):No page numbers.

The COVID-19 pandemic can not only affect physical health, but also mental health, resulting in sleep problems, depression, and traumatic stress. Our research investigates the level of posttraumatic stress, perceived social support, opinions on positive and negative consequences of the pandemic, sense of security and sense of meaning among nurses in the face of this new and not fully understood global epidemiological phenomenon. For this purpose, computer-assisted web interviews were conducted between May 1 and May 15, 2020. Participating nurses completed the following research tools: The Impact Event Scale-Revised (IES-R), The Multidimensional Scale of Perceived Social Support (MSPSS), The Changes in Outlook Questionnaire (CIOQ), The Safety Experience Questionnaire (SEQ) and The Meaning in Life Questionnaire (MLQ). Three hundred and twenty-five nurses of an average age of 39.18 ± 11.16 years and working throughout Poland joined the study. The average overall IES-R score in the study group was 1.78 ± 0.65. Among the dimensions of traumatic stress, the highest score was obtained in the "avoidance" dimension was 1.86 ± 0.73. Amongst participating nurses, the highest support rates were provided by significant others (22.58 ± 5.22). Higher average scores were noted among participants in the subscale measuring positive psychological changes (18.56 ± 4.04). The mean MLQ score was 5.33 ± 0.87. A slightly higher result was observed in the subscale "presence" (5.35 ± 1.14). The results of the research implemented during the period of severe psychological pressure associated with the COVID-19 pandemic provided information on symptoms of traumatic stress in the examined group of nurses. Their sense of security has been lowered and accompanied by an intensified reflection on issues concerning security. However, their current sense of meaning in life remains higher than the tendency to searching for it. The surveyed nurses received individual support mostly from significant others (i.e., other than family and friends). They see positive changes resulting from painful experiences related to the COVID-19 pandemic, which can be characterized by adaptation in the form of post-traumatic growth.

1. **The wounded healer: A narrative review of the mental health effects of the COVID-19 pandemic on healthcare workers.**  
   Ng QX Asian journal of psychiatry 2020;54:102258.

1. **Traumatic Stress in Healthcare Workers During COVID-19 Pandemic: A Review of the Immediate Impact.**  
   Benfante A. Frontiers in psychology 2020;11:569935.

The disease caused by respiratory syndrome coronavirus 2 (SARS-CoV-2) called COVID-19 resulted in a pandemic that has demanded extraordinary physical and mental effort from healthcare workers. This review provides an overview of studies that have explored traumatic stress in healthcare workers and associated factors between January and May 2020. The focus is on the most relevant literature investigating the prevalence of trauma- and stressor-related symptoms. Articles were selected from PubMed and PsycINFO databases using the search terms, "healthcare workers," "COVID-19," and "posttraumatic stress" in different combinations and with various synonyms. Among the seven studies that fulfilled our criteria, five assessed traumatic stress response, one assessed acute stress symptoms, and one focused on vicarious traumatization. Overall, the available findings highlight the presence of trauma-related stress, with a prevalence ranging from 7.4 to 35%, particularly among women, nurses, frontline workers, and in workers who experienced physical symptoms. Future studies should clarify the long-term effects of the COVID-19 pandemic on the mental health of healthcare workers, with particular focus on posttraumatic stress disorder.

1. **Urgent need to develop evidence-based self-help interventions for mental health of healthcare workers in COVID-19 pandemic.**  
   Yang L. Psychological medicine 2020;:1-2.

1. **When the Dust Settles: Preventing a Mental Health Crisis in COVID-19 Clinicians.**  
   Kiser SB Annals of internal medicine 2020;173(7):578-579.

This essay describes timely and targeted actions that clinicians can take during the COVID-19 pandemic to support fellow clinicians.

1. **With hope in our hearts.**  
   Brocksom British Journal of Nursing 2020;29(9):No page numbers.

The author reflects on the psychological and physical impact of the COVID-19 pandemic. These include distress, grief and dying, struggles of the British National Health Service in dealing with the crisis as well as the anticipation of dealing with its aftermath, and the previous and upcoming conferences of the British Association of Urological Nurses.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=e93419fbaf15a90e4ddf0cd8f1ae5c95)

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## B. Search History

|  | **Source** | **Criteria** | **Results** |
| --- | --- | --- | --- |
| 1. | Medline | \*"COVID-19"/ | 23291 |
| 2. | Medline | (COVID).ti,ab | 94517 |
| 3. | Medline | (1 OR 2) | 97771 |
| 4. | Medline | ("HEALTHCARE PROFESSIONAL\*").ti,ab | 25160 |
| 5. | Medline | (CLINICIAN\*).ti,ab | 238408 |
| 6. | Medline | (DOCTOR\*).ti,ab | 130060 |
| 7. | Medline | \*NURSES/ OR \*"HEALTH PERSONNEL"/ OR \*"NURSE ADMINISTRATORS"/ OR \*"NURSE PRACTITIONERS"/ OR \*"NURSE SPECIALISTS"/ OR \*"NURSES, COMMUNITY HEALTH"/ OR \*"NURSES, INTERNATIONAL"/ OR \*"NURSES, MALE"/ OR \*"NURSES, PUBLIC HEALTH"/ | 85359 |
| 8. | Medline | (NURS\*).ti,ab | 463600 |
| 9. | Medline | (4 OR 5 OR 6 OR 7 OR 8) | 859492 |
| 10. | Medline | (3 AND 9) | 7185 |
| 11. | Medline | \*"MENTAL HEALTH"/ OR \*HEALTH/ | 38923 |
| 12. | Medline | \*"STRESS, PSYCHOLOGICAL"/ OR \*"BURNOUT, PSYCHOLOGICAL"/ OR \*"BURNOUT, PROFESSIONAL"/ | 86066 |
| 13. | Medline | (BURNOUT OR BURN-OUT).ti,ab | 13426 |
| 14. | Medline | \*"OCCUPATIONAL DISEASES"/ OR \*"COMPASSION FATIGUE"/ OR \*"OCCUPATIONAL STRESS"/ | 71980 |
| 15. | Medline | (STRESS).ti,ab | 776156 |
| 16. | Medline | \*"MENTAL FATIGUE"/ OR \*FATIGUE/ | 16214 |
| 17. | Medline | (FATIGUE).ti,ab | 99100 |
| 18. | Medline | (11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17) | 1003281 |
| 19. | Medline | (10 AND 18) | 986 |
| 20. | Medline | (NHS).ti,ab | 33785 |
| 21. | Medline | ("NATIONAL HEALTH SERVICE").ti,ab | 13301 |
| 22. | Medline | ("UNITED KINGDOM").ti,ab | 39421 |
| 23. | Medline | (ENGLAND OR WALES OR IRELAND OR SCOTLAND).ti,ab | 99883 |
| 24. | Medline | (20 OR 21 OR 22 OR 23) | 168142 |
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