

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

include physical components (eq, hyperarousal or sleep disturbances from nightmares). For example, research focuses on complex PTSD and the efficacy of phase-based interventions<sup>8</sup> or imagery-based interventions9 as well as the use of new media and blended approaches.<sup>10</sup> Interventions focusing on the body can easily be integrated into these traumafocused treatments to enhance efficacy or to reach people whose symptoms or experiences have not yet changed through treatment. If therapists do not feel confident about putting interventions focusing on the body into practice themselves, or if patients would benefit from professional support, a close connection with physical therapists, exercise physiologists, or trainers might be advocated. A collaboration with physical therapists or exercise physiologists could be integrated into psychotherapy, so that they would deliver the body-focused part of the therapeutic session. Physical therapists are not only experienced in guiding exercise but also well trained in recognising tensions in individual parts of the body and in supporting patients in noticing these as well as in gently initiating physical changes. To accompany associated emotional stresses and trauma memories would either be the task of the psychotherapist or a joint task in the collaboration. More research is necessary to identify the most effective type, dose, and duration of exercise or other interventions focusing on the body.

Finally, exposure therapy is one of the best investigated evidence-based treatments. Without

a comparison group undergoing exposure without augmentation, we do not know how large the additional gain from the physical interventions would have been for participants in this study. Therefore, future studies should always include a comparison group comprising only exposure therapy or the respective intervention.

I declare no competing interests.

#### Helen Niemeyer helen.niemeyer@fu-berlin.de

Department of Education and Psychology, Division of Clinical Psychological Intervention, Freie Universität Berlin, 12163 Berlin, Germany

- Bryant RA, Dawson K, Azevedo S, et al. Augmenting trauma-focused psychotherapy for post-traumatic stress disorder with brief aerobic exercise in Australia: a randomised clinical trial in Australia. Lancet Psychiatry 2022; published online Nov 24. https://doi.org/10.1016/S2215-0366(22)00368-6.
- Fetzner MG, Asmundson GJG. Aerobic exercise reduces symptoms of posttraumatic stress disorder: a randomized controlled trial Coan Behav Ther 2015: 44: 301-13.
- Rosenbaum S, Sherrington C, Tiedemann A. Exercise augmentation compared with usual care for post-traumatic stress disorder: a randomized controlled trial. Acta Psychiatr Scand 2015; 131: 350-59.
- Bernstein EE, McNally RI, Exercise as a buffer against difficulties with emotion regulation: a pathway to emotional wellbeing. Behav Res Ther 2018; 109: 29-36.
- Dyer AS, Feldmann RE Jr, Borgmann E. Body-related emotions in posttraumatic stress disorder following childhood sexual abuse. I Child Sex Abuse 2015; 24: 627-40
- Oppizzi LM, Umberger R. The effect of physical activity on PTSD. Issues Ment Health Nurs 2018; 39: 179-87.
- Gallegos AM, Crean HF, Pigeon WR, et al. Meditation and yoga for posttraumatic stress disorder: a meta-analytic review of randomized controlled trials. Clin Psychol Rev 2017; 58: 115-24.
- Maercker A. Cloitre M. Bachem R. et al. Complex post-traumatic stress disorder. Lancet 2022; 400: 60-72.
- Morina N, Lancee J, Arntz A. Imagery rescripting as a clinical intervention for aversive memories: a meta-analysis. J Behav Ther Exp Psychiatry 2017; 55: 6-15.
- Kuester A, Niemeyer H, Knaevelsrud C. Internet-based interventions for posttraumatic stress: a meta-analysis of randomized controlled trials. Clin Psychol Rev 2016; 43: 1-16.

### The effect of the COVID-19 pandemic on health-care workers





The COVID-19 pandemic has had a profound

impact on the health-care workforce in the UK and worldwide.<sup>1,2</sup> However, in The Lancet Psychiatry, Hannah Scott and colleagues<sup>3</sup> report the results of a two-phase epidemiological survey of health-care workers in England, which suggest that prevalence rates based on self-report screening measures might have inflated estimates of mental disorders among health-care staff during the COVID-19 pandemic. The authors report that prevalence rates from a sample of clinical interviews (conducted between March 1 and Aug 27, 2021) were lower than those obtained using screening tools (administered between April 24, 2020,

and Jan 15, 2021). The combined population prevalence of common mental disorders (generalised anxiety disorder and depression) was 21.5% (95% CI 16.9-26.8) by clinical interview compared with 52.8% [51.7-53.8] by screening tools, and the estimated population prevalence of post-traumatic stress disorder (PTSD) was 7.9% (4.0-15.1) by clinical interview compared with 25.4% (24.3–26.5) by screening tools. The conclusions of this study raise several discussion points.

First, the screening data were collected between April, 2020 and January, 2021, which corresponded to the peaks of the first and second waves of COVID-19 infection in the UK. By contrast, the clinical interview data See Articles page 40

were collected between March, 2021, and August, 2021, which coincided with the easing of social restrictions, mass vaccination of health-care workers and vulnerable adults, and markedly lower rates of mortality than observed earlier in the pandemic.4 It is possible that health-care workers were experiencing higher rates of anxiety, depression, and PTSD during the screening evaluation, but that prevalence had fallen by the time of the clinical interviews, especially considering that symptoms of mental disorders associated with exposure to traumatic experiences are expected to remit over time due to processes of natural recovery.5 Scott and colleagues did not readminister screening tools at the time of the clinical interview, therefore it is not possible to definitively attribute differences observed to methods of measurement or changes over time. However, health-care workers in England, and across the world, have continued to face considerable challenges in the workplace, with little time to recover from the effects of the COVID-19 pandemic. Health-care workers are now dealing with a backlog of patients who experienced interruptions to clinical care due to the pandemic, continued staff and resource shortages, and ongoing disputes over working conditions and pay. More high quality longitudinal data are needed to understand the impact of the COVID-19 pandemic and these other adverse circumstances on the health-care workforce over time, and further findings from the NHS CHECK Team and other longitudinal studies are anticipated in the future.

Second, what, and whom, are we missing? The study by Scott and colleagues included measures of common mental disorders (anxiety and depression) and PTSD. Frontline health-care workers from several countries participating in qualitative research are also reporting experiences of stress, burnout, moral injury, and vicarious traumatisation.<sup>6,7</sup> Despite these experiences not being classified as mental disorders, they are often associated with the onset of mental health problems and incur a considerable mental health burden on those affected.8 Although understandably outside of the remit of the study by Scott and colleagues, it is crucial for future research to investigate and quantify these experiences. The current study is commendable for including clinical and non-clinical staff from both acute hospital and mental health Trusts, but other groups were particularly affected by the pandemic. Family members of health-care workers also report a

considerable detriment to their own wellbeing due to their loved ones working on the frontline during the pandemic<sup>9</sup> and mental health professionals who were specifically mobilised to support health-care workers have described feeling ill prepared for this work, overwhelmed, and vicariously traumatised.<sup>10</sup>

Third, is subjective distress important? Scott and colleagues rightly point out that normal distress should not be medicalised and that it is not necessarily the remit of, or best use of, mental health professionals to intervene where individuals are not meeting clinical thresholds for mental disorders. Nevertheless, is it reasonable to expect a workforce to work in a context where more than half are reporting significant distress and over a quarter of individuals are reporting traumatic stress, of sufficient severity to meet cutoffs on mental health screening measures for common mental disorders and PTSD (even if they do not subsequently fulfil diagnostic criteria for a mental disorder)? Should mental health professionals have a role in holding organisations to account for better protecting the mental health and wellbeing of their staff, mitigating preventable distress, and putting appropriate primary prevention strategies in place?

This novel and well conducted study highlights the importance of not relying on screening tools as measures of prevalence and urges against medicalising normal distress. The results also point to the clinical utility of using screening tools to identify staff who are potentially at risk, who can then be followed up with more specific clinical diagnostic interviews. Mental health resources can be targeted at staff most in need, but perhaps also towards trying to effect change at an organisational level.

I declare no competing interests.

#### Jo Billings

#### j.billings@ucl.ac.uk

Division of Psychiatry, University College London, London, UK

- Bell V, Wade D. Mental health of clinical staff working in high-risk epidemic and pandemic health emergencies a rapid review of the evidence and living meta-analysis. Soc Psychiatry Psychiatr Epidemiol 2021; 56: 1–11.
- 2 Billings J, Ching BCF, Gkofa V, et al. Experiences of frontline healthcare workers and their views about support during COVID-19 and previous pandemics: a systematic review and qualitative meta-synthesis. BMC Health Serv Res 2021: 21: 923.
- 3 Scott HR, Stevelink SAM, Garoor R, et al. Prevalence of post-traumatic stress disorder and common mental disorders in health-care workers in England during the COVID-19 pandemic: a two-phase cross-sectional study. Lancet Psychiatry 2023; 10: 40–49.
- UK Government. Deaths in the United Kingdom. https://coronavirus.data. gov.uk/details/deaths (accessed Nov 23, 2022).

- 5 Santiago PN, Ursano RJ, Gray CL, et al. A systematic review of PTSD prevalence and trajectories in DSM-5 defined trauma exposed populations: intentional and non-intentional traumatic events. PLoS One 2013; 8: e50236
- 6 Berkhout SG, Billings J, Abou Seif N, Shared sources and mechanisms of healthcare worker distress in COVID-19: a comparative qualitative study in Canada and the UK. Eur J Psychotraumatol 2022; 13: 2107810.
- 7 Hegarty S, Lamb D, Stevelink SAM, et al. 'It hurts your heart': frontline healthcare worker experiences of moral injury during the COVID-19 pandemic. Eur J Psychotraumatol 2022; 13: 2.
- Williamson V, Stevelink SAM, Greenberg N. Occupational moral injury and mental health: systematic review and meta-analysis. Br J Psychiatry 2018; 212: 339-46.
- 9 Tekin S, Glover N, Greene T, Lamb D, Murphy D, Billings J. Experiences and views of frontline healthcare workers' family members in the UK during the COVID-19 pandemic: a qualitative study. Eur J Psychotraumatol 2022; 13: 2057166.
- Billings J, Biggs C, Ching BCF, Gkofa V, Singleton D, Bloomfield, M, Greene T. Experiences of mental health professionals supporting frontline health and social care workers during COVID-19: qualitative study. BJPsych Open 2021; 7: e70.

# Psychotic experiences in trauma-related disorders and borderline personality disorder



In the case of trauma and psychotic experiences, such as hearing voices or experiencing delusions, the primary question for the practising psychiatrist in terms of diagnosis is whether to diagnose psychotic disorder, trauma-related disorder, or borderline personality disorder. Although the ICD-11 de-emphasises the role of Schneiderian first-rank symptoms, such as hearing voices, in schizophrenia, it still lacks clarity in the classification of psychotic experiences in disorders specifically associated with stress. For example, the ICD-11 maintains the distinction between hallucinations in psychotic disorders and pseudo-hallucinations in post-traumatic stress disorder (PTSD) or complex PTSD. In addition, terms such as quasi-psychotic symptoms have been used to describe psychotic experiences in trauma-related disorders for example, in the 2022 Lancet Seminar on complex post-traumatic stress disorder.1 As there is increasing evidence that auditory verbal hallucinations in stressrelated disorders are comparable to those in psychotic disorders, a distinction between hallucinations and pseudo-hallucinations is not consistent with empirical evidence.<sup>2,3</sup> Instead, psychotic experiences can be viewed as transdiagnostic phenomena, with psychotic experiences in schizophrenia, borderline personality disorder, and PTSD sharing similarities, which raises the question of whether they are underlain by the same neural mechanism.4

In populations characterised by an increased prevalence of trauma, such as veterans, refugees, and victims of sexual violence, psychotic experiences are found in approximately 20–50% of people with trauma-related disorders or borderline personality

disorder.<sup>5,6</sup> The factors involved in the transition from trauma to psychotic experiences are still debated. Cognitive-affective processes,<sup>7</sup> stress sensitivity, and dissociation have been considered to be potential mediators.<sup>8</sup>

A meta-analysis concluded that dissociation is robustly related to positive symptoms, mainly in the form of hallucinations and delusions. These findings are consistent with the concept that some psychotic symptoms are dissociative, which is hypothesised to be the case for psychotic experiences in borderline personality disorder, PTSD, complex PTSD, dissociative disorders, and some psychotic disorders.

Therefore, to avoid inaccurate diagnoses of psychotic disorders and subsequent incorrect treatment, there is an urgent need to establish in routine care that psychotic experiences in borderline personality disorder and traumarelated disorders are comparable to those in psychotic disorders. Although treatment with neuroleptics is the first choice for psychotic disorders, patients with traumarelated dissociative psychotic experiences could benefit from specialised psychotherapy.<sup>10</sup>

We declare no competing interests.

## \*Stefan Tschöke, Leonhard Kratzer stefan.tschoeke@zfp-zentrum.de

Clinic for Psychiatry and Psychotherapy I (Weissenau), Ulm University, Ulm, Germany (ST); Centres for Psychiatry Südwürttemberg, Ravensburg 88190, Germany (ST); Department of Psychotraumatology, Clinic St Irmingard, Prien am Chiemsee, Germany (LK)

- Maercker A, Cloitre M, Bachem R, et al. Complex post-traumatic stress disorder. Lancet 2022; 400: 60–72.
- Slotema CW, Daalman K, Blom JD, Diederen KM, Hoek HW, Sommer IEC. Auditory verbal hallucinations in patients with borderline personality disorder are similar to those in schizophrenia. Psychol Med 2012; 42: 1873-78.