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Posttraumatic Stress Disorder in the Context of a Global Pandemic

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Introduction

As a trauma-related disorder in the fifth edition of the *Diagnostic and Statistical Manual for Mental Disorders (DSM-5-TR*; APA, 2022), a diagnosis of posttraumatic stress disorder (PTSD) requires exposure to 1 or more traumatic events followed by sustained PTSD symptoms, as well as significant distress and/or impairment for a period of 30 days or more. Furthermore, the diagnosis requires the disturbance to not be attributable to the physiological effects of a substance or another medical condition. Thus, the first criterion of the diagnosis, Criterion A, is construed as necessary but not sufficient to render a PTSD diagnosis. Criterion A defines the nature and type of the qualifying event. According to the Criterion, an event qualifies if it involves "actual or threatened death, serious injury, or sexual violence." Further, qualifying exposures include those that involve either direct exposure (Criterion A_1), witnessing it happen to another person (Criterion A_2), learning it happened suddenly and unexpectedly to a loved one (only in the case of actual or threatened violent or accidental death, Criterion A_3), or repeated or extreme exposure to aversive details of the event though not through electronic media, unless it is work-related (Criterion A_4).

The stressor exposures that have qualified for Criterion A have evolved over time and nomenclatures (Friedman, 2013; McNally, 2003; Weathers & Keane, 2007). In contrast with *DSM-5*'s definition of traumatic events, the *International Classification of Diseases (ICD-11*; WHO, 2019) refers to the "exposure to an event or situation (either short- or long-lasting) of an extremely threatening or horrific nature" to describe qualifying events. *ICD-11* further specifies that "such events include, but are not limited to, directly experiencing natural or human-made disasters, combat, serious accidents, torture, sexual violence, terrorism, assault or acute life-threatening illness (e.g., a heart attack); witnessing the threatened or actual injury or death of others in a sudden, unexpected, or violent manner; and learning about the sudden, unexpected or violent death of a loved one," in essence proposing broader criteria for qualifying events.

To date, half-a-billion coronavirus disease (COVID-19) cases have been confirmed around the world and over 6.32 million people have reportedly lost their lives to the disease. The quick spread of the virus overwhelmed ill-equipped health services and agencies, creating panic and chaos. Unprecedented restrictive public health measures were taken to limit the progression of the virus

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causing major disruptions. Faced with a global event of this magnitude with disastrous consequences on the lives of so many, there have been vigorous discussions regarding the extent to which the COVID-19 pandemic could be construed as a traumatic event.

When Is COVID-19 Infection a Criterion A-qualifying Medical Event?

All serious, painful, and even terminal medical conditions are not necessarily considered traumatic events. In *DSM-5-TR*, qualifying medical events include "life-threatening medical emergencies" (e.g., acute myocardial infarction) or "a particular event in treatment that evokes catastrophic feelings of terror, pain, helplessness, or imminent death" (e.g., waking during surgery). Thus, a medical event must involve an identifiable acute and extreme or catastrophic event to qualify (Norrholm et al., 2021). Virus exposure, infection, symptoms, or even death in and of themselves would not qualify unless they occurred in the context of an acute catastrophic situation. *DSM-5* Criterion A would certainly be met by patients with severe respiratory distress who were admitted to intensive care units and either experienced or witnessed severe distress with catastrophic (i.e., life threatening) COVID-19 symptoms.

To date, only one known study (Janiri, Carfì, et al., 2021) used the Clinician-Administered PTSD Scale for *DSM-5* with patients who had sought services in the emergency department for severe COVID-19 symptoms. Among them, 81.1% had required hospitalization. Once they had recovered, 30.2% met criteria for PTSD. Patients with PTSD reportedly had experienced life-threatening medical symptoms and/or witnessed the death of another patient (Janiri, Kotzalidis, et al., 2021). Importantly in that study, being admitted to the intensive care unit and being on mechanical ventilation were not significantly associated with PTSD symptomatology. Considering the need for extreme and acute medical situations to meet Criterion A, future studies are necessary to document the specific situations in which COVID-19 infection and illness could be construed as a qualifying medical event.

Does a Pandemic in and of Itself Qualify as a Traumatic Stressor?

In the early stages of the pandemic, several studies assessed PTSD symptoms associated with the pandemic, broadly speaking. For example, in one survey conducted in a nationally representative sample of adults from the general population of the Republic of Ireland (n = 1,041), respondents answered items asking about the 6 *ICD-11*-based PTSD symptoms regarding "their experience of the COVID-19 pandemic" (Karatzias et al., 2020). Findings indicated that 17.7% met criteria for probable "COVID-19-related PTSD." The authors acknowledged that the extent to which PTSD symptoms were tied to the pandemic could not be ascertained and acknowledged that exposure to prior traumatic events and/or PTSD were not assessed. Following that publication, some PTSD experts called for caution considering that one's "COVID-19 experience" was too vague to represent a qualifying event as it could mean a range of experiences (Van Overmeire, 2020). In response, the authors argued in favor of identifying the pandemic as a "valid traumatic event for PTSD" pointing to differences in *DSM-5* vs. *ICD-11* definitions of events (Shevlin et al., 2020). In our opinion, even when applying *ICD-11*'s Criterion A, not every single person's experience of the pandemic could be "extremely threatening or horrific." Under *DSM-5* PTSD Criterion A, the pandemic broadly speaking could not be considered a traumatic stressor, unless exposure to an identifiable pandemic-related qualifying event is ascertained (North et al., 2021).

Pandemic-related Stressors

Although the pandemic in and of itself is not a traumatic event, it has been both directly and indirectly associated with stressors of all levels of severity, ranging from minor stressors to traumatic events. For instance, lockdowns in their strictest form would not be considered Criterion A-qualifying events, though they have been associated with stressful events and significant distress (Brooks et al., 2020), especially among women (Power, 2020). Furthermore, loss of regular child care, increased food insecurity, and worsening of parent and child mental health were reported during the pandemic (Patrick et al., 2020). A "dose-response" association between number of COVID-19-related financial, social and emotional stressors has also been found in relation with probable PTSD symptoms (Abdalla et al., 2021). Lockdowns have also been shown to exacerbate exposure to traumatic events such as domestic violence (Piquero et al., 2021). Significant increases in calls and arrests for domestic violence (Boserup et al., 2020), as well as increases in domestic crimes (Evans et al., 2021) have been documented during stay-at-home orders. Exposure to both qualifying stressors and non-qualifying stressors directly associated with the pandemic have been extensively described among healthcare workers (HCWs). Stressors commonly reported include the lack of personal protective equipment, contact with COVID-19 patients, increased workload, and having insufficient training (Lai et al., 2020; Morgantini et al., 2020; Wanigasooriya et al., 2021). Fewer studies have reported exposure to pandemic-related traumatic events. One study among HCWs defined stressful or traumatic events as patients' or colleagues' death due to COVID-19, exposure to patients who are extremely unwell due to COVID-19, and additional potential stressors (Gilleen et al., 2021). Studies that have documented exposure to events that would explicitly meet *DSM-5* Criterion A are scarce. Collectively, this work suggests that the pandemic was directly and indirectly associated with cumulative exposure to a variety of stressors that are linked to significant distress and may warrant further attention when examining the consequences of the pandemic on mental health. Furthermore, assessment of pre-pandemic exposure to traumatic events is necessary, though rarely done.

If Not PTSD, Then What?

When pandemic-related events do not meet *DSM-5* Criterion A, there may be other diagnoses that might better characterize their psychological impact. For example, it has been suggested that COVID-19-related bereavement was associated with more severe grief symptoms than other natural losses, but not violent losses (Eisma et al., 2021). Persistent fears of infection, upheaval of life routines, isolation, illness, and death could also precipitate a host of adverse psychological outcomes such as an Anxiety, Mood, or other Trauma- or Stressor-related Disorders, including Adjustment Disorder (AD).

AD may deserve further attention as it should be diagnosed in the absence of Criterion A exposure for individuals who otherwise exhibit the PTSD symptom profile. In a cross-national sample of more than 5,900 adults (Brunet et al., 2022), respondents completed a questionnaire regarding the worst event they had experienced

during the pandemic. One item—"I thought I might die"—was considered as perceived life-threat. Respondents then completed the Impact of Event Scale – Revised 6 (IES-6), to determine probable AD in the absence of life-threat. Overall, 61.7% of the sample met the cutoff for PTSD caseness on the IES-6. However, given that only 7% of people reported life-threat, 6.7% were identified as probable PTSD cases vs. 55.0% as AD cases. This study illustrates the fact that, had life-threat not been assessed, some may have interpreted caseness on the IES-6 as probable PTSD. Although Brunet et al.'s results highlight the importance of perceived life-threat, it does not consider other facets of Criterion A such as actual or threatened injury, or sexual violence that may have been exacerbated during lockdowns.

The Risks of Diluting Criterion A in COVID-19-related Research

PTSD is a debilitating mental disorder associated with high levels of psychiatric and medical comorbidities, distress and functional impairment as well as with suicide risk. By diluting Criterion A, we are likely to pathologize adaptive and transient reactions to stressors. We are also likely to misdiagnose individuals who developed serious mood, anxiety, or stressor-related disorders during the pandemic or experienced a worsening of a pre-existing psychiatric condition. Doing so would contribute to the risk of failing to allocate appropriate resources to those in need of specialized services.

Surveys reporting presumptive PTSD in very high proportions of general population adults should trigger caution (Husky et al., 2021). Pre-pandemic estimates suggest that 5.0% of general population adults living in high-income countries (Koenen et al., 2017) and 8.0% of Veterans (Wisco et al., 2014) met criteria for lifetime PTSD. Excessive rates of presumptive PTSD during the pandemic should be interpreted in light of these estimates. Furthermore, PTSD has consistently been shown to be disproportionately affected by the exposure to assaultive violence compared with other types of traumatic events including natural disasters (Kessler et al., 2017). In that regard, systematic reviews limited to studies that have ascertained qualifying trauma exposure in addition to assessing PTSD symptoms profiles are needed.

Future Directions

Future pandemic-related studies should carefully assess prior stress and trauma exposure and pre-existing PTSD symptoms. Relatedly, studies should report how subsequent psychopathology is anchored to 1 or more events. In the absence of exposure to qualifying Criterion A events, other diagnoses and/or adaptive distress should be considered.

Defining what qualifies as a traumatic event has long been a controversial topic. Dichotomizing complex human experiences is neither optimal nor comfortable as it inextricably involves judgment on the part of the patient and/or the clinician. It is, however, necessary to study processes involved in the onset, course, and treatment of disorders construed as trauma related. One caveat in that process is the circular reliance on the severity of psychological responses to define the event that prompted the reaction in the first place. A second issue is the specificity of the psychological response. Despite differences between *DSM-5* and *ICD-11*, both recognize 2 core elements. First, exposure to stressors of varying magnitude and chronicity can be associated with significant distress and impairment. Second, the PTSD diagnosis is limited to symptoms and impairment following exposure to events on the extreme end of the spectrum of stressful experiences. Consensus regarding the conceptual perimeter of Criterion A and the specific symptoms that define the disorder has yet to be achieved. Such a consensus would be particularly useful for clinicians, researchers, and policy makers.

Featured Articles

Abdalla, S. M., Ettman, C. K., Cohen, G. H., & Galea, S. (2021). **Mental health consequences of COVID-19: A nationally representative cross-sectional study of pandemic-related stressors and anxiety disorders in the USA.** *BMJ Open, 11*(8), e044125. doi:10.1136/bmjopen-2020-044125 *Objective:* To document the prevalence of anxiety disorders in the United States (US) during the COVID-19 pandemic. *Design:* A cross-sectional analysis. *Setting:* A nationally representative sample in the US between March 31 and April 13 2020. *Participants:* 1,450 English-speaking adult participants in the AmeriSpeak Panel. AmeriSpeak is a probability-based panel designed to be representative of households in the US. *Main outcome measures:* Prevalence of probable generalised anxiety disorder (GAD) using the GAD-7 and posttraumatic stress symptoms (PTSS) using the 4-item PTSD checklist. Both outcomes were stratified by demographics and COVID-19- related stressors. *Results:* The majority of participants were female (51.8%), non-Hispanic white (62.9%) and reported a household saving of $5,000 or more. Those between 18 and 29 years old were the largest age group (38.1%) compared with 40–59 years (32.0%) and 60 years or more (29.9%). The prevalence of probable GAD was 10.9% (95% CI [confidence interval] 9.1% to 13.2%) and the prevalence of PTSS was 21.7% (95% CI 19.1% to 24.6%). Among participants reporting 5 or more COVID-19-related stressors, the prevalence of probable GAD was 20.5% (95% CI 16.1% to 25.8%) and the prevalence of PTSS was 35.7% (95% CI 30.2% to 41.6%). Experiencing 5 or more COVID-19-related stressors was a predictor of both probable GAD (odds ratio [OR] = 4.5, 95% CI 2.3 to 8.8) and PTSS (OR = 3.3, 95% CI 2.1 to 5.1). *Conclusions:* The prevalence of probable anxiety disorders in the US, as the COVID-19 pandemic and policies implemented to tackle it unfolded, is higher than estimates reported prior to the pandemic and estimates reported following other mass traumatic events. Exposure to COVID-19-related stressors is associated with higher prevalence of both probable GAD and PTSS, highlighting the role these stressors play in increasing the risk of developing anxiety disorders in the US. Mitigation and recovery policies should consider the mental health toll the pandemic had on the US population.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). **The psychological impact of quarantine and how to reduce it: Rapid review of the evidence.** *The Lancet, 395*(10227), 912–920. doi:10.1016/S0140-6736(20)30460-8 The December 2019 COVID-19 outbreak has seen many countries ask people who have potentially come into contact with the infection to isolate themselves at home or in a dedicated quarantine facility. Decisions on how to apply quarantine should be based on the best available evidence. We did a review of the psychological impact of quarantine using 3 electronic databases. Of 3,166 papers found, 24 are included in this review.

Most reviewed studies reported negative psychological effects including PTSS, confusion, and anger. Stressors included longer quarantine duration, infection fears, frustration, boredom, inadequate supplies, inadequate information, financial loss, and stigma. Some researchers have suggested long-lasting effects. In situations where quarantine is deemed necessary, officials should quarantine individuals for no longer than required, provide clear rationale for quarantine and information about protocols, and ensure sufficient supplies are provided. Appeals to altruism by reminding the public about the benefits of quarantine to wider society can be favorable.

Brunet, A., Rivest-Beauregard, M., Lonergan, M., Cipolletta, S., Rasmussen, A., Meng, X., Jaafari, N., Romero, S., Superka, J., Brown, A. D., & Sapkota, R. P. (2022). **PTSD is not the emblematic disorder of the COVID-19 pandemic; adjustment disorder is.** *BMC Psychiatry, 22*(1), 300. doi:10.1186/s12888-022-03903-5 *Background:* PTSD has been hailed by some as the emblematic mental disorder of the COVID-19 pandemic, assuming that PTSD's life-threat criterion was met de facto. More plausible outcomes like AD have been overlooked. *Methods:* An online cross-sectional survey was launched in the initial stage of the pandemic using a convenience sample of 5,913 adults to compare the prevalence of COVID-19-related probable PTSD versus probable AD. The abridged IES-6 assessed the severity of trauma- and stressor-related symptoms over the previous week. Demographic and pandemic-related data (e.g., receiving a formal diagnosis of COVID-19, job loss, loss of loved one, confinement, material hardship) were collected. A Classification and Regression Tree analysis was conducted to uncover the pandemic experiences leading to clinical 'caseness'. Caseness was defined by a score > 9 on the IES-6 symptom measure and further characterized as PTSD or AD depending on whether the Peritraumatic Distress Inventory's life-threat item was endorsed or not. *Results:* The participants were predominantly Caucasian (72.8%), women (79.2%), with a university degree (85%), and a mean age of 42.22 (*SD* = 15.24) years; 3 647 participants (61.7%; 95% CI [60.4, 63.0]) met the threshold for caseness. However, when perceived life-threat was accounted for, only 6.7% (95% CI [6.1, 7.4]) were classified as PTSD cases, and 55% (95% CI [53.7, 56.2]) as AD cases. Among the AD cases, 3 distinct profiles emerged marked by the following: (1) a worst personal pandemic experience eliciting intense fear, helplessness or horror (in the absence, however, of any life-threat), (2) a pandemic experience eliciting sadness/grief, and (3) worrying intensely about the safety of significant others. *Conclusions:* Studies considering the life-threat criterion as met de facto during the pandemic are confusing PTSD for AD on most counts. This misconception is obscuring the various AD-related idioms of distress that have emerged during the pandemic and the actual treatment needs.

Eisma, M. C., Tamminga, A., Smid, G. E., & Boelen, P. A. (2021). **Acute grief after deaths due to COVID-19, natural causes and unnatural causes: An empirical comparison.** *Journal of Affective Disorders, 278,* 54–56. doi:10.1016/j.jad.2020.09.049 *Background:* There are now over 800,000 registered deaths due to the COVID-19 pandemic worldwide. Researchers have suggested that COVID-19 death characteristics (e.g., intensive care admission, unexpected death) and circumstances (e.g., secondary stressors, social isolation) will precipitate a worldwide increase of prolonged grief disorder (PGD) and persistent complex bereavement disorder (PCBD). Yet, no study has investigated this. Since acute grief is a strong predictor of future pathological grief, we compared grief levels among people recently bereaved due to COVID-19, natural, and unnatural causes. *Methods:* People bereaved through COVID-19 (*n* = 49), natural causes (*n* = 1182), and unnatural causes (*n* = 210), completed self-report measures of demographic and loss-related characteristics and PGD and PCBD symptoms. *Results:* COVID-19 bereavement yielded higher symptom levels of PGD (*d* = 0.42) and PCBD (*d* = 0.35) than natural bereavement (but not unnatural bereavement). Effects held when limiting analyses to recent losses and those who participated during the pandemic. Expectedness of the death explained this effect. *Limitations:* Limitations include using a convenience sample and self-report measures. *Conclusions:* Higher grief levels occur among people bereaved due to COVID-19 compared to people bereaved due to natural loss. We predict that pandemic-related increases in pathological grief will become a worldwide public health concern.

Evans, D. P., Hawk, S. R., & Ripkey, C. E. (2021). **Domestic violence in Atlanta, Georgia before and during COVID-19.** *Violence and Gender, 8*(3), 140–147. doi:10.1089/vio.2020.0061 Domestic violence is known to be one of the most prevalent forms of gender-based violence in emergency contexts and anecdotal data during the COVID-19 pandemic suggest that related restrictions on movement may exacerbate such violence. As such, the purpose of this study was to measure differences in domestic violence incident reports from police data in Atlanta, Georgia, before and during COVID-19. Thirty weeks of crime data were collected from the Atlanta Police Department (APD) in an effort to compare Part I offense trends 2018–2020. Compared with weeks 1–31 of 2018 and 2019, there was a growth in Part I domestic crimes during 2020 as reported to the APD. In addition, trendlines show that 2020 domestic crimes were occurring at a relatively similar pace as the counts observed in previous years leading up to the pandemic. A spike in domestic crimes was recorded after city and statewide shelter-in-place orders. The rise of cumulative counts of domestic crimes during the COVID-19 period of 2020 compared with the previous 2 years suggests increased occurrence of domestic violence. The co-occurring pandemics of COVID-19 and domestic violence come amidst a period of racial justice reckoning in the US; both have a disproportionate impact on Black, Indigenous, and People of Color. As the country grapples with how to deal with health and safety concerns related to the pandemic, and the unacceptable harms being perpetrated by police, a public health approach is strongly warranted to address both universal health care and violence prevention.

Gilleen, J., Santaolalla, A., Valdearenas, L., Salice, C., & Fusté, M. (2021). **Impact of the COVID-19 pandemic on the mental health and well-being of UK healthcare workers.** *BJPsych Open, 7*(3), e88, Article e88. doi:10.1192/bjo.2021.42 *Background:* The COVID-19 pandemic has had a significant psychological impact on HCWs. *Aims:* There is an urgent need to understand the risk and protective factors associated with poor mental well-being of United Kingdom (UK) HCWs working during the COVID-19 pandemic. *Method:* Shortly after the April 2020 UK COVID-19 peak 2,773 HCWs completed a survey containing measures of anxiety,

depression, PTSD and stress, as well as questions around potential predictors such as roles, COVID-19 risk perception and workplace-related factors. Respondents were classified as high or low symptomatic on each scale and logistic regression revealed factors associated with severe psychiatric symptoms. Change in well-being from pre- to during COVID-19 was also quantified. *Results:* Nearly a third of HCWs reported moderate to severe levels of anxiety and depression, and the number reporting very high symptoms was more than quadruple that pre-COVID-19. Several controllable factors were associated with the most severe level of psychiatric symptoms: insufficient personal protective equipment (PPE) availability, workplace preparation, training and communication, and higher workload. Being female, 'frontline', previous psychiatric diagnoses, traumatic events, and being an allied HCW or manager were also significantly associated with severe psychiatric symptoms. Sharing stress, resilience and ethical support for treatment decisions were significantly associated with low psychiatric symptoms. Front-line workers showed greater worsening of mental health compared with non-front-line HCWs. *Conclusions:* Poor mental well-being was prevalent during the COVID-19 response, however, controllable factors associated with severe psychiatric symptoms are available to be targeted to reduce the detrimental impact of COVID-19 and other pandemics on HCW's mental health.

Karatzias, T., Shevlin, M., Murphy, J., McBride, O., Ben-Ezra, M., Bentall, R. P., Vallières, F., & Hyland, P. (2020). **Posttraumatic stress symptoms and associated comorbidity during the COVID-19 pandemic in Ireland: A population-based study.** *Journal of Traumatic Stress, 33*(4), 365–370. doi:10.1002/jts.22565 The prevalence of PTSD as it relates to individuals' experiences of the COVID-19 pandemic has yet to be determined. This study was conducted to determine rates of COVID-19-related PTSD in the Irish general population, the level of comorbidity with depression and anxiety, and the sociodemographic risk factors associated with COVID-19-related PTSD. A nationally representative sample of adults from the general population of the Republic of Ireland (N = 1,041) completed self-report measures of all study variables. The rate of COVID-19-related PTSD was 17.7% (n = 184), 95% CI [15.35%, 19.99%], and there was a high level of comorbidity with generalized anxiety (49.5%) and depression (53.8%). Meeting the diagnostic requirement for COVID-19-related PTSD was associated with younger age, male sex, living in a city, living with children, moderate and high perceived risk of COVID-19 infection, and screening positive for anxiety or depression. Posttraumatic stress symptoms related to the COVID-19 pandemic are common in the general population. Our results show that health professionals responsible for responding to the COVID-19 pandemic should expect to routinely encounter symptoms and concerns related to posttraumatic stress.

Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Benjet, C., Bromet, E. J., Cardoso, G., Degenhardt, L., de Girolamo, G., Dinolova, R. V., Ferry, F., Florescu, S., Gureje, O., Haro, J. M., Huang, Y., Karam, E. G., Kawakami, N., Lee, S., Lepine, J.-P., Levinson, D., Navarro-Mateu, F., Pennell, B.-E., . . . Koenen, K. C. (2017). **Trauma and PTSD in the WHO World Mental Health Surveys.** *European Journal of Psychotraumatology, 8*(sup5), 1353383. doi:10.1080/20008198.2017.1353383 *Background:* Although PTSD onset-persistence is thought to vary significantly by trauma type, most epidemiological surveys are incapable of assessing this because they evaluate lifetime PTSD only for traumas nominated by respondents as their 'worst.' *Objective:* To review research on associations of trauma type with PTSD in the World Health Organization (WHO) World Mental Health (WMH) surveys, a series of epidemiological surveys that obtained representative data on trauma-specific PTSD. *Method:* WMH Surveys in 24 countries (n = 68,894) assessed 29 lifetime traumas and evaluated PTSD twice for each respondent: once for the 'worst' lifetime trauma and separately for a randomly-selected trauma with weighting to adjust for individual differences in trauma exposures. PTSD onset-persistence was evaluated with the WHO Composite International Diagnostic Interview. *Results:* In total, 70.4% of respondents experienced lifetime traumas, with exposure averaging 3.2 traumas per capita. Substantial between-trauma differences were found in PTSD onset but less in persistence. Traumas involving interpersonal violence had highest risk. Burden of PTSD, determined by multiplying trauma prevalence by trauma-specific PTSD risk and persistence, was 77.7 person-years/100 respondents. The trauma types with highest proportions of this burden were rape (13.1%), other sexual assault (15.1%), being stalked (9.8%), and unexpected death of a loved one (11.6%). The first 3 of these 4 represent relatively uncommon traumas with high PTSD risk and the last a very common trauma with low PTSD risk. The broad category of intimate partner sexual violence accounted for nearly 42.7% of all person-years with PTSD. Prior trauma history predicted both future trauma exposure and future PTSD risk. *Conclusions:* Trauma exposure is common throughout the world, unequally distributed, and differential across trauma types with respect to PTSD risk. Although a substantial minority of PTSD cases remits within months after onset, mean symptom duration is considerably longer than previously recognized.

Koenen, K. C., Ratanatharathorn, A., Ng, L., McLaughlin, K. A., Bromet, E. J., Stein, D. J., Karam, E. G., Meron Ruscio, A., Benjet, C., Scott, K., Atwoli, L., Petukhova, M., Lim, C. C. W., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Bunting, B., Ciutan, M., de Girolamo, G., Degenhardt, L., Gureje, O., . . . Kessler, R. C. (2017). **Posttraumatic stress disorder in the World Mental Health Surveys.** *Psychological Medicine, 47*(13), 2260–2274. doi:10.1017/S0033291717000708 *Background:* Traumatic events are common globally; however, comprehensive population-based cross-national data on the epidemiology of posttraumatic stress disorder (PTSD), the paradigmatic trauma-related mental disorder, are lacking. *Methods:* Data were analyzed from 26 population surveys in the WHO WMH surveys. A total of 71,083 respondents ages 18+ participated. The Composite International Diagnostic Interview assessed exposure to traumatic events as well as 30-day, 12-month, and lifetime PTSD. Respondents were also assessed for treatment in the 12 months preceding the survey. Age of onset distributions were examined by country income level. Associations of PTSD were examined with country income, world region, and respondent demographics. *Results:* The cross-national lifetime prevalence of PTSD was 3.9% in the total sample and 5.6% among the trauma exposed. Half of respondents with PTSD reported persistent symptoms. Treatment seeking in high-income countries (53.5%) was roughly double that in low-lower middle income (22.8%)

and upper-middle income (28.7%) countries. Social disadvantage, including younger age, female sex, being unmarried, being less educated, having lower household income, and being unemployed, was associated with increased risk of lifetime PTSD among the trauma exposed. *Conclusions:* PTSD is prevalent cross-nationally, with half of all global cases being persistent. Only half of those with severe PTSD report receiving any treatment and only a minority receive specialty mental health care. Striking disparities in PTSD treatment exist by country income level. Increasing access to effective treatment, especially in low- and middle-income countries, remains critical for reducing the population burden of PTSD.

Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., & Hu, S. (2020). **Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019.** *JAMA Network Open, 3*(3), e203976. doi:10.1001/jamanetworkopen.2020.3976 *Importance:* HCWs exposed to COVID-19 could be psychologically stressed. *Objective:* To assess the magnitude of mental health outcomes and associated factors among HCWs treating patients exposed to COVID-19 in China. *Design, settings, and participants:* This cross-sectional, survey-based, region-stratified study collected demographic data and mental health measurements from 1,257 HCWs in 34 hospitals from January 29, 2020, to February 3, 2020, in China. HCWs in hospitals equipped with fever clinics or wards for patients with COVID-19 were eligible. *Main outcomes and measures:* The degree of symptoms of depression, anxiety, insomnia, and distress was assessed by the Chinese versions of the 9-item Patient Health Questionnaire, the 7-item Generalized Anxiety Disorder scale, the 7-item Insomnia Severity Index, and the 22-item IES-6, respectively. Multivariable logistic regression analysis was performed to identify factors associated with mental health outcomes. *Results:* A total of 1,257 of 1,830 contacted individuals completed the survey, with a participation rate of 68.7%. A total of 813 (64.7%) were aged 26 to 40 years, and 964 (76.7%) were women. Of all participants, 764 (60.8%) were nurses, and 493 (39.2%) were physicians; 760 (60.5%) worked in hospitals in Wuhan, and 522 (41.5%) were frontline HCWs. A considerable proportion of participants reported symptoms of depression (634 [50.4%]), anxiety (560 [44.6%]), insomnia (427 [34.0%]), and distress (899 [71.5%]). Nurses, women, frontline HCWs, and those working in Wuhan, China, reported more severe degrees of all measurements of mental health symptoms than other HCWs (e.g., median [interquartile range {IQR}] Patient Health Questionnaire scores among physicians vs. nurses: 4.0 [1.0-7.0] vs. 5.0 [2.0-8.0]; $P = .007$; median [IQR] Generalized Anxiety Disorder scale scores among men vs. women: 2.0 [0-6.0] vs. 4.0 [1.0-7.0]; $P < .001$; median [IQR] Insomnia Severity Index scores among frontline vs. second-line workers: 6.0 [2.0-11.0] vs. 4.0 [1.0-8.0]; $P < .001$; median [IQR] IES-6 scores among those in Wuhan vs. those in Hubei outside Wuhan and those outside Hubei: 21.0 [8.5-34.5] vs. 18.0 [6.0-28.0] in Hubei outside Wuhan and 15.0 [4.0-26.0] outside Hubei; $P < .001$). Multivariable logistic regression analysis showed participants from outside Hubei province were associated with lower risk of experiencing symptoms of distress compared with those in Wuhan (OR, 0.62; 95% CI, 0.43-0.88; $P = .008$). Frontline HCWs engaged in direct diagnosis, treatment, and care of patients with COVID-19 were associated with a higher risk of symptoms of depression (OR, 1.52; 95% CI, 1.11-2.09; $P = .01$), anxiety (OR, 1.57; 95% CI, 1.22-2.02; $P < .001$), insomnia (OR, 2.97; 95% CI, 1.92-4.60; $P < .001$), and distress (OR, 1.60; 95% CI, 1.25-2.04; $P < .001$). *Conclusions and relevance:* In this survey of HCWs in hospitals equipped with fever clinics or wards for patients with COVID-19 in Wuhan and other regions in China, participants reported experiencing psychological burden, especially nurses, women, those in Wuhan, and frontline HCWs directly engaged in the diagnosis, treatment, and care for patients with COVID-19.

Morgantini, L. A., Naha, U., Wang, H., Francavilla, S., Acar, Ö., Flores, J. M., Crivellaro, S., Moreira, D., Abern, M., Eklund, M., Vigneswaran, H. T., & Weine, S. M. (2020). **Factors contributing to healthcare professional burnout during the COVID-19 pandemic: A rapid turnaround global survey.** *PloS One, 15*(9), e0238217. doi:10.1371/journal.pone.0238217 *Background:* Healthcare professionals (HCPs) on the frontlines 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 PPE was protective against burnout (RR = 0·88, 95% CI = 0·79–0·97, $P = 0·01$). Burnout was higher in high-income countries compared to low- and middle-income countries (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.

Patrick, S. W., Henkhaus, L. E., Zickafoose, J. S., Lovell, K., Halvorson, A., Loch, S., Letterie, M., & Davis, M. M. (2020). **Well-being of parents and children during the COVID-19 pandemic: A national survey.** *Pediatrics, 146*(4). doi:10.1542/peds.2020-016824 *Background:* As the COVID-19 pandemic spread across the US and protective measures to mitigate its impact were enacted, parents and children experienced widespread disruptions in daily life. Our objective with this national survey was to determine how the pandemic and mitigation efforts affected the physical and emotional well-being of parents and children in the US through early June 2020. *Methods:* In June 2020, we conducted a national survey of parents with children age <18 to measure changes in health status,

insurance status, food security, use of public food assistance resources, child care, and use of health care services since the pandemic began. *Results:* Since March 2020, 27% of parents reported worsening mental health for themselves, and 14% reported worsening behavioral health for their children. The proportion of families with moderate or severe food insecurity increased from 6% before March 2020 to 8% after, employer-sponsored insurance coverage of children decreased from 63% to 60%, and 24% of parents reported a loss of regular child care. Worsening mental health for parents occurred alongside worsening behavioral health for children in nearly 1 in 10 families, among whom 48% reported loss of regular child care, 16% reported change in insurance status, and 11% reported worsening food security. *Conclusions:* The COVID-19 pandemic has had a substantial tandem impact on parents and children in the US. As policy makers consider additional measures to mitigate the health and economic effects of the pandemic, they should consider the unique needs of families with children.

Wanigasooriya, K., Palimar, P., Naumann, D. N., Ismail, K., Fellows, J. L., Logan, P., Thompson, C. V., Bermingham, H., Beggs, A. D., & Ismail, T. (2021). **Mental health symptoms in a cohort of hospital healthcare workers following the first peak of the COVID-19 pandemic in the UK.** *BJPsych Open, 7*(1), e24, Article e24. doi:10.1192/bjo.2020.150 *Background:* The COVID-19 pandemic is likely to lead to a significant increase in mental health disorders among HCWs. *Aims:* We evaluated the rates of anxiety, depressive and PTSD symptoms in a population of HCWs in the UK. *Method:* An electronic survey was conducted between the 5 June 2020 and 31 July 2020 of all hospital HCWs in the West Midlands, UK, using clinically validated questionnaires: the 4-item Patient Health Questionnaire and the IES-6. 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 2,638 eligible participants who completed the survey (female: 79.5%, median age: 42 years, IQR: 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 (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 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 HCWs 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 HCWs from mental health symptoms.

Wisco, B. E., Marx, B. P., Wolf, E. J., Miller, M. W., Southwick, S. M., & Pietrzak, R. H. (2014). **Posttraumatic stress disorder in the US veteran population: Results from the National Health and Resilience in Veterans Study.** *The Journal of Clinical Psychiatry, 75*(12), 14904. doi:10.4088/JCP.14m09328 *Objective:* To describe the prevalence of PTSD and comorbid psychiatric disorders and identify correlates of PTSD in a contemporary, nationally representative sample of US Veterans. *Method:* Data were analyzed from Wave 1 of the National Health and Resilience in Veterans Study, a cross-sectional, retrospective, web-based survey of a population-based sample of 3,157 US Veterans conducted between October and December 2011. The main outcome measure was probable lifetime PTSD, which was assessed by using a *DSM-IV* version of the PTSD Checklist (PCL), the PCL-specific Stressor version. *Results:* The weighted lifetime and current prevalence of probable PTSD was 8.0% (standard error [SE] = 0.48) and 4.8% (SE = 0.40), respectively. 87.0% of Veterans reported exposure to at least 1 potentially traumatic event (PTE); Veterans reported a mean of 3.4 (SD = 2.8) different PTE types in their lifetime. Sudden death of a loved one was the most frequently endorsed PTE (61.3%), and sexual abuse in adulthood had the highest conditional probability of PTSD (37.3%). PTSD was associated with increased odds of mood, anxiety, and substance use disorders (ORs = 2.2-19.1, *P* values < .001); suicidal ideation (OR = 9.7, *P* < .001); and suicide attempts (OR = 11.8, *P* < .001). Psychosocial factors, including resilience, community integration, and secure attachment, were associated with decreased odds of PTSD (ORs = 0.5-0.7, *P* values < .05). *Conclusions:* In a nationally representative sample of US Veterans, the prevalence of lifetime and current PTSD was 8.0% and 4.8%, respectively, and PTSD was associated with elevated risk for several psychiatric conditions and suicidality. Veterans reported exposure to many PTE types in addition to combat, and conditional risk for PTSD was high for noncombat-related trauma. Prevention and treatment efforts designed to bolster protective psychosocial factors may help mitigate PTSD risk in this population.

Additional Citations

Boserup, B., McKenney, M., & Elkbuli, A. (2020). **Alarming trends in US domestic violence during the COVID-19 pandemic.** *The American Journal of Emergency Medicine, 38*(12) 2753–2755. doi:10.1016/j.ajem.2020.04.077 In this brief comment, the authors present evidence suggesting that stay-at-home orders may have increased domestic violence. Reports from police departments from several counties across the US are presented to illustrate significant increases in calls, reports and arrests related to domestic violence during local stay-at-home orders.

Friedman, M. J. (2013). **Finalizing PTSD in DSM-5: Getting here from there and where to go next.** *Journal of Traumatic Stress, 26*(5), 548–556. doi:10.1002/jts.21840 In this paper, the author describes the context in which changes in diagnostic criteria for PTSD were made from *DSM-IV* to *DSM-5*. The author further presents the process that lead to *DSM-5* Criterion A with the refinement of *DSM-IV* Criterion A_1 and the elimination of Criterion A_2.

Husky, M. M., Pietrzak, R. H., Marx, B. P., & Mazure, C. M. (2021). **Research on posttraumatic stress disorder in the context of the COVID-19 pandemic: A review of methods and implications in general population samples.** *Chronic Stress, 5,* 24705470211051327. doi:10.1177/24705470211051327 This paper reviews 36 studies providing estimates of the prevalence of PTSD in general population samples in relation to the COVID-19 pandemic. The review points to important methodological limitations in such

studies, illustrated by a prevalence of moderate to severe posttraumatic symptoms in relation to the pandemic ranging from 4.6 to 55.3%. For instance, the assessment of PTSD and PTSD symptoms often did not determine trauma exposure as required by *DSM-5* Criterion A to diagnose PTSD. In addition, pre-existing mental disorders and prior exposure to traumatic events or co-occurring stress were often not assessed.

Janiri, D., Carfì, A., Kotzalidis, G. D., Bernabei, R., Landi, F., Sani, G., & Group, G. A. C.-P.-A. C. S. (2021). **Posttraumatic stress disorder in patients after severe COVID-19 infection.** *JAMA Psychiatry, 78*(5), 567–569. doi:10.1001/jamapsychiatry.2021.0109 In this research letter, the authors briefly describe a study assessing PTSD among 381 patients who had presented to the emergency department with severe COVID-19 symptoms and who had subsequently recovered from COVID-19. Using the CAPS-5, the authors determined that 30.2% of the sample met criteria for PTSD.

Janiri, D., Kotzalidis, G. D., & Sani, G. (2021). **Improving the assessment of COVID-19-associated posttraumatic stress disorder-Reply.** *JAMA Psychiatry, 78*(7), 795–796. doi:10.1001/jamapsychiatry.2021.1126 In response to a comment on their study (Marx et al., 2021), the authors provide additional information regarding the manner in which Criterion A was addressed in their study. Specifically, they report that all participants with PTSD reported having directly experienced life-threatening medical symptoms and/or personally witnessed the death of other patients at the emergency department or during hospitalization.

McNally, R. J. (2003). **Progress and controversy in the study of posttraumatic stress disorder.** *Annual Review of Psychology, 54,* 229–252. doi:10.1146/annurev.psych.54.101601.145112 In this review, the author discusses controversies in the field of traumatic stress research. Among others, the author describes how the definition of trauma has evolved over time and further presents ongoing questions raised by the conceptualization of trauma.

Norrholm, S. D., Zalta, A., Zoellner, L., Powers, A., Tull, M. T., Reist, C., Schnurr, P. P., Weathers, F., & Friedman, M. J. (2021). **Does COVID-19 count?: Defining Criterion A trauma for diagnosing PTSD during a global crisis.** *Depression and Anxiety, 38*(9), 882–885. doi:10.1002/da.23209 In this commentary, the authors express that a COVID-19-related event cannot be considered traumatic unless key aspects of *DSM-5*'s PTSD Criterion A have been established for a specific type of COVID-19 event (e.g., acute, life-threatening, and catastrophic). The authors further point to the risks associated with the dilution of Criterion A.

North, C. S., Surís, A. M., & Pollio, D. E. (2021). **A nosological exploration of PTSD and trauma in disaster mental health and implications for the COVID-19 pandemic.** *Behavioral Sciences, 11*(1) 7. doi:10.3390/bs11010007 In this position paper, the authors provide an in-depth nosological consideration of the diagnosis of PTSD and critically examine 3 essential elements (trauma, exposure, and symptomatic response) of this diagnosis, as they apply to the mental health outcomes of the COVID-19 pandemic. The authors contend that *DSM-5* criteria for PTSD are unsatisfying for guiding the response to mental health consequences associated with the pandemic. The authors make suggestions for addressing these issues both conceptually and methodologically.

Piquero, A. R., Jennings, W. G., Jemison, E., Kaukinen, C., & Knaul, F. M. (2021). **Domestic violence during the COVID-19 pandemic - Evidence from a systematic review and meta-analysis.** *Journal of Criminal Justice, 74,* 101806. doi:10.1016/j.jcrimjus.2021.101806 This systematic review and meta-analysis examined 18 studies documenting domestic violence both pre- and post-lockdowns. Results showed that most study estimates were indicative of an increase in domestic violence post-lockdowns. The effects were strongest when only US studies were considered.

Power, K. (2020). **The COVID-19 pandemic has increased the care burden of women and families.** *Sustainability: Science, Practice and Policy, 16*(1), 67–73. doi:10.1080/15487733.2020.1776561 In this policy brief, the author comments on recent work on the care economy in the context of the COVID-19 pandemic. The author underlines the added burden on women and families with lockdowns and school closures.

Shevlin, M., Hyland, P., & Karatzias, T. (2020). **Is posttraumatic stress disorder meaningful in the context of the COVID-19 pandemic? A response to Van Overmeire's commentary on Karatzias et al. (2020).** *Journal of Traumatic Stress, 33*(5), 866–868. doi:10.1002/jts.22592 This is a commentary in response to a comment (Van Overmeire, 2020) made regarding a study documenting 17.7% of probable COVID-19-related PTSD in the general population of Ireland (Karatzias et al., 2020). The authors respond that living through the COVID-19 pandemic would qualify as a traumatic event based on *ICD-11* criteria, though it would not based on *DSM-5* criteria. The authors also conted that direct exposure to the virus would qualify for a traumatic event based on *DSM-5* Criterion A.

Van Overmeire, R. (2020). **The methodological problem of identifying Criterion A traumatic events during the COVID-19 era: A commentary on Karatzias et al. (2020).** *Journal of Traumatic Stress, 33*(5), 864–865. doi:10.1002/jts.22594 In this commentary to a study documenting 17.7% of probable COVID-19-related PTSD in the general population of Ireland (Karatzias et al., 2020), the author raises concern regarding how Criterion A was ascertained. He expresses that one's "COVID-19 experience" does not qualify as a traumatic event. He further proposes that direct virus exposure or COVID-19 infection would qualify.

Weathers, F. W., & Keane, T. M. (2007). **The Criterion A problem revisited: Controversies and challenges in defining and measuring psychological trauma.** *Journal of Traumatic Stress, 20*(2), 107–121. doi:10.1002/jts.20210 In this article, the authors present the controversies associated with the definition and assessment of Criterion A. The authors thoroughly describe how the *DSM* stressor criterion has evolved from *DSM-III* to *DSM-IV* and the related measurement issues.