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## Mental health and the covid-19 pandemic

## New evidence suggests little deterioration in mental health linked to the pandemic

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Whether or not the covid-19 pandemic was responsible for a secondary pandemic of poor mental health is a question posed repeatedly by scientists, the media, and the public. The answer has been elusive, despite a high volume of research—sometimes of inconsistent quality that encourages the cherry picking of findings to match preconceived hypotheses.

The linked systematic review by Sun and colleagues (doi:10.1136/bmj-2022-074224) will help address these issues.<sup>1</sup> The authors included only studies that assessed participants' mental health both before and after the start of the pandemic. This means that the studies were not prone to selection biases related to the pandemic, at least at baseline assessments. The authors included results from an impressive 134 cohorts, mostly from high or upper middle income countries, looking at changes in general mental health, depression, and anxiety.

So, what did we learn? The authors found no evidence in the general (not high risk) population of changes in general mental health, except for a slight deterioration in symptoms of depression. The word "slight" is important here. Sun and colleagues used a metric called the standardised mean difference, or SMD, and found a deterioration in depression symptoms of 0.12 SMD after the onset of the pandemic. Formally, this means a deterioration of 0.12 standard deviations. Cohen, who invented the metric, developed it for randomised trials and estimated that SMD values less than 0.2 indicated a minimal effect, 0.2-0.5 a small effect, 0.5-0.8 a moderate effect, and 0.8 or more a large effect.<sup>2</sup> This may be too simplistic, however, and values between 0.24 and 0.5 have generally been suggested to correspond to a minimal clinically relevant difference for trials in people with depression.<sup>3</sup> Whether these cut-offs can be directly applied to general population studies, such as those in Sun and colleagues' systematic review, is not yet clear.

Interestingly, studies with several follow-up measures during 2020 (during the pandemic) suggested a sort of shock effect on mental health at the beginning of the pandemic, which in most studies stabilised to pre-pandemic levels later in 2020 or 2021.<sup>45</sup> Thus, the timing of assessments during the pandemic might have an influence on findings.

Accounting for period trends is also important: the reported minimal worsening in depression symptoms might have occurred even without the pandemic. Sun and colleagues' study is unable to rule out this possibility as it did not include a control period (for example, repeated measurements at times unrelated to the pandemic). A few individual studies reported increases in depression, anxiety, and psychiatric

hospital admissions that began before the pandemic.  $^{6 \cdot 9}$ 

Some individuals or subgroups might experience larger deteriorations than the population mean. The authors identify women as a vulnerable subgroup for depression, anxiety, and general mental health, although deteriorations were still minimal or small on average. Media attention has often focused on the pandemic's particular impact on young people, but this is not born out by the present study: parameters of anxiety, depression, and general mental health did not deteriorate significantly in young adults, adolescents, or children. Future updates of this systematic review, which the authors will post online as more evidence accrues (https://www.depressd.ca/covid-19-mental-health), could usefully examine other subgroups, such as socially marginalised individuals.

What does Sun and colleagues' review not tell us? First of all, it does not tell us why any deteriorations occurred. Was it the uncertainty of living through a poorly understood infectious disease, or linked to pandemic restrictions such as school and workplace closures, or caused by relatives becoming ill with covid-19, or the risk or experience of losing one's job? Or might these deteriorations have occurred even if the pandemic had not occurred, signifying an underlying, but not covid-19 related, pan-societal problem? Further research is required to help answer these important questions.

Finally, while the present study clearly shows that we need not be overly concerned about the general population's mental health in relation to the covid-19 pandemic, reported prevalence rates of mental health symptoms, especially among adolescents, are still concerningly high.<sup>10-12</sup> Pandemic or not, there is a strong need to provide preventive mental health interventions for those most at risk of poor mental health outcomes.

Further details of The BMJ policy on financial interests is here: https://www.bmj.com/sites/default/files/attachments/resources/2016/03/16current-bmj-education-coi-form.pdf.

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