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Before Gastrointestinal Symptoms in Students Can Be Attributed to Anxiety and Depression during the Lockdown, Alternative Causes Must Be Ruled Out [Letter]

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Dear editor

We read with interest the article by Su et al about a study on the association of anxiety and depression with gastrointestinal symptoms (GIS) in 1327 medical students from two medical universities in Xian before and during the lockdown using an electronic survey.[1] It was found that 34% of students with anxiety and 44% of students with depression suffered from GIS during the lockdown.[1] There was a negative correlation between GIS and lifestyle scores, while before the lockdown this correlation was positive.[1] The study is compelling but raises concerns that should be discussed.

The first point is the design of the study. Electronic questionnaires have the disadvantages that it cannot be ensured that the addressee is actually the one who responds, that the answers actually correspond to the facts or are just made up, that the accuracy of the answers cannot be checked, that missing data cannot be easily completed, and it cannot be checked whether the addressee is mentally capable of answering the questions asked correctly.[2] It appears that the authors retrospectively examined GIS before the lockdown (December 23, 2021) and compared it to data collected between December 5, 2022 and January 15, 2023. Since it is difficult to remember if you had GIS a year ago, even if the lockdown was a memorable period, the accuracy of the cross-sectional design remains questionable. A longitudinal design would be better suited to validate the results of the study.

The second point is that an inappropriate standard was used to screen individuals for depression. Su et al used the PHQ-2 to assess depressive symptoms, with threshold scores of 0–1 indicating no depression, 1–2 indicating a mild depressive tendency, 3–4 indicating a moderate tendency, and 4–6 indicating a severe depressive tendency.[1] However, the PHQ-2 is a 0–3 Likert scale, meaning that only participants who scored 0 on both items would be classified as not depressed, while anyone who scored above 1 on either item would be classified as depressed. This is clearly inappropriate. According to studies on the PHQ-2,[3] a score of 2 is considered a threshold for higher sensitivity and specificity. Therefore, Su et al's categorization of depression could seriously compromise their main findings and could likely render their results unreliable, as their primary analysis was based on a dichotomous variable defined by this threshold.

The third point is that GIS may be due not only to anxiety or depression during the lockdown, but also to many other causes. These include the type, composition, and quantity of food, eating habits, previous psychiatric illnesses, comorbidities, comedications, alcohol consumption, smoking habits, consumption of illicit drugs, or sleep hygiene.[4] Unless these alternative causes of GIS have not been completely ruled out, GIS should not be attributed to anxiety or depression before or during the lockdown.

The fourth point is that the duration of the lockdowns was not reported and whether duration of lockdowns was different in different districts and therefore for the students. Different lockdown durations can significantly influence the results, which is why it is important to correlate the results with this parameter.

The fifth point is that living conditions were not sufficiently taken into account in the assessment.[1] Anxiety and depression can depend greatly on whether the student lives alone, with his/her spouse, with his/her parents, with or without children, or in a dormitory. Unless living conditions are included in the assessment, the results may not be reliable.

A sixth point is that individuals with GIS have not been further investigated for the etiology of GIS. GIS were attributed to anxiety or depression, but alternative causes were not considered. However, these should be excluded through appropriate examinations so as not to overlook gastro-intestinal involvement in neurological diseases, immuno-logical diseases, vascular diseases, infectious diseases, or malignancies.

Furthermore, it was not mentioned how many of the students included had a SARS-CoV-2 vaccination (SC2V) and how many were unvaccinated and how many had recently suffered a SARS-CoV-2 infection (SC2I). Since SC2I and SC2V can be complicated by GIS,[5] or degrade existing GIS, it would have been imperative to exclude students whose GIS was temporally linked to a previous SC2I or SC2V.

It was also not considered that anxiety and depression may be due not only to the lockdown but also to other causes. Particularly in patients with anxiety or depression that occurred before the lockdown, causes other than the lockdown are plausible. In these patients, anxiety and depression could be a reflexion of a more complex psychiatric disease.

In conclusion, this interesting study has limitations that put the results and their interpretation into perspective. Removing these limitations could strengthen the conclusions and reinforce the study's message. Before GIS can be attributed to anxiety or depression before or during the lockdown, alternative causes must be sufficiently ruled out. Likewise, causes of anxiety and depression other than the lockdown must be excluded.

Disclosure

The author reports no conflicts of interest in this communication.

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