Impact of COVID-19 Pandemic on Mental Health of General Population and University Students Across the World: A Review

Authors:
Shweta Singh, Ph.D Scholar, Department of Anthropology, University of Delhi, Delhi-110007,
Neelam Singh, Ph.D Scholar, Department of Anthropology, University of Delhi, Delhi-110007,
Rajeet Ahiwar, Ph.D Scholar, Department of Anthropology, University of Delhi, Delhi-110007,
Surendra Kumar Sagar, Associate Professor, Swami Shraddhanand College, University of Delhi, Delhi-110086,
Prakash Ranjan Mondal, Professor, Department of Anthropology, University of Delhi, Delhi-110007.

Address for Correspondence
Prakash Ranjan Mondal,
Professor,
Department of Anthropology,
University of Delhi,
Delhi-110007
E-mail: prmondal1@rediffmail.com.

Citation
Submitted: May 19, 2021; Accepted: Aug 2, 2021; Published: Aug 25, 2021

Abstract: Background: With the outbreak of COVID-19 pandemic across the world, people have suffered an unexpected setback to their mental health. As psychological support is being provided to patients and healthcare workers, the general population and university students go unnoticed. This review aims to present existing literature that reports the effects of COVID-19 on psychological outcomes of the general population and university students in different countries. Methods: A manual search was conducted on PubMed, Google Scholar and Mendeley from inception to 31st January 2021. Articles were selected based on the predetermined eligibility criteria. Results: During COVID-19 pandemic, relatively high rates of depression (4.5% to 72.3%), anxiety (12.7% to 85.7%) and stress (5% to 90.1%) were reported in the general population as well as in university students, depression (3% to 70.5%), anxiety (9% to 63.3%) and stress (61.5% to 25%) in India, Nepal, Pakistan, China, Spain, US, UK, France, Egypt, Ethiopia, Bangladesh, Nigeria and Saudi Arabia. Risk factors associated include female gender, younger age group (<40 years), unemployment, student status, and frequent exposure to social media/news concerning COVID-19. Conclusions: The COVID-19 pandemic is associated with highly significant levels of psychological disorders such as depression, anxiety and stress. Alleviating the hazardous effects of COVID-19 on mental health should be given due attention internationally.

Key Words: COVID-19, General population, University students, Anxiety, Depression, Stress

Introduction: The World Health Organization officially designated novel coronavirus disease as COVID-19 as it has reached the level of a pandemic, affecting countries across the world. By 1st February 2021, over 10.5 million confirmed cases attributable to this disease have been reported. (1) In the wake of this global health crisis, stringent public health measures essential to halt transmission of the virus have been implemented to curtail the spread of COVID-19. This has led to physical isolation, closure of schools, colleges and offices limiting the necessary human interaction. Any pandemic brings with itself a major setback in the mental health front. The resulting uncertainties and fears associated with the COVID-19 virus outbreak, along with mass lockdowns and economic recession can lead to increases in suicide as well as associated mental disorders. (2) As was seen in the case of the Ebola outbreak in 2014, symptoms of Post-Traumatic Stress Disorder (PTSD) and anxiety-depression were more prevalent even after 1 year of Ebola response. (3) The risk of PTSD in the aftermath of the pandemic can, therefore, be a huge challenge to the mental health system of the country. (4) Similarly, the widespread outbreak of COVID-19 is associated with mental health issues focusing on health workers, patients, children, students and the general population (5-6).

A recent review of the virus outbreak documented certain stressors such as infection fears, frustration, boredom, inadequate supplies, financial loss, job loss, insecurities, and disruption of work progress in the general population. (7) Elevated levels of stress, anxiety and depressive symptoms among general population samples in North America and Europe were found. (8) A similar trend was also reported in the USA, India, France, Germany, and Italy. (9) While in university students, additional stressors were reported such as hindering studies, halting research, disruptions in starting classes and taking exams online, feelings of hopelessness and others. (10) High level of psychological distress (51%) was reported among university students of the United Arab Emirates (UAE). (11) Similar trends were reported in Asia, Africa, United Kingdom (UK) and North America in terms of depression, anxiety and stress. (12-15)
Existing literature mostly talks about the impact of COVID-19 on mental health among the general population and university students separately. Keeping this in view, the objective was to provide a comparative review among these groups from countries across the world for better understanding of how different levels of depression, anxiety, stress, and psychological distress can arise in different environmental settings.

Materials and Methods

The literature review was performed during the months of January and February, 2021 using electronic search engines such as: PubMed, Mendeley and Google Scholar. Selection of articles was only related to the current COVID-19 pandemic and how it has affected the mental health of University students and the general population, all around the world. The following keywords were used: “COVID-19”, “Mental health”, “Depression”, “Anxiety”, “Stress”, “Psychological distress”, “University/College students” and “general population”. After this first search, taking into account the works published in both 2020 and 2021, a more thorough search was then carried out, leaving a final sample of 31 scientific papers as shown in Figure 1.

Inclusion and Exclusion criteria: The criteria that were established for the selection of research papers are discussed in Table 1.

### Table 1: Inclusion and Exclusion criteria

<table>
<thead>
<tr>
<th>PICOS acronym</th>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>P- Population</td>
<td>Adults, University/college going students, Both sexes, Age &gt; 18 years old, any country.</td>
<td>Children, adolescents, pregnant women, mental health patients</td>
</tr>
<tr>
<td>I- Intervention/ Exposure</td>
<td>Covid-19 outbreak</td>
<td>Other previous pandemics as well as studies that analyzed mental and behavioral disorders due to the use of alcohol, drugs and other causes.</td>
</tr>
<tr>
<td>C- Comparison</td>
<td>Studies on university students as well as general population of the same country</td>
<td>Other studies defying inclusion criteria</td>
</tr>
<tr>
<td>O- Outcome</td>
<td>Prevalence of mental health problems (Depression, anxiety, stress, distress)</td>
<td>Studies that report prevalence and severity of symptoms of young people and adults who have had mental problems by other causes.</td>
</tr>
<tr>
<td>S- Study design</td>
<td>Cross-sectional</td>
<td>RCT, NRCT, qualitative studies.</td>
</tr>
<tr>
<td>RCT (Randomized control trials), NRCT (Non-random control trials)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Search strategy

The search process was completed following a flow chart given in Figure 1.

### Figure 1: Study selection flow diagram

#### Results

**Study characteristics**

Study characteristics and primary study findings are summarized in Table 2. In all, 31 studies met the inclusion criteria out of which, 17 were university students and the remaining 14 in the general population. The studies were conducted in 14 different countries (Bangladesh, China, Egypt, Ethiopia, France, India, Nepal, Nigeria, Pakistan, Saudi Arabia, Spain, UAE, United States (US) and UK), including one or more studies on general population and university students from each country. The sample size of the studies on university students ranged from 121 to 7,46,217 participants while that of the general population was 112 to 5470. Only 2 studies followed longitudinal study design, whereas others were cross sectional studies. The primary outcomes chosen for this review varied across studies.

**Measurement tools**

A variety of scales were used in the included studies for assessing depression, anxiety and stress/distress. The Patient Health Questionnaire-9/4/8/1 (PHQ-9/4/8/1) was used to measure depressive symptoms. (16) General Anxiety Disorder-7 (GAD-7) and Corona-virus anxiety Scale (CAS) was used for evaluation of anxiety. (17-18) Perceived Stress Scale (FSS) and Perceived Stress Questionnaire (PSQ) were used to evaluate symptoms of stress. (19-20) Depression Anxiety and Stress Scale-21 (DASS-21) was used for the evaluation of depression, anxiety, and stress symptoms (DAS). (21) Symptoms of PTSD were assessed by The Impact of Event Scale-(Revised) (IES-(R)) and International Classification of Disease-11 Post-traumatic Stress Disorder (ICD-11 PTSD). (22-23) The General Health Questionnaire (GHQ-12) and Hospital Anxiety and Depression Scale (HADS) were used for assessing anxiety and depressive symptoms. (24-25) Psychological distress was measured by the Kessler Psychological Distress Scale (K6/10). (26)
Table 2: Prevalence of mental health status among general population and university students of different countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Authors</th>
<th>Study Design</th>
<th>Study tools</th>
<th>Population</th>
<th>Sample size</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Islam et al., 2020. (12)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>University students</td>
<td>3122</td>
<td>76.1% -35.2% mild to severe depression, 71.5% - 40.3% mild to severe anxiety, 70.1% - 37.5% mild to severe stress</td>
</tr>
<tr>
<td></td>
<td>Al Banna et al., 2020. (30)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>General Population</td>
<td>1427</td>
<td>59.7% stress, 57.9% depression, 33.7% anxiety.</td>
</tr>
<tr>
<td>China</td>
<td>Ma et al., 2020. (45)</td>
<td>Cross sectional online survey</td>
<td>GAD-7, PHQ-9, IES-6</td>
<td>University students</td>
<td>746217</td>
<td>21.1% depression, 11% anxiety, stress 34.9%</td>
</tr>
<tr>
<td></td>
<td>Wang et al., 2020. (34)</td>
<td>Cross sectional online survey</td>
<td>DASS-21, IES-R</td>
<td>General Population</td>
<td>1120</td>
<td>24.5% minimal distress, 21.7% mild distress, 53.8% moderate or severe distress, 13.8% - 4.3% mild to extremely severe depression, 7.5% - 8.4% mild to extremely severe anxiety, 24.1% - 2.6% mild to extremely severe stress</td>
</tr>
<tr>
<td>Egypt</td>
<td>Ghazawy et al., 2020. (13)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>University students</td>
<td>1335</td>
<td>70.5% depression, 53.6% anxiety, 47.8% stress</td>
</tr>
<tr>
<td></td>
<td>Arafa et al., 2020. (28)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>General Population</td>
<td>1629</td>
<td>67.1% -22.5 % mild to very severe depression, 53.5% -22.9% mild to very severe stress, 48.8% -15% mild to very severe anxiety.</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Aylie et al., 2020. (46)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>University students</td>
<td>420</td>
<td>36% anxiety, 12.4% depression, 18% stress</td>
</tr>
<tr>
<td></td>
<td>Kassaw C, 2020. (33)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>General Population</td>
<td>8004</td>
<td>43% depression, 39.19 anxiety, 42.94% distress</td>
</tr>
<tr>
<td>France</td>
<td>Essadek &amp; Babeyron, 2020. (42)</td>
<td>Cross sectional online survey</td>
<td>PHQ-9, GAD-7, IES-R</td>
<td>University students</td>
<td>131</td>
<td>68.7%- 9% mild to severe anxiety, 61% -3% mild to severe depression</td>
</tr>
<tr>
<td></td>
<td>Hummel et al., 2020. (29)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>General Population</td>
<td>609</td>
<td>57.69% depression, 48.08% anxiety, 51.92% stress</td>
</tr>
<tr>
<td></td>
<td>Verma K, 2020. (43)</td>
<td>Cross sectional online survey</td>
<td>GAD-7, PHQ-9</td>
<td>University students</td>
<td>502</td>
<td>51% -49% moderate to severe anxiety,13.1%-4.5% moderate to severe depression, 25% stress</td>
</tr>
<tr>
<td>India</td>
<td>Chhetri et al., 2020. (51)</td>
<td>Cross sectional online survey</td>
<td>PSS</td>
<td>University students</td>
<td>411</td>
<td>45%-6% mild to severe stress</td>
</tr>
<tr>
<td></td>
<td>Gopar et al., 2020. (38)</td>
<td>Longitudinal online survey</td>
<td>PHQ-4, GAD-7</td>
<td>General Population</td>
<td>159</td>
<td>70.8%-10.4% mild to severe anxiety, 27%-24% intermediate to high stress, 26.1% depression</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Ojewale, 2020. (47)</td>
<td>Cross sectional online survey</td>
<td>HAD</td>
<td>University students</td>
<td>386</td>
<td>31.9% depression, 41.5% anxiety</td>
</tr>
<tr>
<td></td>
<td>Idowu et al., 2020. (50)</td>
<td>Cross sectional online survey</td>
<td>GHQ-12</td>
<td>University students</td>
<td>1010</td>
<td>31.38% psychological distress</td>
</tr>
<tr>
<td></td>
<td>Olaseni et al., 2020. (31)</td>
<td>Cross sectional online survey</td>
<td>GAD-7, PHQ-9</td>
<td>General Population</td>
<td>618</td>
<td>14% anxiety, 7% depression, 5% stress.</td>
</tr>
<tr>
<td></td>
<td>Karmacharya et al., 2020. (48)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>University students</td>
<td>517</td>
<td>30.36% depression, 28.62% anxiety and 20.69% stress</td>
</tr>
<tr>
<td></td>
<td>Devkota et al., 2020. (32)</td>
<td>Cross sectional Interview</td>
<td>DASS-21</td>
<td>General Population</td>
<td>618</td>
<td>21% -10.4% moderate to severe depression, 19.8%-13.7% moderate to severe anxiety</td>
</tr>
<tr>
<td></td>
<td>Salman et al., 2020. (44)</td>
<td>Cross sectional online survey</td>
<td>GAD-7, PHQ-9</td>
<td>University students</td>
<td>983</td>
<td>21%-10.4% moderate to severe depression, 19.8%-13.7% moderate to severe anxiety</td>
</tr>
<tr>
<td></td>
<td>Raja et al., 2020. (49)</td>
<td>Cross sectional online survey</td>
<td>GAD-7, PHQ-9</td>
<td>University students</td>
<td>983</td>
<td>21%-10.4% moderate to severe depression, 19.8%-13.7% moderate to severe anxiety</td>
</tr>
<tr>
<td></td>
<td>Osamet-Etebaria et al., 2020. (35)</td>
<td>Longitudinal online survey</td>
<td>DASS-21</td>
<td>General Population</td>
<td>2530</td>
<td>48.1% depression, 35.18% anxiety, 40.32% stress, 50.43% psychological impact</td>
</tr>
<tr>
<td></td>
<td>Al Omari et al., 2020. (41)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>University students</td>
<td>121</td>
<td>48% depression, 33.1% anxiety, 30.6% stress.</td>
</tr>
<tr>
<td></td>
<td>Alami et al., 2020. (39)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>General Population</td>
<td>1597</td>
<td>28.9% depression, 16.4% anxiety, 17.7% stress.</td>
</tr>
<tr>
<td></td>
<td>Odonozuela-Gonzalez et al., 2020. (40)</td>
<td>Cross sectional online survey</td>
<td>DASS-21</td>
<td>University students</td>
<td>2530</td>
<td>48.1% depression, 35.18% anxiety, 40.32% stress, 50.43% psychological impact</td>
</tr>
<tr>
<td></td>
<td>Saravan et al., 2020. (11)</td>
<td>Cross sectional online survey</td>
<td>CAS, K-6</td>
<td>University students</td>
<td>377</td>
<td>15.9% anxiety, 51% psychological distress.</td>
</tr>
<tr>
<td></td>
<td>Thomas et al., 2020. (74)</td>
<td>Cross sectional online survey</td>
<td>GAD-7, PHQ-8</td>
<td>General Population</td>
<td>1039</td>
<td>58.4% depression, 55.7% anxiety.</td>
</tr>
<tr>
<td></td>
<td>Aiyer et al., 2020. (15)</td>
<td>Cross sectional online survey</td>
<td>PHQ-4, PSS-4</td>
<td>University students</td>
<td>369</td>
<td>34.2% depression, 31.7% anxiety, 48.4% stress.</td>
</tr>
<tr>
<td></td>
<td>Czerski et al., 2020. (37)</td>
<td>Cross sectional online survey</td>
<td>PHQ-4, IES-6</td>
<td>General Population</td>
<td>5470</td>
<td>24.3% depression, 25.5% anxiety and 26.3% stress.</td>
</tr>
<tr>
<td></td>
<td>Van Der Felti-Cornelis et al., 2020. (14)</td>
<td>Cross sectional online survey</td>
<td>GAD-7, PSQ, PHQ-9</td>
<td>University students</td>
<td>927</td>
<td>46.5% depression, 37.2% anxiety and 61.5% stress.</td>
</tr>
<tr>
<td></td>
<td>Shevilin et al., 2020. (36)</td>
<td>Online questionnaire</td>
<td>GHQ-12, IES-9</td>
<td>General Population</td>
<td>2019</td>
<td>22.1% depression, 21.6% anxiety and 16.79% stress.</td>
</tr>
</tbody>
</table>

Prevalence of depression during COVID-19 pandemic

Among general population, the prevalence of depression was high in Pakistan (85.7%), succeeded by Egypt (53.5%), Nigeria (49%) and France (48.08%) while it was low in India (12.7%) and Saudi Arabia (16.4%). (49,13,29,38) Moderate prevalence was reported in Ethiopia (36%), Bangladesh (33.7%), China (28.8%), Spain (26.02%), US (25.5%) and UK (21.6%). (30,32)

Among university students, prevalence of depression was highest in Pakistan (70.5%), followed by Bangladesh (62.9%), Spain (48.1%), Saudi Arabia (48%), UK (46.5%) and France (43%) while it was low in India (3%) and Pakistan (10.4%). (12,14,40-44) Moderate prevalence was reported in China (21.1%), Ethiopia (21.3%), Nigeria (31.8%), Nepal (30.36%) and the US (34.2%). (15,45-48)

The prevalence of depression was reported to be similar between both the general population and university students in Bangladesh and Egypt but in India, Nigeria, Nepal, Pakistan, US and UK significant differences were found as shown in figure 2.

Figure 2: Prevalence of depression during COVID-19 pandemic in general population and university students in different countries.

Prevalence of anxiety during COVID-19 pandemic

Among general population, prevalence of anxiety was highest in Pakistan (72.3%), succeeded by Egypt (67.1%), France (57.69%) and Bangladesh (57.9%), while it was low in Nigeria (4.5%), Nepal (7%), Ethiopia (12.4%), China (16.5%) and Spain (18.85%). (27-35) Moderate prevalence was reported in the UK (22.1%), US (24.3%), India (26.1%) and Saudi Arabia (28.9%). (36-39)

Among university students, the prevalence of depression was high in Egypt (70.5%), followed by Bangladesh (62.9%), Spain (48.1%), Saudi Arabia (48%), UK (46.5%) and France (43%) while it was low in India (3%) and Pakistan (10.4%). (12,14,40-44) Moderate prevalence was reported in China (21.1%), Ethiopia (21.3%), Nigeria (31.8%), Nepal (30.36%) and the US (34.2%). (15,45-48)

The prevalence of depression was reported to be similar between both the general population and university students in Bangladesh and Egypt but in India, Nigeria, Nepal, Pakistan, US and UK significant differences were found as shown in figure 2.

Figure 3: Prevalence of anxiety during COVID-19 pandemic in general population and university students in different countries.

Prevalence of stress during COVID-19 pandemic

Among general population, prevalence of stress was high in Pakistan (71.6%), succeeded by Bangladesh (59.7%), France (51.92%), Egypt (48.8%) while it was low in Nepal (5%) and Ethiopia (10.4%). (21.1%) Moderate stress was reported in the Bangladesh (30.6%), Nepal (28.62%) and India (25%). (41,45,46,48,50,51)

The prevalence of stress was reported to be similar among general population in Bangladesh, Egypt, France, India and Nigeria, but in Pakistan, China, Nepal, US and UK significant differences were found as shown in figure 4.

Figure 4: Prevalence of stress during COVID-19 pandemic in the general population and university students in different countries.

Discussion

Globally, Impact of the COVID-19 pandemic on mental health among general population

The spread of COVID-19 has affected all the population groups across the globe on multiple levels. A hidden impact of COVID-19 pandemic on the psychological well-being of the general population has now widely come to light. Our findings indicate that COVID-19 pandemic was associated with increased mental health issues, though the prevalence of depression varied widely from being highest in Pakistan (72.3%) to lowest in Nigeria (4.5%). (27,31) Several factors were found to be associated with the reported symptoms of depression. Higher levels of depressive symptoms were observed in females, which was found to be consistent with other findings. (52-54) A pooled result of five recent studies showed a depression prevalence of 20.3% among men and 26.9% among women. (55) Also, those with the lowest level of education have the highest rates of increased depression symptoms during the pandemic, which is similar to results from a study in China. (30,54) Other studies have found no significant differences in the mental health of participants with different educational backgrounds. (56,57) Reports also suggested that poor economic status, lower education level, and unemployment are significant risk factors for developing symptoms of mental disorders, especially depressive symptoms during the pandemic period. (53,58-60)

Different mental health conditions are disproportionately affecting specific populations. The prevalence of anxiety during COVID-19 pandemic varies among different countries. In the presented literature, the prevalence of anxiety was reported to be highest in Pakistan (85.7%) and lowest in India (12.7%). (27,38) Several factors can be attributed to varying prevalence of anxiety in the general population. There exists extensive previous epidemiological research placing women at higher risk for experiencing anxiety symptoms. (2) However, few studies reported the opposite relationship between stress and gender. (36,61) Also, pooled results of six studies showed an anxiety prevalence of 20.9% among men and 29.1% among women. (55) The rate of anxiety symptoms among widows is higher than that of married or single individuals. (62) Those in...
the older age group (40 years and older) reported a high rate of anxiety symptoms. (30) This finding may be attributed to anxieties regarding the higher COVID-19 death rate among older individuals. (62) Several studies identified frequent exposure to social media/news relating to COVID-19 as a cause of anxiety and stress symptoms. (58,63)

Stress and distress symptoms were assessed in all the studies, with a noticeable variation in the prevalence of stress symptoms ranging from 90.1% in Pakistan to 5% in Nepal. (27,32) Another study states that younger age groups and females are more likely to develop psychological distress. (34) Other predictive factors included being migrant workers, profound regional severity of the outbreak and unmarried status. (34,64) In terms of education, graduate students experienced high levels of stress more so than those in undergraduate or higher secondary. (32)

From the literature reviewed for the present study, it was reported that the symptoms of DAS vary across the world. The discrepancies may be attributable to developed socioeconomic and healthcare systems. DAS symptoms were reportedly high in Pakistan, Egypt, France and Bangladesh in the general population.

Globally, the COVID-19 pandemic has dramatically disrupted daily life on a global scale and has had a significant impact on mental health. (20) The COVID-19 pandemic represents an inevitable threat to mental health regardless of age, gender and socio-economic status. Therefore, mental health is needed to be taken into consideration at multiple levels – in the general population, among university students, healthcare workers, and in other vulnerable populations. In addition to efforts to curb viral transmission, priority needs to be given to the prevention of mental disorders. As the number of cases increase, psychiatric professionals need to identify and address the situation and produce efforts to stabilize the situation.

The review of existing literature showed the wide variation in the prevalence of DAS among university/college students of different countries around the globe. High prevalence owing to varying factors were reported in Egypt, Bangladesh and Spain. Early researches exploring the mental health consequences of COVID-19 across populations in other nations support this view. (74)

Conclusion

This review examined the psychological status of the general public as well as university students during the COVID-19 pandemic in different countries and associated factors. A high to moderate prevalence of DAS symptoms were reported in most studies. Overall, the COVID-19 pandemic represents an inevitable threat to mental health regardless of age, gender and socio-economic status. Therefore, mental health is needed to be taken into consideration at multiple levels – in the general population, among university students, healthcare workers, and in other vulnerable populations. In addition to efforts to curb viral transmission, priority needs to be given to the prevention of mental disorders. As the number of cases increase, psychiatric professionals need to identify and address the situation and produce efforts to stabilize the situation.

Further research to assess the impact of this pandemic on mental health in other countries, especially other vulnerable populations, such as children and adolescents, those in remote or rural areas, and those belonging to lower socio-economic class can unearth the hidden severity of pandemic. Government policies and actions are needed to investigate and alleviate the menace of mental health.

Strengths

Our paper is the first review that examines and summarizes existing literature with relevance to the psychological health of the general population and university students across the world during the COVID-19 pandemic. The study examines the prevalence of each psychological outcome (DAS) across studies. The study also makes an effort to highlight the important associated risk factors and provide suggestions for addressing the issue at hand.

Limitations

Certain limitations apply to this review. Firstly, the description of the study findings was qualitative and narrative. All studies were conducted via online questionnaires independently by the study participants, which can cause variability in terms of self-assessment of a symptom. Also, poor internet accessibility was likely not included in the studies, creating a selection bias in the population studied. Another concern is different assessment tools used in all the studies, which can generate the outcomes that are difficult to compare.

Funding: Faculty Research Programme Grant IoE: Institute of Eminence, Ref no.: IoE/FRP/PCMS/2020/27

Acknowledgments

We acknowledge the other authors who have already published the studies on the concerned topic. We thank University of Delhi through Institute of Eminence, for the funding.

References


Mahase E. Covid-19: death rate is 0.66% and increases with age, study estimates. *BMJ: British Medical Journal (Online)*. 2020 Apr 1;369. https://doi.org/10.1136/bmj.m1327


