

# A Rapid Systematic Review: Effects of COVID-19 on Mental Health and Well-Being of the University Students

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## Abstract

## Original Research Article

**Introduction:** The impact of coronavirus disease 2019 (COVID-19) among the University students as a vulnerable population is essential to be highlighted. This study aimed to identify the effects of Covid-19 on mental health and well-being of the university students. **Methods:** A rapid systematic review was used to explore all the available and reliable sources from three main databases and grey literature sources in April and May 2022. It included all studies about mental health related problems among university students delivered in response to the COVID-19 pandemic. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart was used. Scopus list April 2022 of published journals was also viewed to verify the validity of literature. **Results:** A total of 4773 articles were retrieved from three databases through BMC, PMC and Science Direct and 50 articles from other sources. Among them, 32 studies were chosen for review after excluding the articles which were not directly related, non-full text, non-Scopus, and duplicates. **Conclusion:** Three major themes focused on university students: (a) factors involved in psychological impact and well-being of the students, (b) prevalence of mental health issues during Covid-19 pandemic, and (c) Coping strategies in dealing with the effects of Covid-19 were developed. The findings from the study are expected to provide a source of knowledge sharing and improving strategies for the students, educators, counsellors, management, and the policy makers.

**Keywords:** COVID-19, Psychological impact, Mental health and Well-being, Coping Strategies.

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## INTRODUCTION

In March 2020, World Health Organization (WHO) declared Covid-19 as a global pandemic due to its widespread nature and consequences (WHO: Regional Office for Europe, 2020a) [1]. The pandemic causes a major impact to people across the world affecting many perspectives of their life. On May 2022, the World Health Organization (WHO, 2022) [2] stated the latest issue that 9.49 million more deaths than globally reported as directly attributable to COVID-19 in terms of the global excess mortality associated with COVID-19 with 14.91 million in two years (January 2020 to December 2021). Apart from death threat due to the COVID-19 pandemic, millions of people globally are affected in their physical, emotional, psychological, financial, and social well-being.

In response to Covid-19, the lockdown or quarantine measure was introduced to restrict the movement of people who have the risk or have potential exposure to a communicable disease (Brooks *et al.*, 2020) [3] highlighted the negative psychological effects

of it as post-traumatic stress symptoms, loneliness, confusion, anger, fears of infection, frustration, depression, insomnia, boredom, inadequate supplies and information, financial loss, and stigma. (Van Orden *et al.*, 2010) [4] mentioned that lack of social connections and loneliness usually tend to have suicidal ideation and higher risk of suicide (Raheema & Omar, 2020) [5]. Study explored the economic, social, and psychological impact of Covid-19 and possible mechanisms on prevention of suicidal ideations.

Moreover, mental health and psychological responses of the university students have been discussed broadly and research have been conducted in this area. A review study by Sweileh, (2021) [6], highlighted the mental health aspect of University students in which 309 retrieved articles included 42.7% on stress/ distress, 30.7% on anxiety, and 19.7% on depression. However, there are few studies overviewing the research findings of the impact of Covid-19 on mental health and well-being of university students as a vulnerable population.

Covid-19 causes an intense amount of pressure and stress among the students due to the negative impact of it in many aspects of their life. Ro, Rodriguez, & Enriquez, (2021) [7] stated that depression, anxiety, suicidal ideation, and substance use has increased among the college students from their findings from national samples after the start of the Covid-19 pandemic. In addition, Lee *et al.*, (2021) [8] study on final year students going to be graduated soon faced 50% increases in anxiety, loneliness, and depression while many of them felt worries for the health of loved ones (20.0%), the need to take care of family's current and future plans (31.8%), and one-half of them took to exercising and physical activity to take care of their mental health (46.7%). Thus, the psychological responses and mental health effect of Covid-19 of the students and enhancing their well-being should not be neglected since education is one of the important social institutions of the society.

Furthermore, when the pandemic struck and the cases start to arise, many college and university students were told to leave the campus and stay at home during lock down measures, except few students who are not able to go back home for some reasons. The lockdown or restriction of movement may highly impact the student's mental health and well-being, and the consequences of it are expected to follow. In addition, the online teaching is introduced to the students as a new strategy in order not to delay their learning process. All the assessments are done online regardless of their physical distances from the campus. It causes the fear of students about quality of online learning (Lestari *et al.*, 2022) [9] and worry for delay graduation (Cockburn *et al.*, 2022) [10].

The students' life challenges was associated with poorer mental health and hence a target for interventions is required to improve mental health and self-rated health among university students (Porru *et al.*, 2022) [11]. Kamaludin *et al.*, (2020) [12] stated the possible long-term psychological impact of the pandemic on the students and proposed suggestions to address their mental health issues. AL-Husban *et al.*, (2021) [13] study suggested to explore the mental health effects of the pandemic on students by identifying subgroups with additional stressors, by the requirements related to anxiety and ways to minimize these negative effects. Moreover, Amani & Cho Cho Zaw (2022) [14] study highlighted the significant association between the psychological impact of Covid-19 with the students' academic performance [suggested the academic and management to address the issues. Thus, the emotional responses of the university students to the pandemic, as well as their perception on the effectiveness of education are worth to be examined. Thus, this paper aims to explore the effect of Covid-19,

mental health, and well-being of the university students and hoped to enhance their well-being after obtaining awareness and understanding in the area.

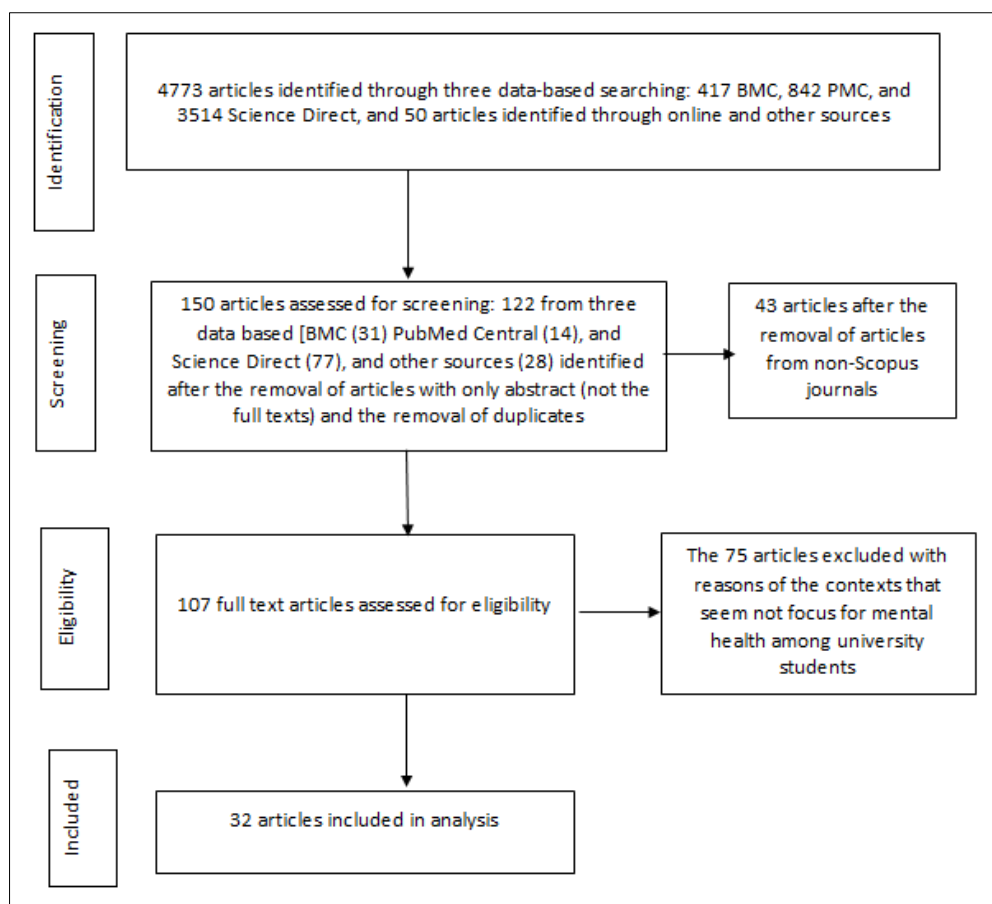
## METHODOLOGY

The rapid systematic review was used as a qualitative methodology by reviewing the previous studies related with the area (including quantitative, qualitative, and mixed method) of the researchers throughout the world. The words "the effect of Covid-19 to the university students", "mental health impact of Covid-19 among the university students" were typed and searched online. The available sources from three main databases and grey literature sources were identified during the month of April, May, and June 2022. Scopus list April 2022 of published journals was also viewed to verify the validity of literature.

The studies regarding mental health related problems among university students delivered in response to the COVID-19 pandemic were explored. The retrieved data was analysed systematically and categorized as the themes. In addition, the findings were discussed, and the recommendations were done. All database articles and literature identified from the online sources were organized with Mendeley and the flow of literature review process for this study was shown in PRISMA flow diagram (Figure 1).

## FINDINGS AND DISCUSSIONS

A total of 4773 articles were retrieved and identified from three main databases through 417 BMC: Biomedical Centre, 842 PMC: Ped Med Central, 3514 Science Direct and 50 additional papers were extracted from other sources. 150 full text articles among them, 122 articles from 52 Scopus journals and 28 articles from other sources were screened (details in Figure 1) after removing the duplicates and the articles with only abstract. Then, 107 titles with full texts were assessed for eligibility after removal of 43 articles of non-Scopus journals. Finally, 32 out of 107 full-text articles among them were included for analysis after 75 articles excluded with the reason of the contexts that seem not or less focus on mental health of university students. Among the final 32 articles on effects of Covid-19 among university students in different countries, 14 studies were conducted in America and European countries which included United States 5 [19, 29, 38, 42, 45], Britain/UK 1 [33], Germany 1 [35], Italy 1 [31], France 1 [43], Poland 1 [24], Canada 3 [23, 36, 37], Cuba 1 [41], and 18 studies were from Asian and Middle-eastern countries such as China 7 [15, 16, 18, 25, 32, 34, 40], Malaysia 1 [12], Bangladesh 6 [17, 20, 21, 22, 26, 27], Pakistan 1 [39], Iran 1 [43], Egypt 1 [28], and Saudi Arabia 1 [30].



**Figure 1: PRISMA flow diagram of literature review process for this study**

### (a) Factors Involved in Psychological Impact and Well-Being of the Students

It was observed that many factors contributed to the psychological impact and well-being of the university students in dealing with Covid-19. These factors included gender, educational level, drinking habit, individual and family psychiatric disorders, knowledge of COVID-19, fear of being infected, and participating in mental health education on COVID-19 (Liu *et al.*, 2021b) [15]. The risk factors for depressive symptoms include abnormal sleeping, family members' going out, perceived stress for online education, influence on social interaction and higher grade (Yu, Tian, Cui, & Wu, 2021) [16], being the young, female, who smoke and have diseases and insomnia symptoms, and higher scores on the Fear COVID-19 Scale (Mamun, Sakib, Gozal, & Israfil, 2021) [17].

Additional factors included were students' stress concerning their health, difficulty to concentrate, changing sleep patterns, reduced on-campus jobs and income, technology gaps, limited study space at home, increased family obligations, and psychological distress (Ro *et al.*, 2021) [7]. These factors contributed to poorer mental health if feelings of stigma, shame, or guilt develop. A study conducted in China mentioned that the vast amount of stress is related with Covid-19 and about

one-third of their participants were having psychological distress (Qiu *et al.*, 2020) [18]. In regard to the effect of Covid-19 among the students, one study in US examine the effects of pandemic on the well-being of students (n=148) stated that the more mood disorder symptoms, perceived stress, and alcohol use are seen among due to the pandemic compared to the pre-pandemic participants (Charles *et al.*, 2021) [19].

A survey of Islam *et al.*, (2020) [20] conducted among the 3,122 Bangladeshi university students aged 18 to 29 years revealed the significant higher level of psychological responses were seen among the students compared to pre- Covid-19 situations in which having more than 70% in all three factors (depression, anxiety and stress). A study of Dhar *et al.*, (2020) [21] on the psychological impact of the COVID-19 pandemic among 15543 university students highlighted the positive correlation with the level of anxiety and revealed the epidemic-related stressors and university students' anxiety as the worry of economic influences and their daily life. Their study concluded that academic delays due to COVID-19 and the social support during COVID-19 have moderately and positively correlated with the level of anxiety. Another study (Akhtarul *et al.*, 2020) [22] from Bangladesh discovered that the students' higher level of depression

and anxiety with 15% of moderately severe depression and 18.1% severe anxiety.

Kamaludin *et al.*, (2020) [12] stated the possible long-term psychological impact of the pandemic on the students and proposed suggestions to address their mental health issues. However, a study by Hamza, *et al.*, (2021) [23] examined in 733 University students in Canada indicated that the students with non-pre-existing mental health issues experienced more psychological distress due to Covid 19 pandemic compared to those with prior mental health concerns.

### **(b) Prevalence of Mental Health Issues Due to Covid-19**

The prevalence of people at high risk of anxiety and perceived stress, poorer physical health, and low life satisfaction changed significantly across three waves of the COVID-19 pandemic. The results of Rogowska *et al.*, (2021) [24] showed that both wave (Wave1<2<3) and gender (men<women) had a significant impact on the level of anxiety. The study of Tao *et al.*, (2021) [25] also indicated that high risk of GAD - Generalized Anxiety Disorder was two times more frequently among women and three times among people who subjectively assessed their health as poor while the prevalence of depression and anxiety were significantly higher in students with single CRA: circadian rhythm abnormalities.

The prevalence of depressive symptoms among college students was 56.8%. (Yu *et al.*, 2021) [16]. Females, students, unmarried, and 18–30-year-olds were in more vulnerable positions in terms of their mental health and these findings would be helpful to assess and formulate psychological interventions to improve the mental health of vulnerable groups (Ahmed *et al.*, 2022) [26]. The prevalence estimate of suicidal ideation was 12.8% (Tasnin *et al.*, 2020) [27]. Worries about health (mental and physical health) and perceived difficulties in identifying feelings, and difficulties in learning behaviour relative to before the pandemic were also significant (Herbert, El Bolock, & Abdennadher, 2021) [28]. Half of the students reported anxiety/depression (54.5%) and an increased need for mental health services (49.0%) as a result of the COVID-19 pandemic (Jones *et al.*, 2021) [29].

In addition, 38.5% (n=232) of pharmacy students reported that they always felt or frequently felt nervous or anxious during the Covid-19 pandemic (Alrasheedy, Abdulsalim, Farooqui, Alsaahli, & Godman, 2021) [30]. Polish university students (n = 650) completed the online survey with the Generalized Anxiety Disorder (GAD-7), Perceived Stress Scale (PSS-10), General Self-Rated Health (GSRH), and Satisfaction with Life Scale (SWLS), as well as sociodemographic variables. High GAD risk was presented two times more frequently among women and people who subjectively assessed their health as poor,

three times more likely in participants dissatisfied with their lives, and seven times more probably in persons with high-stress levels (Rogowska *et al.*, 2021) [24]. Half of the student sample reported significant impairment in concentration and learning abilities during distance education. Regarding psychological health, 19.7%, 27.1%, and 23.6% of the sample reported mild, moderate, and severe depressive symptoms, respectively (Giusti *et al.*, 2021) [31].

The questionnaire of Huang *et al.*, (2021) [32] included sociodemographic information; the 21-item Depression, Anxiety and Stress Scale (DASS-21); the Perceived Social Support Scale (PSSS); and the Simplified Coping Style Questionnaire (SCSQ). Among 3113 college students who participated in this questionnaire distribution, the rates of anxiety, depression and stress symptoms were 13.3, 15.4 and 6.8%, respectively. Increased rates of current smoking and drinking (5.5 and 25.2%, respectively) among undergraduates were identified. Their results indicated that the PSSS subscales and SCSQ subscales were significantly associated with DASS-21 scores (P < 0.001). Gadi *et al.*, (2022) [33] also described that mental health: 84.2% (n=196) reported worrying too much about different things; 61.9% (n=144) could not stop or control worrying; 71.2% (n=166) experienced trouble relaxing on several days or more. It was found that 9.83%, 3.08% and 2.12% students had mild, moderate and severe depressive symptoms, respectively, and the positive association between Covid-19 pandemic-related stress and depressive symptoms was significant.

Negative coping was also significantly correlated to depressive symptoms, and partially mediated the association between Covid-19 pandemic-related stress and depressive symptoms (Lu *et al.*, 2022) [34]. Furthermore, Voltmer *et al.*, (2021) [35] surveyed students of all faculties at one German university for perceptions and preventive behaviour regarding the COVID-19 pandemic using standard instruments for stress, anxiety, depression, and behaviour and experience patterns. Students with different behaviour and experience patterns in their study showed the marked differences in perceptions and reaction to the COVID-19 pandemic as well as psychosocial stress and symptoms, with higher scores for mental health symptoms and lower scores in preventive behaviour.

### **(c) Coping Strategies in Dealing with the Effects of Covid-19**

The coping mechanisms used by the students in dealing with Covid-19 were explored by some studies. A trauma-informed learning environment, where nursing students feel safe to express their stresses, are able to observe and practice positive coping mechanisms (Laczko *et al.*, 2022) [36]. The majority of participants reported connecting with friends/family members through Facetime, Zoom,



Skype, etc. (60.4%), and using social media (79.2%) as a coping mechanism at least a moderate amount. However, gender differences were found in relation to using these video-chat platforms. Specifically, females were more likely to report using online technologies/applications very much or an extreme amount to cope with the stress of the COVID-19 pandemic compared to males (Prowse *et al.*, 2021) [37]. Seeking social support and acceptance of coping strategies were significantly associated with the level of anxiety (Kamaludin *et al.*, 2020) [12]. Hence, it was noted that social media was used as one of their coping mechanisms and seeking social support aided to reduce their stress.

Moreover, “Belongingness” often described as a fundamental human motivation, may buffer students from stress and help them engage more meaningfully in their educational experience of both experimental and correlational studies. Furthermore, greater belongingness was negatively associated with adverse mental health outcomes such as depression and anxiety (Gopalan, Linden-Carmichael, & Lanza, 2022) [38]. Thus, the student’s sense of belongingness required to be enhanced through effective communication and providing necessary assistance to them.

In addition, Islamic religiosity is a strong coping mechanism for Muslims against anxiety or depression (Saleem *et al.*, 2021) [38]. At the same time, mindfulness can affect the mental health of graduate students positively and significantly. In further moderated mediation analyses, the effect of mindfulness on mental health can be adjusted by family economic condition (Wang *et al.*, 2022) [40]. Thus, it is observed that the religious practice supported them in dealing with their stress, the awareness and mindfulness training should be arranged to improve their mental health.

Furthermore, Hernández-Sánchez *et al.*, (2020) [41] identified the psychological factors associated with lower level of Covid-19 impact and that can be used for psychological interventions for improvement of mental health among these vulnerable group of students during and after the Covid-19 pandemic. Their study discussed theoretical and practical implications as the stronger the ability to cope with adverse situations and the greater their optimistic orientation towards the future will successfully face a negative event or moment of crisis with positive repercussions, proactiveness and the satisfaction of their basic needs.

Moreover, the efficacy of brief Dialectical Behavior Therapy (DBT) skills videos in reducing psychological distress among college students during the COVID-19 pandemic was examined by Rizvi *et al.*, (2022) [42] in their randomized clinical trial study. This intervention demonstrates some efficacy in reducing negative affect at the moment and preventing students

from getting more distressed. The study of Ganjoo *et al.*, (2021) [43] also examined the locus of control and perceived stress of students during the COVID-19 pandemic. Their results indicated that 92.4% of students have moderate and high level of stress in which the internal health locus of control (including individuals’ behaviours/actions) had inverse association with perceived stress, and the other health locus of control (PHLC) (including doctors and nurses) had direct association with perceived stress. The result highlighted the need for receiving more assistance from the external sources.

Another study by Husky, Kovess-Masfety, & Swendsen, (2020) [44] mentioned that participants faced increased anxiety and moderate to severe stress during Covid-19 confinement especially the students who did not rearrange to stay with parents were extremely affected. Their study highlighted that knowledge of the lockdown measures is suggested to apply to reduce negative psychological impact among the vulnerable students. Voltmer *et al.*, (2021) [35] also highlighted the vulnerable group with pre-existing mental health issues to be identified and health promotion and prevention activities to be targeted (Al-Husban *et al.*, 2021) [45]. These findings served as the basic for providing the necessary interventions and mental health support to the required population.

## CONCLUSIONS AND RECOMMENDATIONS

This paper identified the impact of Covid-19 on mental health and well-being of the University students. It was found that the pandemic has been associated with increased psychological impact which were ranging from anxiety, fear, stress to major depressive disorders. Moreover, introducing online education in response to Covid-19 contributed to the cause of their stress due to adjustment in teaching learning activities, technology gap, impact on social interactions, limited space of learning, and increased family obligations. In addition, the financial impact from reduced job opportunity and family income triggers their psychological responses. The increased in psychological symptoms such as mood disorder, perceived stress, the use of alcohol, and insomnia were observed.

It was identified that the students applied coping strategies in dealing with effects of Covid-19 such as the use of social media to communicate, learning with skills video, and seeking social support. It was also noted that level of mental health impact was varied based on the social support received, gender, religious belief, family income, educational background, and feelings of belongingness, knowledge about the disease and movement restriction.

Thus, it is recommended that knowledge of the students about the disease and control measures should

be increased to reduce their anxiety. The educators are required to incorporate with more audio-visual aids, create active environment to enhance students' motivation and learning process. However, the contrary result was also noted in which some study revealed students with existing mental health issues were more prone to have increased psychological impact, while others found that those without pre-existing mental health concerns have higher risk for developing psychological effect during Covid-19 pandemic. Thus, mental health support should also be provided to the students without prior mental health issues, while continuing to provide support to those with existing mental health issues. The psychological counselling should be catered specifically based on the individual needs. Moreover, psychological support measures and improved access to mental health services required to be located strategically to the needed individual. The role of the policy planners is important in developing guidelines and arranging online mental health services focusing the university students.

The social and moral support from the educators, management and family is also required. The students should be encouraged to apply various stress coping mechanisms and practice their religious faith. The government and authority required to provide necessary assistance to students from low-income family as well as enhancing their campus job opportunity.

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