

Adapting to Covid-19 Pandemic: A Critical Literature Review of the Psychological Impact among Nursing Students

Tannya Kishore, Annamma Kunjukunju*, Puziah Yusof

KPJ Healthcare University College, Negeri Sembilan 71800, Malaysia

**Corresponding Author's Email: annjoe212@gmail.com*

ABSTRACT

Introduction: The Coronavirus disease 2019 (COVID-19) was first identified in Wuhan City, China, in 2019. Efforts were made to cordon off the city in a bid to contain the virus. The tumultuous developments in nursing education, along with the national healthcare crisis caused by the COVID19 pandemic, formed a precarious direction for nursing faculty, many of whom had little prior experience teaching in an online environment. This literature review aims to understand the psychological impacts of the COVID-19 pandemic on nursing students. **Methods:** A literature search was conducted with the following electronic databases: ProQuest, EBSCOhost, Medline, Google Scholar, PubMed and National Center for Biotechnology Information (NCBI). Search terms included "psychological impacts," "mental health," "COVID-19," "pandemic", and "nursing students". The articles were reviewed based on relevance. The inclusion criteria consisted of (1) pre-licensure nursing students; (2) mental health as the key issue; (3) during the ongoing COVID-19 pandemic; (4) journal article and a research manuscript. A total of 104 articles were initially found using the above keywords. After screening using the criteria, 23 articles were relevant to be included in this review. **Results:** The themes that were identified after a comprehensive review of the articles are : (1) depression, (2) anxiety, (3) stress, (4) fear and (5) academic performance. **Conclusion:** The nursing students had to endure psychological impacts due to the COVID-19 pandemic and all the changes it brought about. Nursing educators must find the right balance between best-fit teaching methods and a supportive role in their students' mental health.

Keywords: *Psychological Impact; Covid-19; Pandemic; Nursing Students; Mental Health*

INTRODUCTION

In 2019, the Coronavirus Disease 2019 (COVID-19) was discovered for the first time in Wuhan, China. The city was cordoned off to contain the infection. However, all of the measures to prevent the spread of the infection were ineffective. On February 11, 2020, the International Committee on Virus Taxonomy (ICTV) named the new virus "severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)" (International Committee for Taxonomy of Viruses, 2020). The virus was given this name because it is genetically linked to the coronavirus that caused the SARS pandemic in 2003. The two viruses are related but not identical.

On March 12, 2020, the World Health Organization (WHO) declared a Coronavirus pandemic (WHO, 2020). A pandemic is a disease epidemic that affects a significant population and spreads across a vast geographic area (Begam & Devi, 2020). The announcement was made in reaction to the disease's

global trajectory, which has increased the number of infections and deaths. The overall number of confirmed cases is 143,291,275, with 3,050,454 deaths reported worldwide as of April 20, 2021. To combat the spread of the COVID-19 epidemic, most governments throughout the world have temporarily closed educational institutions. Hundreds of millions of children have been affected by these widespread closures (UNESCO, 2020).

The devastating sickness and imposed lockdown triggered disturbing feelings, resulting in psychological anguish and mental illness among the general public and pupils (Savitsky *et al.*, 2020). Several student clinical placements and simulation and skills laboratory programmes have been cancelled or changed at the nursing school. Moreover, the national healthcare crisis precipitated by the COVID19 pandemic and the tumultuous advancements in nursing education created a perilous path for nursing professors, many of whom had no prior experience teaching in an online setting

(Fitzgerald & Konrad, 2021).

Numerous colleges have had to employ creative tactics and implement digital tools to provide enough assistance for their students and teaching personnel. They were finding pragmatic yet viable solutions to the current situation and complex difficulties as part of this transformation (Choi *et al.*, 2020; Hsieh, Hsu & Ko, 2020; Leigh *et al.*, 2020; Morin, 2020).

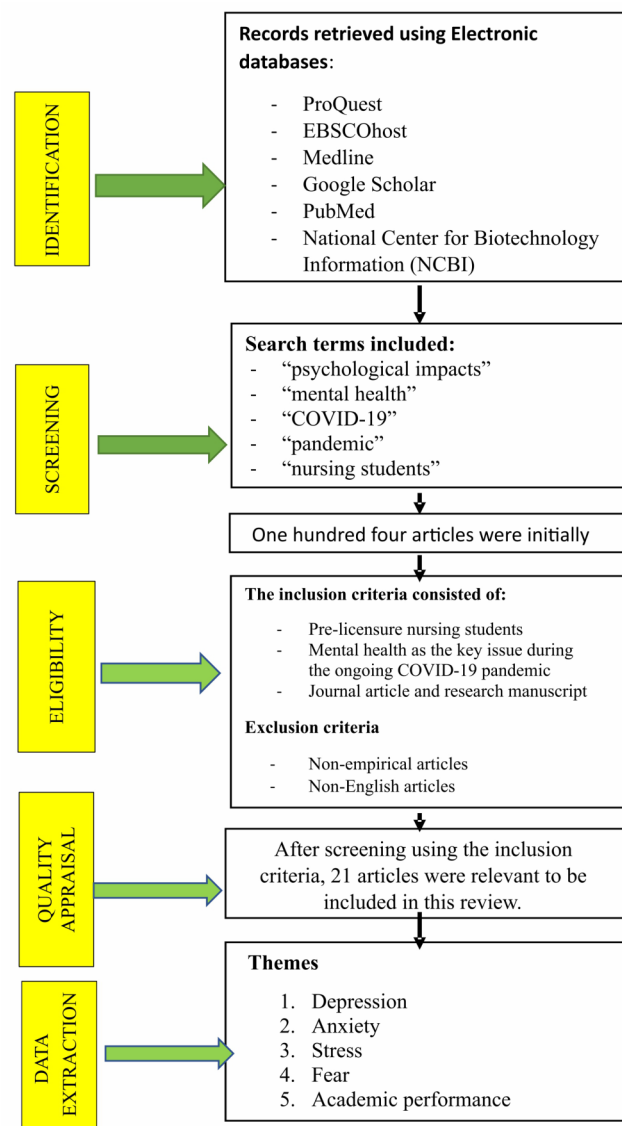
Individual liberty and privileges are temporarily curtailed in social isolation for the greater good of the population. When people's social distance widens, numerous psychological concerns emerge, such as panic disorders, anxiety, and depression, particularly in young adults who require greater social engagement (Cullen *et al.*, 2020; Qiu *et al.*, 2020). There were indications of anxiety for nursing students' mental health well before the pandemic. From online learning to the suspension of clinical training, delayed graduation, being commissioned as auxiliary nurses, inadequate practical skills, isolation, worsening of their current mental health problems, and the list goes on. Nursing students are more prone to experience stress and depression due to the rigorous academic workload and clinical requirements of the programme (Njim *et al.*, 2020). This critical literature review aims to understand better the psychological effects of the COVID-19 exam on nursing students.

METHODOLOGY

Search Strategy

Identification is the way of searching for any synonyms, related terminology, or modifications of the study's main keywords. A literature search was conducted with the following electronic databases: ProQuest, EBSCO host, Medline, Google Scholar, PubMed and National Center for Biotechnology Information (NCBI). Search terms included "psychological impacts," "mental health," "COVID-19," "pandemic", and "nursing students".

For the screening stage, the articles were reviewed based on relevance. The inclusion criteria consisted of (1) pre-licensure nursing students; (2) mental health as the critical issue; (3) during the ongoing COVID-19 pandemic; (4) journal article and a research manuscript. The exclusion criteria included non-empirical articles and non-English articles. A total of Twenty-three relevant studies were compiled and included in the literature review.



Flow diagram: Adapted from Shahrieh et al. (2019)

RESULTS

A total of 21 papers were chosen for the review. Five topics emerged from the thematic analysis, namely depression, anxiety, stress, fear, and academic performance. Following a deeper examination of the topics, 20 sub-themes emerged.

Depression

There was a positive correlation between the age of the nursing student and the level of depression. The senior students had more depressive symptoms reported (Uğurlu *et al.*, 2020). The study also reported a link between nursing students' Body Mass Index (BMI) and their level of depression. When compared to nursing

students with ideal body weight, overweight students had a higher level of depression. There was also a positive correlation among nursing students' emotional status, dietary habits and depression levels. Level of education was linked to psychological symptoms in which nursing students in an advanced level of education reported anxiety, depression, and other mental health issues compared to junior students. (Wang & Zhao, 2020; Li *et al.*, 2020). Depression among nursing students decreased as the number of individuals in the household increased (Uğurlu *et al.*, 2020).

Intern nursing students assigned to the hospital during the COVID-19 pandemic expressed negative feelings. A total of 77.3 % of respondents specified they had been stressed, 64.7 % felt useless, and 62.7 % indicated they were depressed (Eweida *et al.*, 2020a). When in direct contact with a COVID-19 positive patient or delivering care suspected cases of COVID-19, intern-nursing students exhibited a higher prevalence of fear (Rahman *et al.*, 2020) and depression (Tee *et al.*, 2020).

Deo *et al.*, (2020) reported the prevalence of depressive symptoms during the pandemic among nursing students. According to the findings, 77.7 % of nursing students had moderate depressive symptoms. Uurlu *et al.*, (2020) noted that 34.8% of all nursing students who participated in the study exhibited moderate to severe depression.

Anxiety among Nursing Students During COVID 19 Pandemic

The relationship between gender and anxiety was identified to be very significant. Female nursing students were found to have higher anxiety levels than male nursing students. Anxiety can lead to poor eating habits (Uurlu *et al.*, 2020). A student's age is an essential determining factor of anxiety (Dickstein, 2011, Merikangas *et al.*, 2010). Nursing student's anxiety symptoms were most typical in their final year of the study (González *et al.*, 2021). The anxiety levels of nursing students in their final year increased as the duration of lockdown during the pandemic became longer. The transition from face-to-face to online learning increased anxiety in nursing students, particularly those in their last year (González *et al.*, 2021). A study by Chen discovered that increased anxiety levels among nursing students might severely impact their motivation and effectiveness in learning and their excitement to become nurses (Chen, 2010).

Intern -nursing students who worked in hospitals to

help with the COVID-19 pandemic were exposed to the lethal virus and other side effects as a result of the current sanitary disaster, increasing their anxiety levels (Dong & Bouey, 2020; Dubey *et al.*, 2020; Fowler & Wholeben, 2020; Jung & Jun 2020; Ma *et al.*, 2020).

Nursing students who had or lived with parents or relatives classed as high-risk, such as old age or a chronic condition, displayed higher anxiety levels (Uurlu *et al.*, 2020; Sögüt *et al.*, 2021). Cao *et al.* (2020) highlighted that student who had family members infected with COVID-19 experienced higher anxiety levels. Nursing students with unpredictable income (Cao *et al.*, 2020), unemployed parents (González *et al.*, 2021) also contributed to anxiety. Moreover, demand for internet data for online classes has been found to have greater anxiety levels (Deo *et al.*, 2020).

The surrounding environment also had a significant effect on nursing students' anxiousness. During the lockdown, those who resided in remote areas had higher anxiety levels (Xavier *et al.*, 2020). Besides, students who lived in houses with an open area such as a garden or went out of the house many times a week reported increased anxiety levels contrary to their peers who lived in houses without a garden or who never left the house at all (González *et al.*, 2020).

The COVID-19 pandemic has resulted in the presence of anxiety (Roca *et al.*, 2021) or symptoms associated with anxiety (Fitzgerald & Konrad, 2021), such as hostility, interpersonal sensitivity (Becerra-Garca *et al.*, 2020; Usher *et al.*, 2020), anxiousness (Fitzgerald & Konrad, 2021), and worry (Roca *et al.*, 2021). Another study found that emotional eating behaviours were linked to higher anxiety levels. Uğurlu *et al.*, 2020, reported that an increase in one variable causes a similar increase in the other.

Nursing students' anxiety levels ranged from modest to severe. According to a study by Uğurlu *et al.* (2020), 23.9 % of respondents had moderate to severe anxiety. A similar study conducted among nursing students found that 42.8% and 13.1% of students had moderate and severe anxiety, respectively (Savitsky *et al.*, 2020). Also, research of female midwifery students found that the majority (94.4%) had mild anxiety, followed by moderate anxiety (4.5%), and a small percentage (1%) had anxiety that was potentially dangerous (Sögüt *et al.*, 2021). Another study supported the findings, revealing that the majority of their respondents (71.73%) had an average level of anxiety, 14.3% had a mild level, 10.32 %

had a moderate level, 3.26 % had a severe level, and 0.54 % or one respondent had an extremely severe level of anxiety (Deo *et al.*, 2020).

Nursing students' fear factors during the COVID 19 epidemic

Female nursing students had a higher fear level than male colleagues (Huang *et al.*, 2020). In a similar study, the level of education was a determining fear factor. First-year nursing students were found to have higher levels of fear than students in other years of their studies (Oducado *et al.*, 2021).

Intern-nursing students in clinical settings during the pandemic reported a higher level of fear due to a variety of factors, including caring and coming into direct contact with a suspected or COVID-19 positive patient (Rahman *et al.*, 2020), peers who became infected, quarantined, or even succumbed to the deadly virus, and contracting a viral infection and transmitting it to others (Taylor, Thomas-Gregory & Hofmeyer, 2020). Witnessing critical patients suffer and eventually die was also reported as a source of fear (Huang *et al.*, 2020).

The nursing profession itself was another source of worry. Student nurses reported concerns about their professional future. They might be classified as "promotion with lacking education". According to Ramos-Morcillo *et al.* (2020), their international training is also paused, and in the professional setting, student nurses are afraid of an unclear future. Additionally, their role as front-liners adds to the fear element (Medina Fernández *et al.*, 2021).

Several elements have been identified as contributing to the dread induced in nursing students as a whole. (Aslan & Pekince, 2020) concluded that negative and disturbing news about COVID-19 are factors. According to the study, social isolation and moral distress resulting from witnessing death are significant causes of dread (Carolan *et al.*, 2020). Fear can be triggered by knowledge about COVID-19, whether acquired through interaction with others or from qualifications related to the stress that comes with it (Medina Fernández *et al.*, 2021). During this pandemic, nursing students' fear levels rise due to their geographic location, whether rural or urban (Huang *et al.*, 2020).

Stress among nursing students during COVID 19 pandemic

One of the most important indicators of stress among nursing students was age. According to a study by Aslan

and Peking (2020), there is a negative association between nursing students' age and their perceived stress levels. The younger he perhaps she is, the higher the stress levels encountered by the student. Those between the ages of 18 and 20 were identified as the age group. Contrary to this finding, another study found a link between the age of nursing students and their stress levels. The higher the student's age, the more stressed they are (Eweida *et al.*, 2020).

During COVID 19, gender also determined the stress level among nursing students (Aslan & Pekince, 2020; Eweida *et al.*, 2020a; Kalkan Uğurlu *et al.*, 2020). Female nursing students had higher stress levels than their male counterparts. Their dietary habits, emotional well-being (Uğurlu *et al.*, 2020), and quality of life (Guillasper *et al.*, 2021) have all been negatively impacted. These determinants can also be detected in male nursing students, though not to the same extent. According to one study, students' non-heterosexual orientation caused severe psychological discomfort (Przedworski *et al.*, 2016; Moubadda Assi, 2020; Ridner, 2004).

Nursing students' living areas also contributed to their stress levels. The researchers hypothesised that most nursing students (92.3 %) resided in hostels away from their families, which could add to stress levels (Begam & Devi, 2020). In contrast to this study, learners who stayed at home with their families throughout the quarantine period were shown to have lower stress levels than those who did not (Uğurlu *et al.*, 2020). Students who were unaware or unsure of a COVID-19 positive case in their neighbourhood reported a reduction in their quality of life (Guillasper *et al.*, 2021).

Nursing students' stress levels were found to be influenced by their educational level. Several studies found that fourth-year nursing students were more stressed than junior nursing students (Begam & Devi, 2020; Eweida *et al.*, 2020). The first-year students have a lower stress threshold than seniors (Ros-Risque *et al.*, 2018). On the other hand, it was discovered that students in their first and fourth years of studies had a higher stress level (Aslan & Pekince, 2020). This is consistent with the findings of both studies.

Intern nursing students were more stressed than other students due to the risk of becoming infected with the virus from patients and the possibility of transmission to family members, as well as the fact that treatment is not yet available, resulting in the students witnessing the

death of COVID-19 positive patients and bearing witness to their peers/colleagues becoming infected themselves all contribute to stress among student nurses in the hospital setting. Other variables contributing to the spike in stress levels include an increase in suspected and confirmed cases, a shortage of medical supplies, and students completing practical training in medical-surgical facilities with adult patients (Eweida *et al.*, 2020).

Stressors such as insufficient hands-on skills and ambiguity about the nature of compensatory clinical training, on the other hand, were found to generate stress in student nurses by Aslan & Pekince (2020). Staffing shortages, longer work hours, clinical ambiguity due to a lack of clinical standards, and treatment shortages all contribute to high-stress levels among students (Jackson *et al.*, 2020; Smith *et al.*, 2020; Usher *et al.*, 2020).

During the COVID 19 pandemic, nursing as a career choice was shown to generate stress among nursing students. According to reports, the students are under additional stress due to their future careers and dealing with an outbreak (Huang *et al.*, 2020). In another study, nursing students are confronting a double-edged sword as a result of the COVID-19 pandemic. They must choose between staying at home and pursuing their dream of becoming a nurse (Fowler & Wholeben, 2020). Both alternatives are linked to increased mental stress in students (Kim & Choi, 2016). The fear of spreading the illness from the hospital to their families has been a source of anxiety for them (Eweida *et al.*, 2020a).

Eating habits and stress levels have been found to have a favourable relationship. When one variable rises, the other variable's restricted, emotional, and external eating behaviour also rises. This finding is consistent with the fact that first-degree obese nursing students were more prone to engage in restrictive, emotional, and external eating behaviours as a result of it (Uğurlu *et al.*, 2020).

Students' poor mental health was linked to high-stress levels and the frequency of mental illness (Li & Hasson, 2020). The lockdown period (Gómez *et al.*, 2020), curfew (Aslan & Pekince, 2020), as well as the pandemic as a whole, are contributing reasons to heightened stress (Asaad *et al.*, 2020). Changes in sleeping habits, such as insomnia and poor sleep quality, have been linked to mental anguish (Aslan & Pekince, 2020; Romero-blanco *et al.*, 2020). Another reason for the lack of information about the COVID-19 epidemic

among Turkish nursing students contributed to high stress levels (Aslan & Pekince, 2020).

Social isolation, nutritional diet changes, lack of physical activities in confinement, a lack of infectious disease practise in universities, COVID-19 transmission, and knowledge of COVID-19 positive patients (Aslan & Pekince, 2020) were found to be contributing factors to the stress. As indications of stress levels, nursing students indicated a perceived risk of becoming infected with the virus or, in the worst-case scenario, death, as well as the volume of disease and fatality encountered all around. Another significant aspect was the epidemic's uncertainty (Jackson *et al.*, 2020; Smith *et al.*, 2020; Usher *et al.*, 2020).

Feelings of helplessness, uncertainty, and discomfort (Roca *et al.*, 2021), grief, anger (Huang *et al.*, 2020), and anxiety (Huang *et al.*, 2020; Roca *et al.*, 2021) were recognised as stress symptoms among nursing students. Nursing students' stress levels ranged from low to moderate to severe. 32.1% of respondents showed moderate to severe stress symptoms, according to Kalkan Uurlu *et al.*, Because of the COVID-19 pandemic and the lockdown, 13%, 83%, and 4% of respondents, respectively, reported low, moderate, and severe stress levels (Begam & Devi, 2020). Another study discovered that respondents were under moderate stress (Aslan & Pekince, 2020).

Academic Performance among Nursing Students During COVID 19 Pandemic

The age of the student influences academic challenges. In comparison to younger students, senior students are less interested in technology. The digital skill gap is tough to bridge because colleges have shifted to online learning sessions requiring appropriate technology skills (Ramos-Morcillo *et al.*, 2020).

Academic performance was also influenced by gender. In line with the preceding sub-theme, older students, particularly women and mothers, lack the requisite digital skills, which has a negative impact on their academics (Ramos-Morcillo *et al.*, 2020). Academic performance was also found to be influenced by one's level of education.

Nursing students in their last year, according to two research (Reverté-Villarroya *et al.*, 2021; Smith & Yang, 2017), are more likely to experience mental and emotional distress. One study hypothesised that this was due to new curricular requirements such as clinical

training and presenting a bachelor's thesis (Reverté-Villarroya *et al.*, 2021). However, other studies have revealed that students in their first year of study have a higher reported level of psychological discomfort, which might indirectly impair academic performance (Fitzgerald & Konrad, 2021) and the fear of graduating later than planned (Deo *et al.*, 2020).

Poor mental health (Hysenbegasi *et al.*, 2016), an increase in depression and anxiety, particularly among students pursuing medical or nursing careers (Bakker *et al.*, 2020; Iorga *et al.*, 2018; Mitchell, 2018; Tung *et al.*, 2018), or even the presence of anxiousness and feelings of distress (Fitzgerald & Konrad, 2021), are all factors that contribute to academic difficulties. According to a study, respondents with higher total Goldberg scores, also known as the General Health Questionnaire (GHQ), reported higher stress levels due to their academic and grading processes (Reverté-Villarroya *et al.*, 2021).

Nursing students' ability to maintain psychological stability in stressful conditions may be hindered by the lack of clinical training or experience. As a result, they may perceive themselves as inadequate and uneasy about their limitations (Rafati *et al.*, 2017). The start of virtual physicians' and students' isolation is related to increased academic stress, anxiety, and difficulty focusing. Furthermore, difficulties in managing academic workload and deriving from a desire to do well in school are important factors (Fitzgerald & Konrad, 2021). In their study, Fowler and Wholeben observed that exhaustion on an interpersonal level could lead to a loss of control, losing confidence and a drop in student success.

A study of 32 nursing students in Spain revealed that online learning was difficult for individuals from rural areas with professional commitments, families, and limited access to electronic infrastructures, such as a lack of internet connection and limited phone data. Nursing is more of a hands-on programme. Students could not complete their assignments due to online learning posing a new challenge (Ramos-Morcillo *et al.*, 2020). Additionally, eliminating clinical rotations, which must account for 50% of the curriculum, has made it difficult for nursing students to complete their education (Xavier *et al.*, 2020).

The institutional framework of nursing education has been altered, leading students to be concerned and stressed about their current and future circumstances (Xavier *et al.*, 2020). Students will be unprepared to meet

the demands put on them by their course if adequate self-care measures are not in place during the Pandemic (Green, 2020; Stark, Manning-Walsh, & Vliem, 2005.; McKenzie & Harris, 2013. Another contributing factor, probably the most important of all, is the pandemic itself. A pandemic can take a toll on students causing psychological stress, thus affecting their studies. This factor was highlighted by Asaad *et al.*, 2020 in a study conducted to identify the knowledge and attitudes towards the Middle East respiratory syndrome-coronavirus (MERS-CoV) among health care workers in South-Western Saudi Arabia.

DISCUSSION

This in-depth analysis of the literature was done to establish the psychological effects of the COVID-19 pandemic on nursing students. It is determined that the reviews collectively provided some likewise and contradicted views in terms of all the five themes identified; depression, anxiety, stress, fear, and academic performance. It was identified that insufficient research was conducted in terms of the depression levels in the nursing students.

The demographic of the students proved to have an impact on the contradiction in the results. The students' age (Aslan & Pekince, 2020; Uğurlu *et al.*, 2020; Ramos-Morcillo *et al.*, 2020) and gender were found to be determinants across the themes. (Ramos-Morcillo *et al.*, 2020) highlighted women, in particular, to be at the receiving end of psychological impacts brought upon by the pandemic. The lack of emphasis on practical and well-thought-out solutions to curb the psychological effects on the nursing students pose a concern. Most of the articles reviewed focused more on assumptions about the psychological impact if no solutions were established rather than any ongoing efforts made by institutions for the students.

Bakker *et al.*, (2020) stated a need for more evidence on interventions aimed at retaining student and novice nurses in their profession by improving their mental health. According to the study conducted by Wang & Zhao (2020), university students had more significant anxiety than the general population after the outbreak of Covid-19, which showed that the pandemic had a negative psychological impact on university student's anxiety levels.

Studies have suggested that public health emergencies can have many psychological effects on university students, who have expressed anxiety, fear and

concern, among others (Cao *et al.*, 2020). Medical students, in comparison to other university students, experienced higher levels of anxiety amid the pandemic (Cao *et al.*, 2020; Wang & Zhao, 2020)

The nursing faculty should be involved in the research to acquire a concise and in-depth perspective on nursing students and their psychological well-being during the COVID-19 epidemic. For students battling with their mental health, universities should provide a helpline or online counselling sessions, as suggested by (Dubey *et al.*, 2020), for the general population. Nursing students should be given more support to help them navigate the changes in the curriculum and their prospects.

CONCLUSION

On March 12, 2020, the World Health Organization (WHO) proclaimed the Coronavirus outbreak a pandemic. To combat the spread of the COVID-19 epidemic, most governments throughout the world have temporarily closed educational institutions. Hundreds of millions of pupils are affected by these widespread closures (UNESCO, 2020).

The COVID-19 epidemic and all of its developments had a psychological influence on nursing students. The list goes on from online learning to clinical training suspension, delayed graduation, auxiliary nurse commissioning, insufficient practical skills, loneliness, and current mental health problems aggravation. A deeper understanding of the effects and their scope on nursing students would lead to practical solutions to enhance their current condition, as they are the healthcare industry's future.

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Conflict of Interest

The authors declare no conflict of interest.

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