



Prevalence of Depression, Anxiety, and Stress among Students during the Covid-19 Pandemic

Cris Dan R. Makiling^{1*}, Rialyn V. Baguio²

¹Holy Cross College of Calinan, Inc, Dalagdag, Calinan, Davao City

²Holy Cross College of Calinan, Inc, Talandang, Calinan, Davao City

*Corresponding Author

Cris Dan R. Makiling

Holy Cross College of
Calinan, Inc, Dalagdag,
Calinan, Davao City

Article History

Received: 28.05.2024

Accepted: 03.07.2024

Published: 24.01.2025

Abstract: The worldwide CoVid-19 pandemic poses great impact to human lives remarkably to psychological well-being. Thus, this study aimed to investigate and determine the prevalence of depression, anxiety, and stress (DAS) among students during the pandemic. A descriptive quantitative research design was utilized in the study. In gathering the data, the study utilized the standardized survey questionnaire of Depression, Anxiety, and Stress Scales 42 (DASS-42) to evaluate the students DAS level. The data compilation used online questionnaires through the platform Google Forms. The study reported a significantly high level of depression, anxiety and stress from the sample population. The result of the study found that levels of depression, anxiety and stress vary from age, gender, educational level and grade/strand/course program. Younger age groups (adolescents and young adults) suffer higher DAS level among other age groups while gender reveals that females compared to males are far more vulnerable to anxiety and stress. Moreover, students regardless of educational level and strand/course program experience significantly severe level of anxiety. In conclusion, COVID-19 is an epidemiological crisis that is casting a shadow to students' DAS level.

Keywords: Depression, Anxiety, Stress, Covid-19, Students, Education.

Copyright © 2025 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

In December 2019, the novel corona virus disease (COVID-19) was discovered for the first time in Wuhan (Hubei Province, China). It began to spread from that point on, first in China and then throughout the world. On January 30, 2020 the World Health Organization (WHO) declared the outbreak as a Public Health Emergency of International Concern (PHEIC) and a pandemic. On March 11, 2020, COVID-19 quickly expanded to over 127 nations and territories throughout the world [1]. To counterfeit the spread of the disease, many countries initiated series of measures, particularly in their educational system that resulted in virtual learning and other modified way of delivering education. This sudden educational transition and the uncertain trend of the disease becomes the central concern of many people

around the world. As a result, serious consequences particularly the prevalence of stress, anxiety, and depression are recorded. It is not limited to adults only but is increasingly affecting children of all age group.

It has been noted that a Corona virus pandemic now has had a huge impact on the quality of life all around the world. People's mental health has been affected by quarantine. A number of factors gravitated the psychological disturbances including online education, financial worries and academic pressure [2]. Recent evidence suggested that people who are kept in isolation and quarantine experience significant levels of anxiety, anger, confusion, and stress [3]. A cross-sectional survey conducted had found that among the 1057 respondents isolated due

Citation: Cris Dan R. Makiling & Rialyn V. Baguio (2025). Prevalence of Depression, Anxiety, and Stress among Students during the Covid-19 Pandemic. *Glob Acad J Humanit Soc Sci*; Vol-7, Iss-1 pp- 14-21.

to the pandemic from countries like Oman, Saudi Arabia, United Arab Emirates, Jordan, Iraq and Egypt, the total prevalence of depression, anxiety, and stress was 57%, 40.5%, and 38.1%, respectively by [4]. Additionally, it has been found that depression, anxiety and stress are evident in six out of ten adolescents who were experiencing lockdowns and virtual learning due to the COVID-19 pandemic. This clearly shows that the pandemic is negatively impacting the psychological well-being of people [5].

In the Philippine context, it was found by the World Health Organization (WHO) that 16.8% of Filipino students aged 13 to 17 have attempted suicide at least once within a year [6]. Notably, the Eastern Visayas State University, Ormoc City, recorded in their study a higher prevalence rate of stress, anxiety, and depression among the 311 students during the online learning. In Davao City, the negative psychological impact is evident. Reportedly, two students on separate occasion died where one committed suicide caused by alleged pressure and difficulty in learning school modules [7].

The negative impact brought by the pandemic and sudden shift of education are becoming more evident. The plethora of research proved that psychological well-being particularly of youth is put at risk. Accordingly, youth is defined as age 15 to 24 years, and it includes middle and late adolescence [8]. It is characterized by ongoing changes in physical, psychological, and social dimensions. For healthy growth and development, youth needs to have a sense of belonging, love, achievement, and independence and to have a purpose in life. During this developmental stage, many types of behavior are developed which can lead to either normalcy or mental health illness. Depression, anxiety, and stress (DAS) are the most common mental illnesses among youth [9].

The aforementioned studies are quite alarming. As Holy Cross College of Calinan continues to provide education through modular and online

learning in the midst of global health crisis, a need for research that describes the prevalence of stress, anxiety, and disorder is very crucial to consider especially that there is a lack of evidence in the local context. Thus, the researcher was enthused to conduct the study.

METHODS

This study utilized the quantitative-descriptive research design. Quantitative research is the process of collecting and analyzing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations [10]. Further, descriptive design endeavors to systematically describe the situation, phenomenon, problem, service or program. This study is quantitative in nature since the questions posed in the Statement of the Problem will be answered by numerical data. The data that will be analyzed is from a survey questionnaire conducted. It will then be used to describe the status or condition specifically the prevalence of depression, anxiety and stress among students during the pandemic. Furthermore, this study utilized this design for the reason that the primary objective of the researcher is to describe the level of the severity of depression, anxiety and stress experienced by the respondents in this time of health crisis. The researcher tries to unveil the gravity and impact of the pandemic to the students with respect to their group or strata.

In determining the number of respondents, the researcher used proportionate stratified random sampling. In proportional stratified random sampling, the size of each stratum is proportionate to the population size of the strata when examined across the entire population. This means that each stratum has the same sampling fraction (Crossman, 2021) [11].

RESULTS AND DISCUSSION

Table 1: The Frequency Distribution of Students According to Age, Sex, and Educational Level, and Grade/Strand/Course Program

Age	Frequency	Percentage
14-18	113	39%
19-23	171	59%
24-28	5	2%
29-33	2	1%
34-38	1	0%
Total	292	100%
Sex	Frequency	Percentage
Male	87	30%
Female	205	70%
Total	292	100%

Educational Level	Frequency	Percentage
Junior High School (Grades 9-10)	44	15%
Senior High School (Grades 11-12)	62	21%
College	186	64%
Total	292	100%
Grade/Strand/Course Program	Frequency	Percentage
Grade 9	17	5.82%
Grade 10	27	9.25%
ABM	9	3.08%
HUMSS	18	6.16%
STEM	35	11.99%
AB	45	15.41%
BEED/BSED	47	16.10%
BSBA	94	32.19%
Total	292	100%

The table above presents the overall frequency count and the percentage of the data according to age range, gender, educational level and strand/course. In terms of age, most of the students are within the age range of 17-23 years old. Specifically, there are 130 (91%) students from BSBA course, and 95 (83%) students from the AB-Lit course. Also, in terms of sex, it can be gleaned from the table that there is a higher percentage for female students compared to the female. Particularly, 205 (70%) students are females, and 87 (30%) students are males. In respect of educational level, noticeably, there are 168 or 64% are college students, 62 or 21%

are senior high school student, and 44 respondents or 15% of the population are junior high school students. Lastly, the table indicated the frequency count of the respondents according to grade/strand/course program. There are 17 or 5.82% coming from the grade 9 and 27 or 9.25% from grade 10. The senior high school has 9 or 3.08 %, 18 or 6.16%, and 35 or 11.99% students coming from the ABM, HUMSS and STEM respectively. In the college, the AB has 45 students or 15.41%, the BEED/BSED has 47 students or 16.10% and the BSBA has 94 students or 32.19%.

Table 2: Mean Score of Students Depression, Anxiety, and Stress Level according to Age Range

Age Range	DEPRESSION		ANXIETY		STRESS	
	Mean	Severity Level	Mean	Severity Level	Mean	Severity Level
14-18	19	Moderate	18	Severe	21	Moderate
19-23	17	Moderate	16	Severe	19	Moderate
24-28	17	Moderate	11	Moderate	16	Mild
29-33	16	Moderate	12	Moderate	15	Mild
34-38	18	Moderate	11	Moderate	18	Mild
Total Mean	18	Moderate	15	Severe	18	Mild

The table above shows the severity level of Depression, Anxiety and Stress to students when viewed according to age range. It can be discerned that the depression level among all ages is moderate ranging from a score of 16-18 with a total mean score of 18. Besides, the table also indicates that the anxiety level turns out to be severe for ages 14-18 and 19-23 while ages 24-28, 29-33 and 34-38 is at moderate level. The result also demonstrates that the stress level for ages 14-18 and 19-23 are at moderate level while the recorded stress level is mild for ages 24-28, 29-33 and 34-38 with a mean score of 16, 15, and 18, respectively. As shown in the table, it is observed that the anxiety level was quite high (ranging from moderate, severe and extremely severe) compared to depression and stress (mild and moderate). Overall, considering age range, depression among students is

at moderate level, the anxiety they experience is at severe level while the severity level for stress is mild.

The result implies higher level of depression, anxiety and stress among ages 14-18 and 19-23 or the younger population (adolescence and young adults). A study conducted revealed that young Filipino adults experience moderate to severe depressive symptoms where most of them are more likely to experience suicidal [12]. Moreover, age-based differences revealed that younger age-groups were more vulnerable to depression, anxiety and stress [13]. Additionally, a recent study reported that students in the early twenties showed higher anxiety and depression than other age groups. This result is consistent with previous Chinese studies indicating a higher level of anxiety among adolescents ranges from age 13-24 years old [14]. According to World

Mental Health (WHM) surveys, the onset of mental disorders caused by stress, anxiety and depression begins in childhood or adolescents period. Early detection and treatment might help reduce the persistence and severity of primary disorders (Kessler *et al.*, 2007, Kessler *et al.*, 2010, Kessler,

Ruscio, Shear, & Wittchen, 2010) [15-17]. Furthermore, an online survey conducted among Chinese students aged 12-18 years found that the prevalence of depression and anxiety are quite high among these age groups. Zhou *et al.*, (2020) [18].

Table 3: Level of Depression, Anxiety, and Stress Level according to Gender

Gender	DEPRESSION		ANXIETY		STRESS	
	Mean	Severity Level	Mean	Severity Level	Mean	Severity Level
Male	19	Moderate	13	Moderate	16	Mild
Female	16	Moderate	18	Severe	21	Moderate
Total Mean	17	Moderate	16	Severe	19	Moderate

The table shows the mean scores of depression, anxiety, and stress among students when viewed according to gender. It can be noticed that both gender experience moderate level of depression with a recorded mean score of 19 and 16. The result for anxiety level indicates that female experience severe level of anxiety with a mean score of 18 and male experienced moderate level with a mean score of 13. For stress, males experience a mild level of stress with a mean score of 16 while females experience a moderate level of stress with a mean score of 21. Depression and stress for both gender lean towards mild to moderate level whereas anxiety is at moderate to severe level.

The result clearly demonstrates higher depression, anxiety and stress among females than male students. This result contradicts to the study conducted in Middle East where they found out that male had higher level of depression than female counterparts [14]. However, most studies conducted supports the result of the current study. A study

conducted in Saudi Arabia submits that females reported more depression, anxiety and stress compared to men [19]. This is in agreement with a much recent studies, an Egyptian research, which also reported that female students are more likely to suffer anxiety than male students [20].

Another study in 2018 indicates a higher rate of depression, anxiety, and stress among university students and further argued that female gender are strongly associated with higher mean score of depression, anxiety and stress [21]. Moreover, two studies conducted in China argued that Chinese females experience more anxiety than men during the COVID-19 pandemic and reported a moderate to severe depression among female high school students higher than male high school students [22, 23]. Furthermore, two studies conducted shared the same findings, both studies reported significantly higher stress level of female high school students than male students [24, 25].

Table 4: Level of Depression, Anxiety, and Stress Level according to Educational Level

Educational Level	DEPRESSION		ANXIETY		STRESS	
	Mean	Severity Level	Mean	Severity Level	Mean	Severity Level
Junior High School	18	Moderate	17	Severe	21	Moderate
Senior High School	21	Severe	19	Severe	21	Moderate
College	17	Moderate	16	Severe	19	Moderate
Total Mean	19	Moderate	17	Severe	20	Moderate

The table above illustrates the level of depression, anxiety and stress of students in educational level perspective. For depression, it shows that junior high school and college were at the moderate level with 17 and 18 recorded mean while senior high school students pose a severe level of depression with a mean score of 21. Anxiety of all educational level recorded in severe level with a mean scores of 17, 19 and 16 respectively while the stress hang on the moderate level with a recorded mean of 21, 21, and 19 respectively. The prevalence of depression, anxiety and stress among students

recorded a total mean score of 19, 17, and 20 respectively.

The results clearly demonstrates that students depression, anxiety and stress level is at moderate to severe when viewed according to educational level. The current study insinuate that students experience moderate to severe depression, anxiety and stress during the COVID-19 pandemic. This result is in consonance with the study conducted among high school students in Shandong Province in China during the COVID-19 pandemic. They found out that high school students experience moderate to

severe severity level of depression, anxiety and stress [23]. High school students experienced depression, anxiety, and stress during the COVID-19 pandemic and consequently, reported poor quality of life and academic difficulties.

In a recent study conducted, almost two-thirds of the senior high school students reported depressive symptoms and [25]. Arguably, students severity level of depression and anxiety are quiet high. The same result is reported in a study where senior high school students experience severe to

moderate level of depression and anxiety [26]. Another recent study conducted that focused on the college students recorded the same result. The result indicated that both depression and anxiety are prevalent among college students. Additionally, among the college participants, mild, moderate and severe level of anxiety were recorded [27]. Further, a more recent study conducted in Eastern Visayas University in Ormoc City argue the same result. Level of depression, anxiety and stress among university students were at moderate to severe level [28].

Table 5: Mean Score of Students Depression, Anxiety, and Stress Level according to Grade

Grade	DEPRESSION		ANXIETY		STRESS	
	Mean	Severity Level	Mean	Severity Level	Mean	Severity Level
Grade 9	24	Severe	24	Severe	26	Severe
Grade 10	19	Moderate	18	Severe	20	Moderate
Total Mean	22	Moderate	18	Severe	22	Moderate

The table above shows the level of depression, stress, and anxiety of students in grades 9 and 10. Accordingly, the grade 9 students are experiencing depression, anxiety, and stress with mean scores of 24, 24, and 26 respectively. These scores indicate a severe level. Whereas, the grade 10 students got a mean score of 19 for depression which is translated as moderate, while anxiety recorded a mean score of 18 which indicate a severe level, and a mean score of 20 for stress which implied a moderate level. Overall, grade 9 and grade 10 students are experiencing moderate depression with a total mean of 22, while they also have severe anxiety with a mean score of 18, and a moderate level of stress with a total mean of 22.

A study conducted revealed that most students experienced moderate to severe levels of anxiety (89.1%) and depression (72.1%), whereas less than half of them (35.7%) experienced moderate to severe stress. Due to the COVID-19 pandemic, the secondary school students were reported to have

moderate stress and severe anxiety [29]. This result could be attributed to the closure of schools, where the students shifted from traditional learning to E-learning, therefore the academic performance of students was significantly affected, particularly those students who have limited access to the internet or students who do not have mobile phone. In contrast, students were found to be depressed to a moderate level which might contribute to changes in their lifestyle and daily activities, and in their learning activities.

Additionally, the obtained result is parallel to the study conducted in India, the study revealed that secondary students in Assam India suffer academic anxiety because of sudden changes in the educational institution working system. The result of the study reveals that 2.5 percent of students had extremely high anxiety, 20% had high anxiety, 46.5 percent had above-average anxiety, 21.5 percent had average/moderate anxiety, 7% had below average anxiety, and 2.5 percent had low anxiety [30].

Table 6: Mean Score of Students Depression, Anxiety, and Stress Level according to Strand

Strand	DEPRESSION		ANXIETY		STRESS	
	Mean	Severity Level	Mean	Severity Level	Mean	Severity Level
ABM	24	Severe	24	Severe	26	Severe
HUMSS	19	Moderate	18	Severe	20	Moderate
STEM	22	Severe	23	Severe	20	Moderate
Total Mean	22	Moderate	18	Severe	22	Moderate

The table above shows the severity level of depression, anxiety, and stress in Senior High School department. The ABM students acquired a mean score of 24 for depression and anxiety, and a mean score of 26 in stress, which all indicates a high severity level. HUMSS students has a moderate severity level in depression with a mean score of 19,

a high severity level in anxiety with a mean score of 18, and a moderate severity level in stress with a mean score of 20. STEM students experience high severity level in depression and anxiety, and moderate severity level in stress, in which they scored 22 in depression, 23 in anxiety, and 20 in stress. The obtained result indicates that depression

is most severe in students under ABM and STEM strands. On the other hand, anxiety has a high severity level in all strands, while stress is most severe in students under the ABM strand. Generally, anxiety is most severely common in Senior High School Department with a total mean score of 18.

This result is supported by a previous study conducted in which it was revealed that the respondents had Severe levels of depression (32.84%), Extremely Severe levels of Anxiety (54.85%), and Moderate levels of Stress (39.5%). It was recognized that most of the senior high students had extremely severe levels of anxiety having 53.28% out of 100.00%. Followed by 29.34% of severe anxiety. Then, with 7.72% which was moderate, 5.02% which had normal anxiety, and 4.63% with the lowest level for mild anxiety. The students' highest

level of severity was extremely severe, which indicated that more than half of all the respondents experienced anxiety amidst the new normal education [31].

Furthermore, the obtained result is parallel to the study conducted in Jordan which employed an anonymous online survey that targeted senior high school students. The result of the study reveals that almost two thirds of students reported depressive symptoms and anxiety. Difficulties in online education is among the significant predictors of depression and anxiety. Among those identified as having depression, 30.7% were male and 50.7% were female. The prevalence of anxiety among students was high, and the prevalence of anxiety in females (46.9%) is greater than males (27.6%) [25].

Table 7: Mean Score of Students Depression, Anxiety, and Stress Level according to Course Program

Course Program	DEPRESSION		ANXIETY		STRESS	
	Mean	Severity Level	Mean	Severity Level	Mean	Severity Level
BEED/BSED	22	Severe	20	Severe	23	Moderate
BSBA	15	Moderate	15	Severe	17	Mild
AB	15	Moderate	13	Moderate	17	Mild
Total Mean	18	Moderate	16	Severe	19	Moderate

The table above shows the level of depression, anxiety, and stress of the college students in different course program. As shown, the BEED/BSED students obtained mean scores of 22 for depression and 20 for anxiety which all indicate severe level. In terms of stress, students from the same course program got a mean score of 23 which implied "Moderate level. Additionally, students from the BSBA program got a mean score of 15 for depression which is labeled as "Moderate", while for the anxiety, it acquired 15 which implied severe level and a mean score of 17 for stress which is translated as "Mild". Furthermore, the students from the AB course program got a mean of 15 for depression which implied a moderate level, while a mean score of 13 for the anxiety which implied a moderate level, and a mean score of 17 for stress which means "mild" level. More so, the total mean of the 3 course programs in terms of depression is 18 which means moderate level, while a mean score of 16 for anxiety which indicates a severe level, and a mean score of 19 for stress which implied moderate level.

With the aforementioned data, it can be inferred that the college students from the 3 course programs are demonstrating the prevalence of stress, anxiety, and depression during the pandemic. This is supported by the study conducted in China in which they have found that college students during the COVID-19 pandemic are struggling with the negative psychological effect. Further, they also noted that the prevalence of anxiety, depression, and stress is

higher [32]. Moreover, the result is in congruence with the previous study conducted where the prevalence of depression, anxiety and stress in different levels was 78.7%, 67.9% and 58.7%, respectively, which are higher during "home-quarantine." The mean scores of depression, anxiety and stress were at moderate levels [33].

CONCLUSION

This study reports the prevalence of depression, anxiety, and stress among the students during the COVID-19 pandemic. The findings realized the different levels of depression, anxiety and stress among the students considering the age, sex, departmental level and strand and program of the students. From the data gathered about the demographic profile of the students, most of the population is from the younger age groups or adolescent (14-18) and the young adults (19-23). When it comes to sex, 70% or 205 of the population are females and 30% or 87 are males. Additionally, more than half comes from the higher departmental level and the population is scattered across grade, strand and program ensuring equal representation.

The result is clear, prevalence of depression, anxiety and stress is quiet high among the students during the COVID-19 pandemic. In different aspect such as age, sex, educational level and strand/program, the depression anxiety and stress experience by students varies in different degrees or level. Adolescent and young adults experience higher

rate of depression, anxiety and stress among other age groups. They are vulnerable age group to develop mental disorders that might lead to greater risk alongside with other mental disorders that might occur during these critical stages under different factors. In the perspective of sex, the overall prevalence of anxiety is shown to be quite high than men. Further, senior high school students suffer more among educational level in adjusting to the demand of the new normal such as changes in new learning set-up, shift of learning modalities to online learning, changes in lifestyle and daily activity routine. Furthermore, students from strand and program with higher school demands show immense vulnerability to elevated depression and anxiety. This situation must be handled seriously and necessary interventions and modified programs must be established to address students' specific needs.

REFERENCES

1. Zhu, H., Wei, L., & Niu, P. (2020). The novel coronavirus outbreak in Wuhan, China. *Global Health Research and Policy*, 5(6). <https://doi.org/10.1186/s41256-020-00135-6>
2. Al Dhaheri, A. (2021). Impact of COVID-19 on mental health and quality of life: Is there any effect? A cross-sectional study of the MENA region. Retrieved from: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0249107&fbclid=IwAR0U5qzOvp0l16OKFs9ZqDyKsJ5yq4LNmRVWCBH3_oKPk4O_2-aVr7PbYIU
3. Bai, Y., Yao, L., Wei, T., Tian, F., Jin, D. Y., & Chen, L. (2020). Presumed asymptomatic carrier transmission of COVID-19. *JAMA Internal Medicine*, 323(14), 1406-1407.
4. Al Sabei, S. (2020). Prevalence and predictors of depression, anxiety, and stress among youth at the time of COVID-19: An online cross-sectional multicountry study. Retrieved from: <https://www.hindawi.com/journals/drt/2020/8887727/?fbclid=IwAR0GFzmK06XdxBqC2VHYAJQVe6ZDI8E2qZCvt7GFXiDk5fCHAUSmmZC1DM>
5. Pungpapong, G., & Kalayasiri, R. (2022). Depression and anxiety plus levels of stress among secondary school students during the COVID-19 lockdown: An online cross-sectional survey. *Journal of Health Science and Medical Research*, 40(2), 157-171. ISSN 2630-0559. <http://jhsmr.org/index.php/jhsmr/article/view/824>
6. Malolos, G., Baron, M., Apat, F., Sagsagat, H., Pasco, P., Aportadera, E., Tan, R., Gacutno-Evardone, A. J., & Lucero-Prisno III, D. E. (2021). Mental health and well-being of children in the Philippine setting during the COVID-19 pandemic. *Health Promotion Perspectives*, 11(3), 267-270. <https://doi.org/10.34172/hpp.2021.34>
7. Palo, R. (2022). DepEd probes student's suicide. <https://www.manilatimes.net/2020/10/20/news/regions/depd-probes-students-suicide/782769?fbclid=IwAR0nl5YsizoKIVV2pBQSNr9fGtQJP8wsnUaZBmsZau9iPitV1cNQ6PBVQtM>
8. United Nations. (2020). Definition of youth. Retrieved from <https://www.un.org/en/sections/issues-depth/youth-0/index.html>
9. Oklahoma State University. (2020). Understanding boys and girls: Five basic needs of youth - Oklahoma State 4-H. Retrieved from http://4h.okstate.edu/literature-links/lit-online/others/volunteer/4H.VOL.102UnderstandingBoysGirls_08.pdf/
10. Bhandari, P. (2020). An introduction to quantitative research. Retrieved from <https://www.scribbr.com/methodology/quantitative-research>
11. Crossman, A. (2021, February 16). Understanding stratified samples and how to make them. Retrieved from <https://www.thoughtco.com/stratified-sampling-3026731>
12. Puyat, J. H., Gastardo-Conaco, M. C., Natividad, J., & Banal, M. A. (2021). Depressive symptoms among young adults in the Philippines: Results from a nationwide cross-sectional survey. *Journal of Affective Disorders Reports*, 3. <https://doi.org/10.1016/j.jadr.2020.100073>
13. Varma, P., Junge, M., Meaklim, H., & Jackson, M. L. (2021). Younger people are more vulnerable to stress, anxiety and depression during COVID-19 pandemic: A global cross-sectional survey. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, 109, 110236. <https://doi.org/10.1016/j.pnpbp.2020.110236>
14. Islam, M. A., Barna, S. D., Raihan, H., Khan, M., & Hossain, M. T. (2020). Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey. *PloS One*, 15(8), e0238162. <https://doi.org/10.1371/journal.pone.0238162>
15. Kessler, R. C., Amminger, G. P., Aguilar-Gaxiola, S., Alonso, J., Lee, S., & Ustün, T. B. (2007). Age of onset of mental disorders: A review of recent literature. *Current Opinion in Psychiatry*, 20(4), 359-364. <https://doi.org/10.1097/YCO.0b013e32816ebc8c>
16. Kessler, R. C., Angermeyer, M., Anthony, J. C., DE Graaf, R., Demyttenaere, K., Gasquet, I., DE Girolamo, G., Gluzman, S., Gureje, O., Haro, J. M., Kawakami, N., Karam, A., Levinson, D., Medina Mora, M. E., Oakley Browne, M. A., Posada-Villa, J., Stein, D. J., Adley Tsang, C. H., Aguilar-Gaxiola, S., Alonso, J., & Ustün, T. B. (2007). Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World Psychiatry*, 6(3), 168-176.

17. Kessler, R. C., Ruscio, A. M., Shear, K., & Wittchen, H. U. (2010). Epidemiology of anxiety disorders. *Current Topics in Behavioral Neurosciences*, 2, 21-35.
18. Zhou, S. J., Zhang, L. G., Wang, L. L., Guo, Z. C., Wang, J. Q., Chen, J. C., Liu, M., Chen, X., & Chen, J. X. (2020). Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. *European Child & Adolescent Psychiatry*, 29(6), 749-758. <https://doi.org/10.1007/s00787-020-01541-4>
19. Inam, S. B. (2007). Anxiety and depression among students of a medical college in Saudi Arabia. *International Journal of Health Sciences*, 1(2), 295-300.
20. Wolf, M. R., & Rosenstock, J. B. (2017). Inadequate sleep and exercise associated with burnout and depression among medical students. *Academic Psychiatry*, 41, 174-179. <https://doi.org/10.1007/s40596-016-0526-y>
21. Bahhawi, T. A., Albasheer, O. B., Makeen, A. M., Arishi, A. M., Hakami, O. M., Maashi, S. M., Al-Khairat, H. K., Alganmy, O. M., Sahal, Y. A., Sharif, A. A., & Mahfouz, M. S. (2018). Depression, anxiety, and stress and their association with khat use: A cross-sectional study among Jazan University students, Saudi Arabia. *Neuropsychiatric Disease and Treatment*, 14, 2755-2761. <https://doi.org/10.2147/NDT.S182744>
22. Huang, L., Lei, W., Xu, F., Liu, H., & Yu, L. (2020). Emotional responses and coping strategies in nurses and nursing students during Covid-19 outbreak: A comparative study. *PloS One*, 15(8), e0237303. <https://doi.org/10.1371/journal.pone.0237303>
23. Zhang, Z., Zhai, A., Yang, M., Zhang, J., Zhou, H., Yang, C., Duan, S., & Zhou, C. (2020). Prevalence of depression and anxiety symptoms of high school students in Shandong Province during the COVID-19 epidemic. *Frontiers in Psychiatry*, 11, 570096. <https://doi.org/10.3389/fpsy.2020.570096>
24. Acosta-Gómez, M. G., De la Roca-Chiapas, J. M., Zavala-Bervena, A., López-González, E., García-Vázquez, C. M., Garza-Villarreal, E. A., & Grau-López, L. (2020). Anxiety and depression among medical students during COVID-19 pandemic: A cross-sectional study. *Revista Latinoamericana de Psicología*, 52(1), 1-12. <https://doi.org/10.14349/rlp.2020.v52.1.3>
25. Al Azzam, M., & Abuhammad, S. (2021). Predictors of depression and anxiety among senior high school students during COVID-19 pandemic: The context of home quarantine and online education. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/1059840520988548>
26. Giannopoulou, I., Efstathiou, V., Triantafyllou, G., Korkoliakou, P., & Douzenis, A. (2021). Adding stress to the stressed: Senior high school students' mental health amidst the COVID-19 nationwide lockdown in Greece. *Psychiatry Research*, 295, 113560. <https://doi.org/10.1016/j.psychres.2020.113560>
27. Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, 287, 112934. <https://doi.org/10.1016/j.psychres.2020.112934>
28. Bahian, M. E. V., Navarrete, K. L. E., Sodomia, G., Coste, C. P., & Cadiente, A. M. (2021). Level of depression, anxiety and stress among students amidst COVID-19 pandemic. *Turkish Journal of Physiotherapy and Rehabilitation*, 32(3), 5298-5305.
29. Radwan, E. (2021). Prevalence of depression, anxiety and stress during the COVID-19 pandemic: A cross-sectional study among Palestinian students (10-18 years). <https://bmcp psychology.biomedcentral.com/articles/10.1186/s40359-021-00688-2>
30. Barman, S., & Brahma, S. (2021). Academic anxiety of the students during COVID-19, Assam, India: A situational analysis. Retrieved from: <https://journalppw.com/index.php/jpsp/article/view/1440>
31. Tus, J. (2021). Amidst COVID-19 pandemic: Depression, anxiety, stress, and academic performance of the students in the new normal of education in the Philippines. Retrieved from https://www.researchgate.net/publication/350833429_Amidst_COVID19_Pandemic_Depressio_n_Anxiety_Stress_and_Academic_Performance_of_the_Students_in_the_New_Normal_of_Education_in_the_Philippines
32. Wang. (2021). Anxiety, depression, and stress prevalence among college students during the COVID-19 pandemic: A systematic review and meta-analysis. *Journal of American College of Health*. <https://doi.org/10.1080/07448481.2021.1960849>
33. Hamaideh, S. H., Al-Modallal, H., Tanash, M., & Hamdan-Mansour, A. (2022). Depression, anxiety and stress among undergraduate students during COVID-19 outbreak and "home-quarantine". *Nursing Open*, 9(2), 1423-1431. <https://doi.org/10.1002/nop2.918>