

Depression, Anxiety and Stress during COVID-19 among high school students in Bangkok, Thailand

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Abstract: Various types of mental health including depression, anxiety, and stress is one of the topics all of us should consider. As the COVID-19 cases rise, sweeping through the nation, there is a tremendous effect towards an individual's health. The study of DASS is one of the assessments that allows researchers to understand more about mental health and how people should be more aware of it.

Purpose: To assess level of depression, anxiety and stress among high school students during the pandemic of COVID-19.

Methodology: This is a cross sectional survey research, DASS21 assessment was used to collect data. Descriptive statistics; frequency, percentage, mean and standard deviation to analyze data.

Findings: In this research, in total of 106 results were collected, 50 male and 56 female.

Conclusion: The COVID-19 pandemic results in an affected mental health in each of the students. One of the possible factors include being locked down in their shelter for a long period of time. Students lost their interest in doing activity as well as would choose to rather sleep and relax. If an individual mental health results can be analyzed, they all would be supported to the most extent to how they need.

Keywords: High school students, COVID-19, Depression, Anxiety, Stress, DASS-21.

1. INTRODUCTION

Depression, anxiety, and stress are three of the most common mental health among high school students. There are various types of mental health which includes social psychology and well being. This will affect our thoughts, actions and feelings. It will also show how we all handle stress, thinking, and emotions. Moreover, it will also determine the way you contribute to society (socialize) and how we work productively [1].

As the coronavirus pandemic sweeps through the world rapidly, it has an effect on the world's population due to the fact that they become stressed, fear, and worry. According to the World Health Organization, 93 percent of mental health services worldwide are increasing [2]. Some factors that might cause mental health to the teenager includes family losing their financial stability, health care service, and school vital supports that are all interrupted by the covid-19 lockdown. Additionally, some signs that show depression are the sudden change in mood, loss of interest, hard time falling asleep etc.

Studying the DASS will allow society to be more aware about how high school students' mental health are affected during the covid-19 pandemic. Depression, anxiety, and stress are one of the most crucial aspects of a student's path to success in mental health [1]. Without balanced mental health, students fail to focus on their studies, and as such, their grades slip, leading to more anxiety and nervousness. Thus, it is important to be aware that mental health can significantly impact students [3].

Objective

1. To assess level of depression, anxiety and stress among high school student during the pandemic of COVID-19

2. METHODS**Participants and procedure**

This was a cross-sectional observational study. An online questionnaire was purposely developed and available through Google Form between 28 Oct 21 and 24 Mar 22. All students were eligible and were invited to participate in the study. The invitation was sent to their emails so all students received equal chance to participate in the study) The students have access to their emails, so they all receive an invitation. In this invitation, information about the objectives of the study as well as the ethical guarantee of confidentiality and anonymity in the data collected as stated in the informed consent were explained. Participation was completely free and voluntary, and no personal data were collected from any participant. Of the 106 students, a total of 360 students/who participated in the study (response rate: 29.4 %).

Instrument

The questionnaire was developed based on a literature review including (1) Depression, Anxiety, depression, teen mental health from WHO (2) related studies performed on the same topics were used to assess each of the dimensions analyzed in this study. The proposed items were then grouped and redundant items were removed. DASS21 questions were used to assess levels of depression, anxiety and stress of the sample group. The DASS-21 is a self-report questionnaire designed to assess the levels of depression, anxiety and stress [4]. It consists of a total of 21 items with 7 items for each subscale [5]. It is a shortened version of the DASS which was originally developed by SH Lovibond, and PF Lovibond so the scores obtained from DASS-21 need to be multiplied by 2 to calculate the final score [12]. Studies on the validity show that the DASS-21's subscales can be used to measure depression, anxiety and stress validly and can also be studied further psychologically as well [6]. The psychometric characteristics of the questionnaire were tested, as described in the statistical analysis subsection. The final version of the questionnaire contained 23 questions; 2 about sociodemographic data (gender and grade level) and 21 items were questions from DASS21.

Statistical analysis

The analysis was performed using SPSS for windows, version 26. To analyze psychometric characteristics of the scales, an exploratory factor analysis, using principal component analysis with varimax rotation, was carried out. The descriptive analysis were presented in absolute (n) and relative (%) frequencies, mean (M) and standard deviations (SD). To assess the differences between the outcome variables (Levels of depression, anxiety, and stress) and the sociodemographic characteristics, considering the sample size, independent t-test and the ANOVA were used as appropriate. A generalized linear model was calculated to determine the predictive variables of the preventive behaviors. Exp (β) and the respective 95% confidence intervals (95% IC) were presented. Statistical significance was defined as $p < 0.05$.

Ethical Approval.

Ethical approval was obtained from the study sites prior to data collection, and consent was assumed

as completing the survey questions. Participants were informed that their participation was voluntary and that they could withdraw from the study at any point or choose not to answer any question. Participants' confidentiality was maintained as no identifying information was collected and findings will be disseminated only in aggregate.

3. RESULT

In this research, there are 106 participants, mostly female (n=56, 47.2%). The majority is in grade 10 (n=49, 46.2%) followed by grade 11 (n=32, 30.2%), grade 9 (n=13, 12.3%), grade 12 (n=12, 11.3%) respectively. (Table 1)

Table 1: Differences in outcomes according to the sociodemographic characteristics of participants (N = 106)

Sociodemographic characteristics	N (%)
Gender	
Male	50 (47.2)
Female	56 (52.8)

Grade Level	
Grade 9	13 (12.3)
Grade 10	49 (46.2)
Grade 11	32 (30.2)
Grade 12	12 (11.3)
Total	106 (100)

In the overall participants of 106 people, the analysis of rate of depression shows that in grade 10, the majority of the students are normal (n=31, 63.26%), following by moderate (n=9, 18.37%), mild (n=7, 14.29%), and extremely severe (n=2, 4.08%). None of the participants in grade 10 is severe in depression. Moving on to grade 11, out of 32 students participated, the majority of the students are normal as well (n=18, 56.24%), not only mild and moderate (n=6, 18.75%) had the same number of students but also severe and extremely severe (n=1, 3.13%). In grade 12, the results were very dispersed. In all of the 12 participants, 4 students had the result of not having depression or “normal” (n=4, 33.33%) following by moderate (n=3, 25%), extremely severe (n=2, 16.67%), mild (n=2, 16.67%), and severe (n=1, 8.33) respectively. The grade with the most students in the normal condition is grade 9 (n=12, 92.31) with only 1 student in the moderate stage (n=1, 7.69%). (Table 2)

Table 2: Self perceived level of depression among participants (n=106).

Depression	Normal	Mild	Moderate	Severe	Extremely Severe	Total
Grade 9	12 (92.31)	0 (0)	1 (7.69)	0 (0)	0 (0)	13
Grade 10	31 (63.26)	7 (14.29)	9 (18.37)	0 (0)	2 (4.08)	49
Grade 11	18 (56.24)	6 (18.75)	6 (18.75)	1 (3.13)	1 (3.13)	32
Grade 12	4 (33.33)	2 (16.67)	3 (25)	1 (8.33)	2 (16.67)	12
Total	65 (61.32)	15 (14.15)	19 (17.92)	2 (1.89)	5 (4.72)	106

In table 3, it shows the information of anxiety. It could be further analyzes that in grade 10, grade 11, and grade 12, there is an equal number of students how is extremely severe while, there a no participants from grade 9 that has it. Starting of with grade 10, out of the total participants, majority does not have anxiety. They are considered as normal (n=23, 46.94%). This follows by mild (n=11, 22.45%), moderate (n=9, 18.37%), severe (n=3, 6.12%) and extremely severe (n=3, 6.12%), respectively. Moving on to grade 11, mostly, the participants are in the normal stage as well (n=11, 34.39%). It follows by mild (n=10, 31.25%), moderate (n=5, 15.64), and severe and extremely severe with the same amount of participants (n=3, 9.37%). In grade 12, from all of the 12 students participated, the most number of participants has a severe anxiety (n=4, 33.33%). This follows by extremely severe and normal with the same number of students (n=3, 25) and mild (n=2, 16.67%). None of the students from grade 12 were moderate in anxiety. Lastly, grade 9, majority is normal or without anxiety (n=9, 61.54%) following by mild (n=4, 30.77%) and moderate (n=1, 7.69%). None of the participants from grade 9 is severe or extremely severe in anxiety. (Table 3)

Table 3: Self perceived level of anxiety among participants (n=106).

Anxiety	Normal	Mild	Moderate	Severe	Extremely Severe	Total
Grade 9	8 (61.54)	4 (30.77)	1 (7.69)	0 (0.00)	0 (0.00)	13
Grade 10	23 (46.94)	11 (22.45)	9 (18.37)	3 (6.12)	3 (6.12)	49
Grade 11	11 (34.38)	10 (31.25)	5 (15.63)	3 (9.37)	3 (9.37)	32
Grade 12	3 (25.00)	2 (16.67)	0 (0.00)	4 (33.33)	3 (25)	12
Total	45 (42.45)	27 (25.47)	15 (14.15)	10 (9.44)	9 (8.49)	106

The chart of stress can be further analyzed that in all grades, the majority of the students are in a normal stage. In grade 10, up to 41 students or 83.67% is normal which is overall half of the students who participate. It is followed by mild (n=4, 8.17%), severe (n=2, 4.08%), moderate (n=1, 2.04), and extremely severe (n=1, 2.04). In grade 11, almost all of the participants are normal without anxiety (n=25, 78.13%), followed by mild and moderate in which has the same number of students (n=3, 9.37), and extremely severe (n=1, 3.13%). None of the students has severe stress. In grade 12 half of the total participants had a normal in stress (n=6, 50%), the rest it was dispersed into moderate (n=4, 33.33%) and mild (n=2, 16.67%). No participants are severe and extremely severe. Grade 9 marks the most surprising data. Only 1 student of all the total participants are mild (n=1, 7.69%). Additionally, none of the students are moderate, severe, and extremely severe. Almost all of the students are normal (n=12, 92.31%). (Table 4)

Table 4: Self perceived level of stress among participants (n=106).

Stress	Normal	Mild	Moderate	Severe	Extremely Severe	Total
Grade 9	12 (92.31)	1 (7.69)	0 (0)	0 (0)	0 (0)	13
Grade 10	41 (83.67)	4 (8.17)	1 (2.04)	2 (4.08)	1 (2.04)	49
Grade 11	25 (78.13)	3 (9.37)	3 (9.37)	0 (0)	1 (3.13)	32
Grade 12	6 (50)	2 (16.67)	4 (33.33)	0 (0)	0 (0)	12
Total	84 (79.24)	10 (9.43)	8 (7.55)	2 (1.89)	2 (1.89)	106

4. DISCUSSION

In this study, there is in a total of 106 participants. The majority of the participants were female (n=56, 52.8%) contributor. Most of participants studied in grade 10 (n=49, 46.2%). Moreover, large number of students (n=84, 79.24%) reported their level of depression to be at a normal level following by mild (n=10, 9.43%), moderate (n=8, 7.55%), and severe (n=2, 1.89%) and extremely severe (n=2, 1.89%). Following by the level of anxiety, most of the students (n=45, 42.45%) is present at the normal level followed by mild (n=27, 25.47%), moderate (n=15, 14.15%), extremely severe (n=9, 8.49%), and lastly, severe (n=10, 9.44). Moreover, majority of the participants (n=65, 61.32%) report their level of stress at a normal level, following by moderate (n=19, 17.92%), mild (n=15, 14.15%), extremely severe (n=5, 3.72%), and severe (n=2, 1.89%)

Comparing results on DAS among high school students who studied at Thai High school, it shows that there is a tremendous difference. According to Appita's paper [7], results from Thai High School students show a higher rate in stress, anxiety, and depression. The majority of the students tend to have a moderate depression and the highest in stress, whereas in international schools, most of the students are normal in all categories [7]. Some of the possible factors that mark the greatest difference is the learning environment. When comparing International school and Thai school, there is a drastic difference. Circumstances in Thai schools are much more competitive, where students compete to get into a higher ranking university or the desire to be at the top ranking of the class. Moreover, the second reason can potentially be peer pressure. It is more often in Thai schools that teachers pressure their students, whereas in International school teachers usually see if students perform their best performance or not. On the other hand, if results are compared to other internal school students, the results of student's mental health are similar. Comparing the results with Ingfah's paper [8], the majority of the students remain at a normal rate which means that their mental health is very healthy.

Limitation

When this research was conducted, answers were collected through an online google form. This caused various limitations like searching up definitions and possible answers to get the best results. Moreover, it was also possible for participants to not focus on answering the question to their best ability. This is because the DASS-21 quiz has a long multiple choice set of questions which may cause the participants to lose their focus leading to clicking through the answer as fast as they can. These uncontrollable behavior of participants lead to a vary in results.

5. CONCLUSIONS

The total number of participants involved in this study is 106, the majority were female (n=56 52.8%) followed by male (n=50, 47.2%). The results of this research shows that the large number of students has a normal rate of depression (n=65, 61.32%), stress (n=84, 79.24%), and anxiety (n=45, 42.45%). Some of the predicted factors of level of depression, stress, and anxiety in an individual is their living circumstances. This includes, learning environment, family, friends, peer pressure, etc. From the results, parents and adults should pay more attention towards the mental health of a teenager. It is the time where it is the toughest for them as a student.

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