

A Survey Study on Stress and Depression among Paramedical Students in Virtual Classroom during COVID-19 Pandemic in Kerala

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ABSTRACT

Background: The epidemic of Covid -19 caused paramedical students to become more stressed and depressed. Exacerbated study load, online classes, and lack of practical sessions, examination fear increased their stress level. So the aim of the study was to analyze the stress and depression among those paramedical students.

Method: A cross sectional survey study in hand was done. A convenient sample method was used. It consists of 200 paramedical students between the age of 18 and 23 years from various paramedical colleges in Kerala especially from Ernakulum. The participants were selected according to inclusion, exclusion criteria. The survey was conducted during the first week of August 2021. The outcome measures were Beck's depression inventory scale for assessing depression and perceived stress scale was used for assessing stress.

Result: This study result shows that, there are 5% of highly stressed subjects and 85% are of medium stress, 10% of study sample has low stress. In case of depression, 1% have extreme depression, 11% subjects have severe depression, 33% of the samples have moderate depression, 15% have borderline depression, 17% have mild depression and 23% of subjects were normal.

Conclusion: From the study we concluded that, there is a presence of stress and depression among paramedical students in virtual classroom during Covid- 19 outbreak period.

The scoring helped us to find out who is prone to severe stress and depression. It also shows the importance of management of the issue of paramedical students.

Keywords: Stress, depression, paramedical students, Beck's depression inventory, perceived stress scale

INTRODUCTION

The SARS-CoV-2 virus causes Corona virus Disease (COVID- 19), an infectious disease. The majority of those infected with the virus will have mild to moderate respiratory symptoms and will recover without the need for medical attention. On the other hand, some will become critically unwell and require medical assistance. Serious sickness is more likely to strike the elderly and those with underlying disorders such as cardiovascular disease, diabetes, chronic respiratory disease or cancer. Being thoroughly informed on the disease and how it spreads is the best strategy to avoid and slow down the transmission. Stay at least one meter away from the people, wear a well fitted mask, and wash your hands or use an alcohol based rub periodically to protect yourself and others from infection. It is important to get vaccinated and follow the rules [1]. Since the students are experiencing this lock

down for the first time; they are feeling entirely alienated from society and lonely.

Even the teachers are unaware of the online teaching method, and the practical for paramedical students are messed up. It causes not just a lack of understanding among students about practicals, but also a fear of tests. Long periods of staring at a mobile device might harm not only one's vision but also one's mental health. Our research provides insight into how much stress students face, as well as how much stress adults face at work.

School closures were meant to keep students safe throughout the pandemic, but for many, they have brought with them a new set of risks: anxiety, despair and other major mental health issues. Since the campuses closed, school counselors, psychologists and social workers have been trying to aid students digitally, listening to their problems and offering guidance on how to deal with the complex issues they are confronting. However, kids required in-person assistance, which was impossible to provide during the Covid -19 pandemic. Many students mental and physical health has been impacted by the increased screen time of online instruction and the absence of face-to-face interaction. Increased screen usage has been related to anxiety, depression and sense of attention deficit [2]. The aim of the study was to analyze the stress level and depression among paramedical students in virtual classroom during the Covid 19 Outbreak in Kerala.

METHODOLOGY

- **STUDY DESIGN:** A cross sectional survey study.
- **SAMPLING METHOD:** Convenient sampling method.
- **STUDY SIZE:** 200
- **STUDY SETTING:** This study was conducted in various colleges in Kerala. Students of various paramedical courses like MLT, optometry was also included.
- **MODE OF SURVEY:** offline survey using questionnaires in hand.

- **STUDY DURATION:** Survey study was conducted during the first week of October 2021.
- **MATERIALS USED:**
 - Pen
 - Paper
 - Demographic chart
 - Perceived Stress scale questionnaire
 - Beck's depression inventory questionnaire

SELECTION CRITERIA

➤ INCLUSION CRITERIA:

- ❖ Age 18-23
- ❖ Both male and female students
- ❖ Paramedical students of different stream.
- ❖ Students who attended online classes for minimum 6 months during pandemic
- ❖ Students who are willing to participate in the study

➤ EXCLUSION CRITERIA:

- ❖ Students who are not within the age limit.
- ❖ Post graduate students.
- ❖ Students who haven't attended online classes.
- ❖ Students who are not willing to participate in the study.

STUDY PROCEDURE:

Covid protocols were strictly followed for collecting the required data. We ensured that the students maintained social distance while answering the questionnaires and discouraged exchanging of pen and paper. The study was conducted during the first week of October 2021. The subjects were carefully selected according to inclusion exclusion criteria. The consent was taken from the respondent for the participation in the study. Even though it was a pandemic period, this survey was conducted through offline by distributing questionnaire in hand. We introduced ourselves and briefly explained the purpose of study to the medical students who met the criteria for study. Firstly, they were asked to

fill the demographic sheet and then proceed to other study scale for measurement of their stress through perceived stress scale and beck's depression inventory.

Beck's depression inventory and perceived stress scale is an extremely

important tool that researchers and psychologists use to measure an individual's depression and stress respectively. These scales are considered as gold standard for measuring stress and depression.

DATA ANALYSIS AND RESULTS

PERCEIVED STRESS INTERPRETATION TABLE

Table 1: Distribution of Stress Among Gender

Intensity of stress	Male		Female	
	Frequency	Percentage	Frequency	Percentage
Low	5	25	15	75
Moderate	53	31.17	117	68.82
High	4	40	6	60

The above table represents Frequency and percentage of male and female with varying intensity of stress, it states that 5 male (25%) and 15 female

(75%) subjects have low stress. 53 male (31.17) and 117 female (68.82) subjects have moderate stress, 4 males (40%) and 6 females (60%) subjects have high stress.

BECK'S DEPRESSION INTERPRETATION TABLE

Table 2: Distribution of Depression Among Gender

Intensity of Depression	Male		Female	
	Frequency	Percentage	Frequency	Percentage
Normal	8	17.4	38	82.60
Mild	11	32.4	23	67.6
Borderline	5	16.7	25	83.4
Moderate	26	39.4	40	60.6
Severe	7	31.8	15	68.2
Extreme	0	0	2	100

The above table shows the Frequency and percentage of male and female students with varying intensity of depression. Here 8(17.4%) male and 38(82.60%) female subjects have no depression are included in normal category. 11(32.4%) male and 23(67.6%) female have mild depression, 5 male (16.7%) and 25 female (83.4%) are in borderline between mild and moderate depression, 26 male(39.4%) and 40 males(60.6%) have moderate depression, 7 male(31.8%) and 14 female (68.2%) have severe depression, no males have extreme depression but 2 females have.

with low stress, 170 (85%) are with medium stress and 10(5%) are with high stress.

Table 3: Perceived Stress Interpretation Table

Stress	No. of Individuals
Low stress	20
Medium stress	170
High stress	10

INTERPRETATION OF BECK'S DEPRESSION INVENTORY

Table 4: Beck Depression Interpretation Table

Depression	No. Of Individuals
Normal	46
Mild	34
Borderline	30
Moderate	66
Severe	22
Extreme	2

INTERPRETATION OF PERCEIVED STRESS SCALE

The above table shows number of individuals with low, medium and high stress. In 200 study subjects 20(10%) are

The above table states that 46 (33%) subjects are normal, 34(17%) subjects are in mild depression, 30(15%) subjects are in borderline category, 66(33%) subjects have moderate depression, 22 (11%) subjects

have severe depression and 2(1%) subjects are in extreme depression.

DISCUSSION

The Covid -19 pandemic is widely regarded as the most serious global health disaster of the century and the greatest threat to humanity since World War II. The World Health Organization recognized Covid -19, as new infectious respiratory diseases that appeared in Wuhan, Hubei Province, China, in December 2019. SARS-CoV-2 is a new type of corona virus that has been discovered to be responsible for the disease development [3]. Corona virus disease -2019 is the official name of the disease COVID -19, by WHO on February 11, 2020. The Taiwan CDC termed it as Severe Pneumonia with Novel Pathogens on January 15, 2020. Covid -19 is a possible zoonotic illness with a low to moderate fatality rate (estimated at 2% - 5%). Person – person transmission can occur by droplet or contact transmission, putting first line healthcare workers at risk infection control is lax or if suitable personal protective equipments is not available. Covid-19 has no definitive treatment at the moment, through various medications are being researched. Physicians should aware of the travel or contact history of patients with comparable symptoms in order to quickly identify patients and prevent further dissemination [4].

In this scenario educational institutions were forced to shut down. This created negative impact on academics of the paramedical students. Practical session has more importance for paramedical students, but unfortunately by the covid pandemic they lost practical classes. So they were compelled to attend online classes this created stress and anxiety among students regarding studies and future. All students attended online classes for almost a year. So this leads to depression. While analyzing, there was a scarcity regarding the study of prevalence of stress and depression among paramedical students due to online classes. So we decided to find out the prevalence of

stress and depression among paramedical students. The students were informed about the aims of the study and the method of data collection by a researcher in the classroom. The students were assured that privacy and confidentiality would be maintained, and that they had a right to refuse to participate in the study or to withdraw consent to participate at any time without reprisal. Of a total population of 200 there was no drop out. Few authors found out that high school level boarding school students have stress and anxiety. For that, aerobic exercise along with music therapy is helpful in reducing stress and anxiety [5]. From the above result, we found that there is presence of stress and depression among paramedical students and these leads to deterioration of physical and mental health.

Virtual classes have a wide range of psychological consequences. Lack of interest: Humans are social animals, and even the most introverted individuals require human interaction from time to time. The kids have become disinterested in their classes. The majority of them turns off the camera and continues about their business. The drowsiness has instilled a lack of interest in not only the study, but in everything. Stress: The stress of schoolwork and assignments after school has taken a toll on mental health and mood. Students' focus levels in online learning declined when their gaze wandered elsewhere on the screen. As a result, most students found it difficult to keep up with the class. Stress and anxiety have increased as a result of the pressure to concentrate and generate the desired outcomes. Home works, assignments and tasks were falling behind. The majority of the children appeared to be lagging behind and was under pressure.

Zoom fatigue:

After attending online classes or video conferences, all may experience zoom fatigue. The mind is bombarded with information as screen time increases, and the brain finds it difficult to register all of the information.

Virtual classes have a wide range of physical health consequences. Increased screen usage puts more strain on the eyes, which causes headaches. This was true not only for students, but also for teachers too, the integrity of the classroom has been severely harmed. Health risks have been caused by posture, regularity, lack of routine and attentiveness. Constant sitting has also contributed to weight gain. Children have gotten obese due to lack of physical activities. Surprisingly, virtual education has resulted in vitamin D deficiency. Lack of sunlight, poor diet, and no exercise has resulted in minor injuries, which have led to more serious injuries [6].

CONCLUSION

From the study, we concluded that there is presence of stress and depression among paramedical students in virtual classroom during covid -19 outbreaks in Kerala. Among 200 subjects that we selected, 5% have high stress, 85% have medium stress. 10% have low stress. In case of depression, 1% subjects have extreme depression, 11% have severe depression, 33% have moderate depression, 15% have borderline depression, 17% have mild depression and 23% are normal. The major reason for this stress and depression may be due to new method of studies, online classes, fear about exams and lack of practical classes. The health of paramedical students is very important because, they are the peoples who are required to treat provide essential medical services to the patients in future. So they are going to play a vital role in the community, so it is very important thing to ensure their physical and mental health especially during the Covid – 19 pandemic. Close attentions must be given to designing and implementing early targeted interventions to improve the wellbeing of all students' especially paramedical students during this pandemic.

LIMITATIONS

1. The sample size is small for a survey study.

2. The survey was conducted offline and limited time was given to fill the form.
3. Study had only taken 2 scales into account for interpretation of result.
4. Study contains mainly paramedics for survey.
5. Study is conducted in Kerala mainly on Ernakulam district leaving other areas.

SCOPE OF THE STUDY

1. More samples can be added for increasing the accuracy in research survey.
2. Survey can be conducted all over the places include many other areas of health sector for vast study.
3. The study is useful for policy making over the health sector by assessing major problems.
4. We can use many more interpretation scale other than perceived stress and beck's depression inventory for more elaborated study in the future.
5. The study points out the major problems of paramedic students during covid 19, So it can be used to assess the adverse effects of pandemic that changes the students physical and mental health

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REFERENCES

1. <https://www.who.int/health-topics/coronavirus>
2. Awoke M, Mamo G, Abdu S, Terefe B. Perceived stress and coping strategies among undergraduate health science students of Jima university amid the COVID-19 outbreak: online cross-sectional survey. *Frontiers in psychology*. 2021;12.
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7175860>
4. https://journals.lww.com/jcma/fulltext/2020/03000/the_outbreak_of_covid_19__an_overview3.aspx

5. George SA, Haritha PH, John J, Jose J. Effectiveness of Aerobic Exercise in Reducing Stress and Anxiety among High School Level Boarding Students. *International Journal of Science and Research*, 2021(10) 7; 819–821.
6. <https://www.indiatoday.in/education-today/featurephilia/story/effects-of-online-education-on-mental-and-physical-health-1854320-2021-09-18>
7. Yang C, Chen A, Chen Y. College students' stress and health in the COVID-19 pandemic: The role of academic workload, separation from school, and fears of contagion. *PloS one*. 2021 Feb 10;16(2): e0246676.
8. Son C, Hegde S, Smith A, Wang X, Sasangohar F. Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of medical internet research*. 2020 Sep 3; 22(9):e21279.
9. Chandra Y. Online education during COVID-19: perception of academic stress and emotional intelligence coping strategies among college students. *Asian Education and Development Studies*. 2020 Oct 6.
10. Islam MA, Barna SD, Raihan H, Khan MN. A., & Hossain, MT. Depression and anxiety among university students during the COVID-19 pandemic in Bangladesh: A web-based cross-sectional survey. *PloS one*.2020; 15(8):e0238162.

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