Assessment of the Level of Stress, Anxiety and Depression after Second Wave of COVID-19 in Medical Students of Raipur (C.G)

Dr. Himanshu Veer Singh[1], Dr. Ankit Sharma[2]

M.B.B.S, PG Scholar (MD Physiology), Department of Physiology,
Pt. Jawaharlal Nehru Memorial Medical College, Raipur, Chhattisgarh 492001, India
himanshuveer24[at]gmail.com

M.B.B.S, PG Scholar (MD Physiology), Department of Physiology,
Pt. Jawaharlal Nehru Memorial Medical College, Raipur, Chhattisgarh 492001, India
drankitsharma25[at]gmail.com

Abstract: *Background & Objectives: The COVID-19 second wave has lethally affected the lives of the younger age-group. Medical students faced illness and many witnessed* **the** *deaths of close relatives. The aim of this study is to assess the mental health of medical students in the context of second wave of the pandemic. The main objective is to assess the level of stress, anxiety and depression in medical students after the COVID-19 second wave. Material and Methods: With due ethical permission and taking the written informed consent of participation, a web-based cross-sectional study using the DASS-42 scale was conducted online among 117 medical students in the vicinity of Raipur city in July 2021; 62 (53%) boys and 55 (47%) girls between the age group of 18-23 years. Results: On data analysis we found 79% participants (95% C.I : 10.7-12.8, M=11.78,S.D=5.771) under anxiety (82% boys, 74% girls), 59% participants (95% C.I : 14.9-17.4, M=16.18, S.D=6.890) under stress (52% boys, 67% girls) and 51% participants (95% C.I : 10.2-12.9, M=11.61, S.D=7.50) under depression (50% boys, 52% girls). Conclusion: The result concludes that the level of anxiety is highest among study participants followed by the increased level of stress and then depression at last.*

Keywords: COVID-19second wave, medical students, depression, anxiety, stress

1. Introduction

Since the middle of March 2021, the second wave of COVID-19 has started. In April, the highest number of cases (144,829) were identified in our country and India became the 3rd leading country based on the USA and Brazil's identified cases [1].

The massive community spreaded to mortalities at relatively higher rates than the previous wave of the COVID-19 infection, letting the fear and anxiety emerge among younger age groups peoples. Amongst them lies the coterie of medical students that faced significant illness. Throughout the crisis, many students sadly witnessed the deaths of close family members and relatives too.

Moreover, the suspension of colleges during lockdowns also cost academic loss and exam delays further potentiating the chances of affecting their mental health. Hence all these psychological concerns push for the need to assess the impact of the second wave of COVID-19 on the mental health domain of medical students.

2. Material and Methods

Study Design: After getting institutional SEC approval a web-based cross-sectional survey was conducted online via Google Forms for which the link was shared in the Google Classroom and WhatsApp group.

Study Place & Setup: The survey was conducted between July 6 to July 15, 2021, at Raipur after the State government declared relaxation on the lockdown (25th June 2021) and medical colleges were reopened.

Sample Size: A total of 117 participants 62 (53%) boys and 55 (47%) girls between the age group of 18-23 years (Mean age =19.92 ± 1.134) in the vicinity of Raipur city were analyzed. The Participant's Information Sheet and Consent form were attached to the survey questionnaire and consent were obtained from each participant before enrolment in the study.

Study Tool: Depression Anxiety and Stress Scale-42 (DASS-42) questionnaire consists of three sub-scales to assess the level of depression, anxiety and stress. Each subscale consists of 14 items. The scale has excellent Cronbach's alpha values for the subscales of depression = 0.81, anxiety = 0.89, and stress = 0.78 along with internal consistency and concurrent validities. [2]

Statistical Analysis: Descriptive statistics such as frequency and percentages were calculated for each sub-scale. The mean and standard deviations were calculated for each subscale. the continuous variables. The analyses were performed using MS excel data analysis software. While making the analysis, the confidentiality of the responses was ensured and only completed questionnaires were considered for the statistical analysis.

3. Results

On data analysis we found 79% participants (95% C.I: 10.7-12.8, M=11.78, S.D=5.771) under anxiety (82% boys and 74% girls), 59% participants (95% C.I : 14.9-17.4, M=16.18, S.D=6.890) under stress (52% boys and 67% girls) and 51% participants (95% C.I : 10.2-12.9, M=11.61, S.D=7.50) under depression (50% boys and 52% girls)
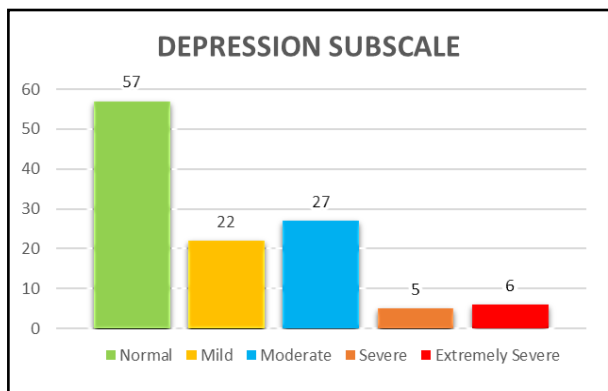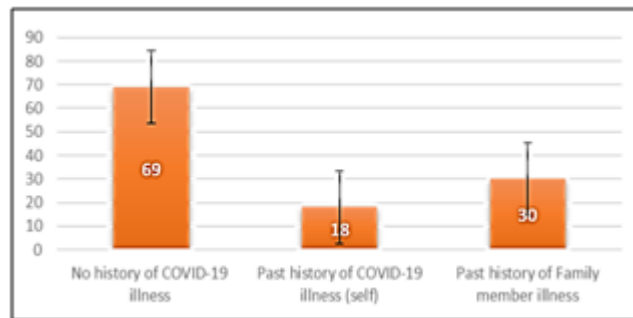

Figure 1: Grading of participants response under the Depression subscale (95% C.l:10.2-12.9, M=11.61, S.D=7.50)
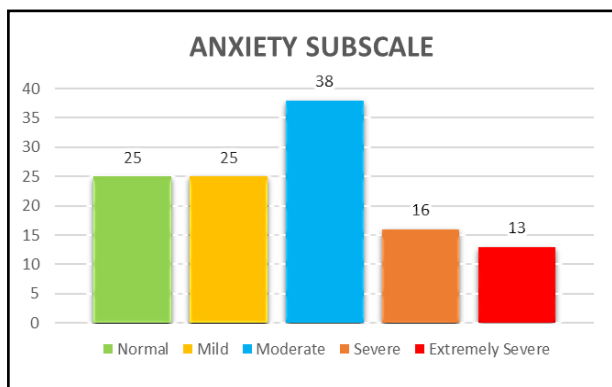
Figure 2: Grading of participants response under the Anxiety subscale (95% C.l:10.7-12.8, M=11.78, S.D=5.771)
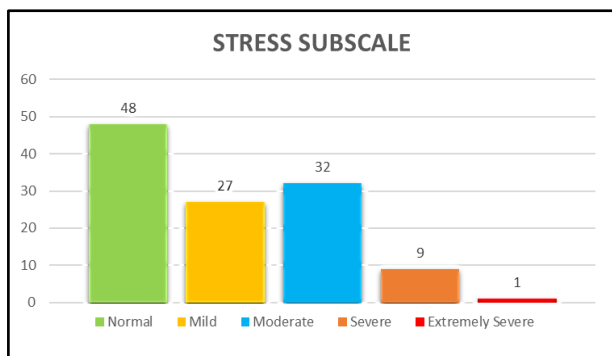
Figure 3: Grading of participants response under the Stress subscale (95% C.l: 14.9-17.4, M=16.18, S.D=6.890)

Figure 4: Distribution showing associated past history of COVID-19 infection

The study showed a weaker association between the prevalence of depression, anxiety and stress among participants with a history of past COVID-19 illness in themselves or family members. (Fig 4. P > 0.05).

While looking at the scores as per gender differences, the prevalence of anxiety, depression and stress during the second wave of the COVID-19 pandemic is seen to be higher in boys (anxiety > depression > stress) than in girls (anxiety > stress > depression).

Table 1: Tabulation of the DASS-42 responses for each subscale among male participants

Boys ♂ (n=62)	Depression (D)	Anxiety (A)	Stress (S)
Normal	31	11	30
Mild	12	13	12
Moderate	13	22	17
Severe	2	8	2
Extremely Severe	4	8	1
Inference	Anxiety > Depression > Stress		

Table 2: Tabulation of the DASS-42 responses for each subscale among female participants

Girls ♀ (n=55)	Depression (D)	Anxiety (A)	Stress (S)
Normal	26	14	18
Mild	10	12	15
Moderate	14	16	15
Severe	3	8	7
Extremely Severe	2	5	0
Inference	Anxiety > Stress > Depression		

4. Discussion

The cross-sectional study indicated that the second wave of the COVID-19 has triggered serious psycho-social health emergencies among medical students that are expressed as emotional reactions in the form of depression, anxiety and stress [3].

The study results may help in identifying the mental health concerns of students who may be at elevated risk. Exploring

and utilizing the resources of telehealth programs, e.g. conducting online meditation or mindfulness practice sessions or making it a part of the curriculum are practically feasible and appropriate for supporting the mental health of medical students during the course of this pandemic ahead [5]

It is necessary for the medical fraternity to provide requisite knowledge and awareness to our students at the academic level about the strains of SARS-CoV-2 along with raising their faith in vaccination and encouraging them to promote the same will help to reduce the misinformation amounting to anxiety or fear and it would also help them to face the crisis situation with a better approach [7]

Systematic surveys need to be conducted intermittently to monitor the trend of the COVID-19 pandemic and the related mental health domains of medical students as a preparatory measure to prevent the related future mental health crisis. However future longitudinal studies are still needed to investigate more closely the relationships between mental health problems and COVID-19 related stressors and co-factors to assess this information for better mental health of a student. [6]

5. Conclusion

The study analysis concluded that anxiety, depression and stress are prevalent in more than half the number of participants of the study group stating their distressing experience during the COVID-19 pandemic second wave timeline.

It is essential to safeguard the mental health of the medical student's population under a crisis situation and our findings would help the medical educators in addressing and mitigating the rise in mental health disorders.

Neglecting the mental health of the medical students would lead to long-term detrimental effects, which not only will affect the quality of life of medical students and future physicians, but also the overall performance of the healthcare system.

Acknowledgment

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[7] Mental Health in the times of COVID-19 Pandemic Guidance for General Medical and Specialised Mental Health Care Settings All Contributors / Reviewers are Faculty / Senior Residents of the Department of Psychiatry, National Institute of Mental Health & Neurosciences © Copyright Department of Psychiatry, NIMHANS

Author Profile

Dr Himanshu Veer Singh[1] is an M.D student currently working as a third-year PG resident at Pt. J.N.M Medical College, Raipur, Chhattisgarh, India. He has done his M.B.B.S from Ivano-Frankivsk National Medical University, Ukraine. His field of interest is Neurophysiology, Psychology, Behavioral Science and Meditation.

Dr Ankit Sharma[2] is an M.D student currently working as a third-year PG resident at Pt. J.N.M Medical College, Raipur, Chhattisgarh, India. He has done his M.B.B.S from Dr Vasantrao Pawar Medical College, Hospital and Research Center,Nashik (MH) India. His field of interest is Yoga and Cardio-Respiratory Physiology.