

## Assessment of Anxiety Disorder and The Effect of Pandemic on The Performance of Students in a Dental College in Central India.

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### INTRODUCTION:

The novel coronavirus (COVID-2019) has spread very rapidly all over India and several other countries, causing an outbreak of acute infectious pneumonia.<sup>1</sup> Therefore, it has been officially declared as a pandemic by the World Health Organization (WHO) in March 2020.<sup>2</sup> According to the Ministry of Health and Family Welfare of India by 17<sup>th</sup> of July, 1003832 confirmed cases and 25602 deaths have been declared.<sup>3</sup> This large scale, infectious, public health event, imposed enormous pressure on the government, medical and healthcare providers, and the general public.<sup>4</sup> A more important but easily neglected issue is the psychological impact on children and adolescents.<sup>5,6</sup> The pandemic brought not only the risk of death from the viral infection but also unbearable

psychological pressure to people in the country and the rest of the world.<sup>7</sup> Due to the unremitting spread of the outbreak, strict isolation actions and delay in opening schools, colleges, and universities across the nation is expected to influence the psychological health and thereby affecting the performance of college students.<sup>8</sup> These types of epidemics lead the public to experience psychological problems such as post-traumatic stress disorder, psychological distress, depression and anxiety<sup>9</sup>

Stress, the body's response to harmful stimuli, is a common physical and psychological phenomenon. Jiang proposed that stress is a biological, psychological, social integration system and a multi-factor interaction, feedback regulation and control system<sup>10,11</sup> Stressor is a stimulus that

causes stress, including physical, chemical, biological, social, psychological, cultural, and other types. Different types of stress combine together or a single trigger by itself combines to different stresses, leading to the formation of combined stress.<sup>12</sup> Stressors such as prolonged duration, fear of illness, annoyance and monotony, insufficient information, lack of in-person contact with friends, and teachers, and family monetary loss can have even more problematic and enduring effects on the students.<sup>13</sup> The coronavirus disease 2019 (COVID-19) pandemic causes fear, as its immediate consequences for the public have produced unprecedented challenges for the education and healthcare systems.<sup>14</sup> A survey shows that psychological stress of medical staff is higher as compared to other individuals.<sup>15</sup> The uncertainty about the impact of the lockdown in wake of COVID-19 on their prospect educational and carrier scenario, besides other concerns makes college students, particularly susceptible to nervous tension during the COVID-19 deadly disease.<sup>16</sup> Gaming has been acknowledged as a coping means beside tension in the previously published literature.<sup>17,18</sup> Also, there has been a significant increase of psychological distress and symptoms of mental illness, and worsening of quality of sleep in the students as well as the general population<sup>19,20</sup>

The Generalized Anxiety Disorder Scale (GAD-7) is one of the most widely used instruments for the detection and screening of anxiety disorders. It is a self-report anxiety questionnaire designed to assess the patient's health status during the previous 2 weeks.<sup>21</sup>

The GAD-7 is the widely used gauge of anxiety in clinical practice and research due to its diagnostic reliability and effectiveness. It is also widely applied for screening, diagnosis, and the appraisal of the ruthlessness of anxiety disorders, as well as for social phobia, post-traumatic stress disorders, and panic disorders. The questionnaire has been validated for use as a screening tool and severity measure<sup>22</sup>, in primary care and in general populations.

Methods of guiding students to effectively and appropriately regulate their emotions during public health emergencies and avoid losses caused by crisis have become the need of the hour.<sup>23</sup> Therefore, this assessment is being done so as to analyse the mental health as well as the performance of the students.

#### **AIM:**

The aim of this study is assessment of anxiety disorder and the effect of pandemic on the performance of students amidst social, emotional, mental, physical impairment on academics as well as day-to-day life of the students.

#### **OBJECTIVES:**

1. Assessment of anxiety disorder among students of dental college during the pandemic
2. Assessment of performance of students in academics as well as day-to-day life during the pandemic.

#### **RESEARCH METHODOLOGY:**

**Study setting:** A questionnaire based descriptive cross-sectional study was done among students and interns of VSPM Dental College and Research Centre, Nagpur.

#### **Study population:**

First to final year BDS students and interns of VSPM Dental College and Research Centre, Nagpur.

#### Inclusion Criteria:

- Students of first to final year BDS and interns
- Students who are willing to participate in the study

#### Exclusion criteria:

- Students who are not willing to participate

#### **Sampling and sample size:**

- Convenience sampling was considered as per the availability and responses received
- Sample size was 400

**Study type:** questionnaire-based study

**Study design:** cross-sectional study

#### **MATERIALS AND METHODS:**

A descriptive cross-sectional, questionnaire-based study was taken up for the assessment of anxiety disorder and the effect of pandemic on performance among the students and Interns of VSPM Dental College and Research Centre, Nagpur from the month April 2020 to July 2020. A total of 410 participants in VSPM Dental College and Research Centre willingly volunteered for participating in the study. This study was conducted over a period of 3 months. The questionnaire was prepared and validated.

The questionnaire comprised of 18 questions out of which 7 questions were based on generalized anxiety disorder questionnaire (GAD-7) and 11 questions based on quality of sleep, lifestyle and performance of students during the lockdown.

In GAD-7, Scores of 0, 1 or 2 are given for experiencing symptoms 'not at all', for 'several days', for 'more than half the days' and for 'nearly every day', respectively. The scores are then totaled and presented from 0 to 21. Scores of 5, 10 and 15 represent cut-off points for mild, moderate and severe anxiety, respectively. When screening for an anxiety disorder, a recommended cut-off point for referral for further evaluation is 10 or greater.

**Duration of study:** 3 months

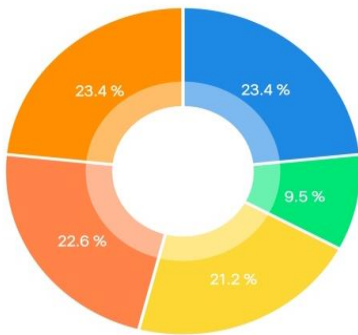
**Statistical analysis:** The data was collected and statistical analysis was done using SPSS 17 software version.

**RESULTS:**

A total of 410 students completed the questionnaire.

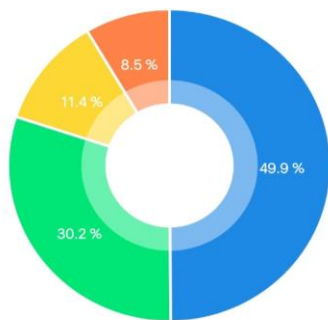
The age of respondents ranged from 18- 29 years. The sample consisted of 84.1% of females and 15.9 % males. 96 Students from 1st year, 39 Students from 2nd year, 87 Students from 3rd

- 1st Year - 96
- 2nd Year - 39
- 3rd Year - 87
- 4th Year - 93
- Intern - 96



year, 93 students from 4th year and 96 interns

- Not at all - 205
- Several days - 124
- More than half the days - 47
- Nearly every day - 35



volunteered for the survey.

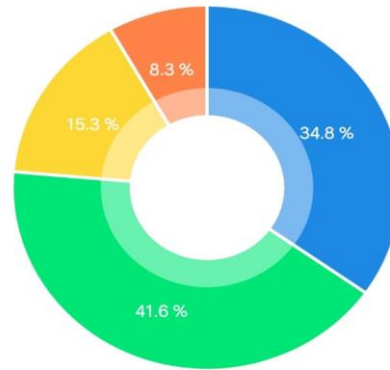
**1. Feeling nervous, anxious or on edge?**

**Chart 1:** The majority of the respondents feel nervous and anxiety which is 45.74% and 32.36% of them do not feel anything which is also the second highest in the chart. 16.30% of them feel

anxious on more than half the days and nearly 5.60% of them feel anxious every day.

**2. Not being able stop or control worrying?**

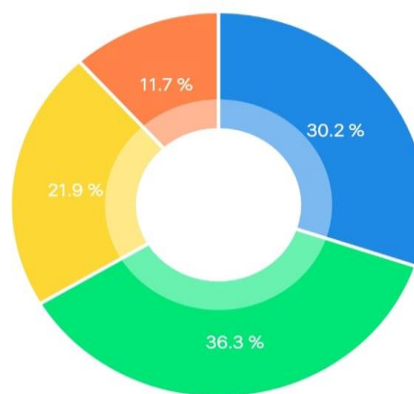
- Not at all - 143
- Several days - 171
- More than half the days - 63
- Nearly every day - 34



**Chart 2:** Nearly 41.6% of them cannot stop or control worrying and 34.8% do not feel anything. More than half the days 15.3% of them cannot control worrying and 8.3% cannot control worrying nearly every day.

**3. Worrying too much about different things?**

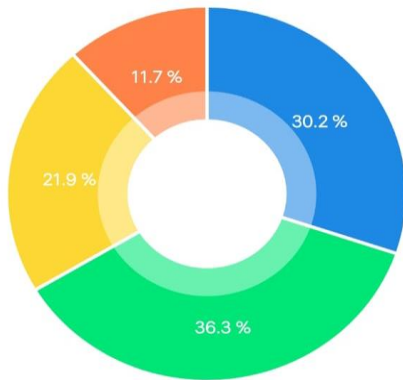
- Not at all - 124
- Several days - 149
- More than half the days - 90
- Nearly every day - 48



**Chart 3:** According to the chart 36.3% of them were worrying several days and 30.2% of them did not worry too much about different things. 21.9% students were worrying too much about different things more than half the days and 11.7% were worried every day.

#### 4. Trouble relaxing?

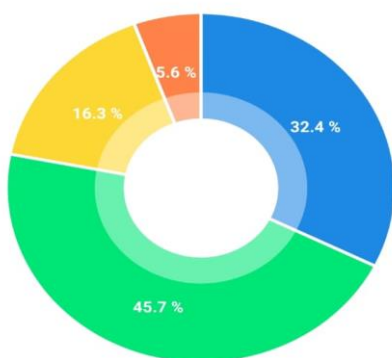
- Not at all - 124
- Several days - 149
- More than half the days - 90
- Nearly every day - 48



**Chart 4:** Maximum students i.e. 36.3% have trouble relaxing and 30.2% do not have any trouble relaxing. 21.9% has more than half the days relaxing trouble where as 11.7% of them has nearly every day.

#### 5. Being so restless that it is hard to sit still?

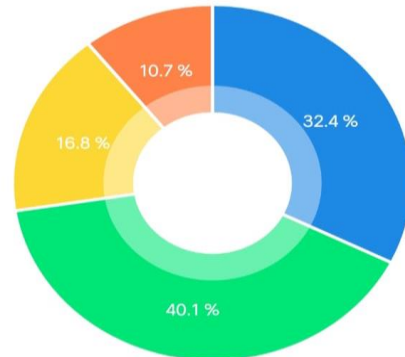
- Not at all - 133
- Several Days - 188
- More than half the days - 67
- Nearly every day - 23



**Chart 5:** 49.9% of them were not restless and hard to sit still and 30.2% of them had restless for several days. 11.4% students were restless and hard to sit still and 8.5% feel restless and hard to sit still.

#### 6. Becoming easily annoyed or irritable?

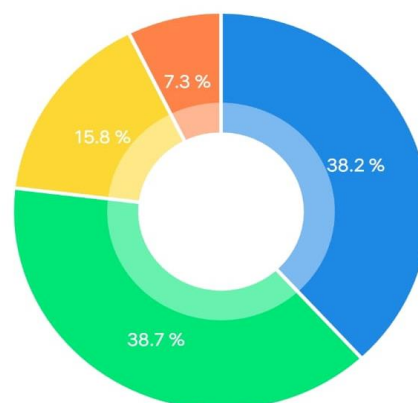
- Not at all - 133
- Several days - 165
- More than half the days - 69
- Nearly every day - 44



**Chart 6:** 40.1% of the students are annoyed and irritated where as 32.4% of the students do not feel anything. 16.8% of them become easily annoyed and irritated half of the days and 10.7% of the students get annoyed and irritated every day.

#### 7. Feeling afraid as if something awful might happen?

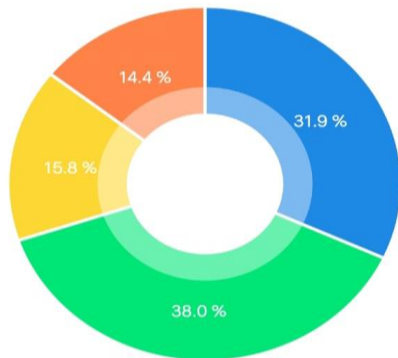
- Not at all - 157
- Several days - 159
- More than half the days - 65
- Nearly every day - 30



**Chart 7:** According to the chart 38.7% feel as if something awful might happen several days and 38.2% do not feel anything. 15.8% more than half the days they feel something awful might happen and 7.3% feel every day.

**8. What are your stress busters during this quarantine ?**

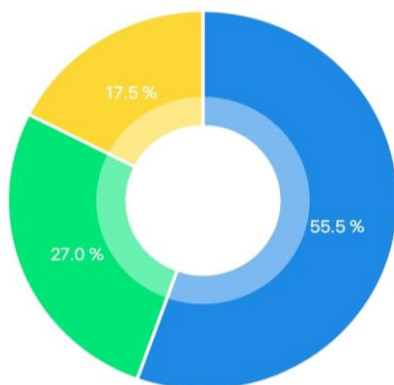
- Yoga/meditation - 131
- Spending time with family - 156
- Improving hobbies - 65
- Internet surfing - 59



**Chart 8:** 38% of the students during lockdown spend time with their families and 31.9% spend time in meditation and yoga. 15.8% are improving hobbies during lockdown and 14.4% surf internet.

**9. For what purposes do you use internet most ly?**

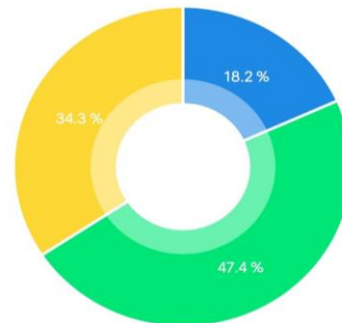
- Entertainment - 228
- Academics - 111
- Learning a new skill - 72



**Chart 9:** 55.5% of them use internet for entertainment and 20% of the students use internet for academics and 17.5 use internet to learn new skills.

**10. How many hours in a day do you spend on internet surfing ?**

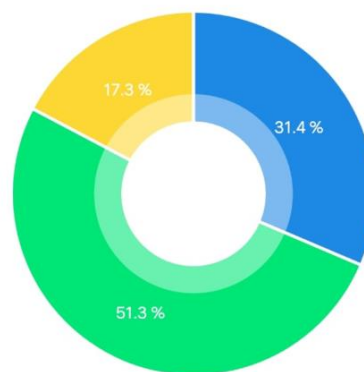
- 0 hrs - 75
- 2-3 hrs - 195
- > 5 hrs - 141



**Chart 10:** According to the chart 47.4% students spend 2 to 3 hours on internet and 34.3% of them spend more than 5 hours on internet. 18.2% of the students do not spend time on internet.

**11. How many hours do you spend reading/writing?**

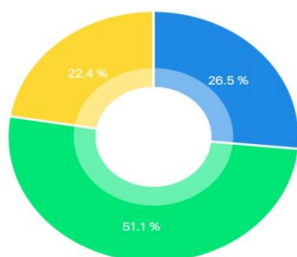
- 0 hrs - 129
- 1-2 hrs - 211
- 3 hrs - 71



**Chart 11:** More than 50% students spend 1-2 hours a day for reading or writing. 17.3% of students spend almost 3 or more hours in a day whereas 31.4% students don't read or write anything.

## 12. How many hours do you sleep in a day?

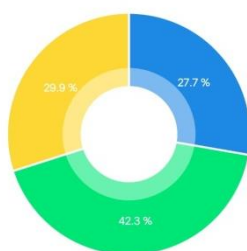
■ <5 hrs - 109  
■ 6-8 hrs - 210  
■ >8 hrs - 92



**Chart 12:** More than 50% students sleep 6 -8 hours a day and nearly 26.5% students sleep less than 5 hours a day. Whereas 22.4% student sleep for more than 8 hours a day.

## 13. Have you noticed any change in the quality of your sleep due to anxiety during this lockdown?

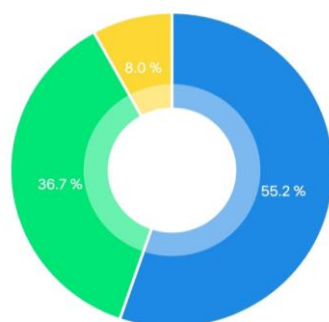
■ Insomnia - 114  
■ Shallow sleep - 174  
■ Deep sleep - 123



**Chart 13:** For 43.3% the quality of sleep due to anxiety during lockdown had shallow sleep and 29.9% had deep sleep where as 27.7% had insomnia.

## 14. How many hours in a day do you spend on gaming?

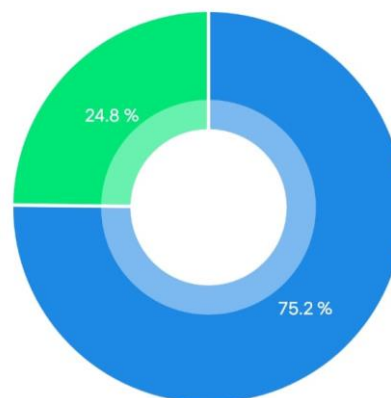
■ 0 hrs - 227  
■ 2-3 hrs - 151  
■ > 5 hrs - 33



**Chart 14:** Nearly 55.2% of them do not spend their time on gaming. According to chart 36.7% of them spend 2-3 hours on gaming every day. 8% of them spend more than 5 hours a day on gaming.

## 15. Have you been able to pick up a new skill or develop any hobby of yours in this lockdown?

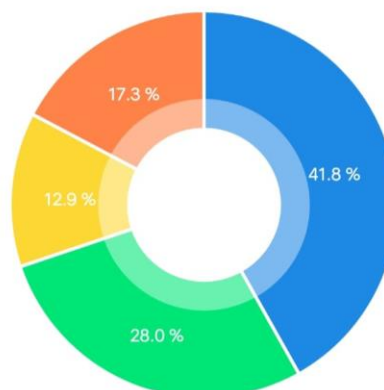
■ Yes - 309  
■ No - 102



**Chart 15:** During lockdown 75.5% picked up new skills and developed hobby and 24.8% students did not pick up any skill nor developed any hobby.

## 16. How have you been feeling lately?

■ Happy and progressive - 172  
■ stressed and lethargic - 115  
■ demotivated and depressed - 53  
■ stressed and demotivated - 71

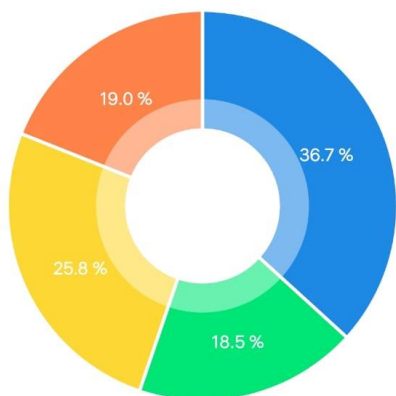


**Chart 16:** During lockdown 41.8% of them are happy and progressive and 28% of them are stressed and lethargic. According to the chart 17.3% students are stressed and demotivated where as 12.9% are demotivated and depressed.



**17. What is the first thing you do when you wake up in the morning?**

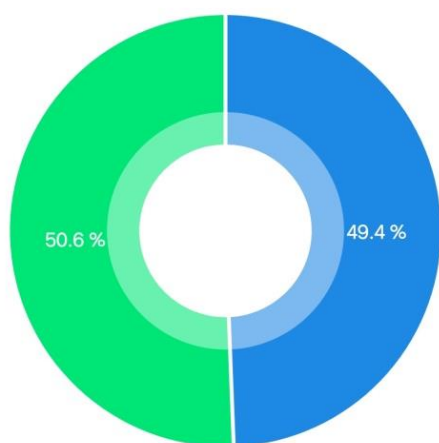
- Yoga/any kind of workout - 151
- Meditation/prayer - 76
- Access mobile for social media - 106
- Watch news updates - 78



**Chart 17:** According to the chart 36.7% students practice yoga and work out and 25.8% stated that the first thing they do when they wake up in the morning is access mobile for social media. 18.5% of the students meditate and pray when they wake up and 19% of them watch news.

**18. Do you think you are addicted to the internet?**

- Yes - 203
- No - 208



**Chart 18:** 49.4% of the students say that they are addicted to the internet and 50.6% are not addicted to internet.

According to the statistics of the generalized anxiety disorder questionnaire (GAD-7), 40% students have been screened with mild anxiety disorder and 43% students have been screened with moderate anxiety disorder whereas 16%

students are suffering from severe anxiety disorder.

However, during this quarantine 38% of the students spend time with their families, 31.9% spend time in meditation and yoga and 15.8% are improving their hobbies. In spite of maintaining healthy relationship with their families and developing hobbies, during the quarantine students are being less productive than before. Nearly 47.4% students spend 2 to 3 hours on internet and 34.3% of them spend more than 5 hours on internet. More than 50% of them use for entertainment purposes. The performance of students is declining. As low as 17.3% of students spend almost 3 hours in a day for reading and writing whereas 31.4% students don't read or write anything in a day.

**DISCUSSION:**

One of the most common anxiety disorders seen in general medical practice and in the general population is generalized anxiety disorder (GAD). The GAD-7 questionnaire is a one-dimensional self-administered scale designed to assess the presence of the symptoms of Generalized Anxiety Disorder (GAD).<sup>24</sup>

Robert L. Spitzer et al (2006) concluded that the GAD-7 is a valid and efficient tool for screening for GAD and assessing its severity in clinical practice and research. It had good reliability, as well as criterion, construct, factorial, and procedural validity. Although GAD and depression symptoms frequently co-occurred, factor analysis confirmed them as distinct dimensions. Moreover, GAD and depression symptoms had differing but independent effects on functional impairment and disability.<sup>25</sup>

Sultan Ayoub Meo et al.<sup>7</sup> identified that the quarantine has caused the students to feel detached from family and friends and decrease their overall work performance and study period. The findings also show that one fourth of the medical students who participated in this study felt disheartened during the quarantine period. The long-term quarantine due to COVID-19 pandemics may cause further worsening in the psychological and learning behaviors of these medical students.

Literature reveals that there are various methods like Penn State Worry Questionnaire for Measuring Response (PSWQMR), 2-item

depression module from the Patient Health Questionnaire (PHQ-2)<sup>26</sup>, the Rosenberg Self-Esteem Scale, for the assessment of various mental illnesses like depression, anxiety disorders, Post-Traumatic Stress Disorder (PTSD) etc. During this pandemic, the assessment of mental health of the students is mandatory as the social distancing norms and quarantine take a heavy toll on the mental status, lifestyle as well as the performance of the students. These questionnaires and scales can be used to identify and assess the mental status of the students so as to help them with better coping mechanisms to overcome the mental illnesses as well as to keep a check on the progression or decline in the mental state of the students. Thereby, necessary action plans and measures can be implemented for improving their performance.

The major limitation is that the sample considered here is small and inconclusive as it includes students of only one college.

#### CONCLUSION:

The study reveals that due to lack of disciplined routine and social exposure during the quarantine, the lifestyle and the performance of the students is being affected drastically. As majority of them feel stressed, demotivated and lethargic, a steep decline can be seen in the time spent by the students on reading and writing and improving new skills. However, as GAD-7 alone is not the only tool for the assessment of the mental illnesses, other tools can also be used in order to assess the mental state of the students. Thereby, appropriate precautionary measures can be taken in order to prevent and treat the students, according to their area of concern.

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