



Impact of Online Classes on the Mental Health of School Students during COVID-19 in Chennai

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Authors' contributions

This work was carried out in collaboration among all authors. Author SP Framing the manuscript, did Statics approval, approved the final draft of the manuscript. Author SB managed the literature collection. Authors GS and LP approved final version of the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Background: The pandemic Covid-19 has affected the whole world drastically. Social distancing measures were implemented by all the countries. In order to practice social distancing, most governments had temporarily closed all the educational institutions. Traditional face to face learning was switched to online learning not to compromise on a student's academic progress. The aim of this study is to observe the impact of online classes on the mental health of school students during covid-19 in Chennai.

Materials and Methods: A survey was conducted which was cross sectional. A self administered questionnaire was distributed among school students using an online platform google forms and 120 students participated in the survey. Data was collected and analysed by using SPSS software. Pearson Chi square was done to correlate the gender and mental illness of the participants.

Results: 43.33% felt that online classes were stressful. 54.17% of the participants were satisfied with this mode of learning. Female students were more stressed than male students which were not significant. Nearly 45% of female students were not satisfied with this mode of learning which

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was not significant. It was found that female students were more depressed than male students. However, statistically it is not significant ($p = 0.06$).

Conclusion: Based on this study, about 49.16% of the participants were impacted mentally and are stressed because of online learning and it has also affected their academic performance during this pandemic situation. This study may help them to know stress levels and be aware to take steps to overcome the stress and increase their academic performance.

Keywords: Covid-19; e-learning; lockdown; social distancing; mode of learning; innovative technique; perceptions.

1. INTRODUCTION

The World Health Organization (WHO) declared the coronavirus disease as a 'pandemic' in early March 2020. The pandemic has affected the whole world drastically. It can be easily transmitted during close human to human contact through respiratory droplets. Therefore, social distancing became one of the important measures to prevent the spread of this deadly disease. Social distancing measures were implemented by all the countries. In India, nationwide lockdown was declared on 23rd March. It made everyone be indoors and practice social distancing. It not only affected the mental health of people but also disrupted people's daily routine [1,2]. The pandemic caused a chaotic psycho-emotional situation as people were undergoing stress, fear, sleep disorder, boredom and anxiety as people didn't know what to do next and what was going to happen [3,4].

In order to practice social distancing, government authorities have temporarily closed all the educational institutes. Traditional face to face learning was switched to online learning to not compromise on a student's academic progress. E-learning was very helpful to continue the academic cycle of the students and not let the lockdown affect learning [5]. Work from home was practised by everyone in the lockdown. Online learning was considered the best option during this crisis [3].

Previous studies were done observing the viewpoint and opinion regarding online learning and to observe mental health during the lockdown among the college students [6]. Both the teachers and students are still in progress to get familiar with this new mode of learning. The coronavirus disease created a significant impact on several aspects of one's lifestyle. The whole world saw a huge shift within the education system favouring online learning during the pandemic. The transition from physical learning to online has considerably disrupted the lives of

every student and their families, causing a possible risk to the mental well-being of the school students [7].

The covid-19 pandemic enforced all the educational establishments to begin online classes for all the students, however the students' readiness for the adoption of online learning and its impact on its mental health remains unknown. Although a variety of studies were performed on the mental health of students during the pandemic, only a few were done involving the school students of Chennai, this research is aimed to fulfill this deficiency.

Our team has extensive knowledge and research experience that has translated into high quality publications [9-23]. The experience from our previous awareness studies and other research work [24,25] have led us to focus on the current topic. Hence, this study aims to study the student's opinion regarding online classes and its impact on their mental health.

2. MATERIALS AND METHODS

The study was conducted by online survey among school students. A questionnaire comprising 15 questions was created using Google forms and was sent to a total of 120 students from the age group of 14 to 17 years old, through email. After collecting the data from the Google forms, it was analyzed statistically using the SPSS software, version 23 and the correlation between the genders was done using chi-square. Pie charts and bar graphs were used to find the results. It was a cross sectional survey.

The questionnaire comprised a series of questions including the demographic characteristics like age and gender of the participants. The other questions include depression, stress, feeling exhausted, and difficulties to work with teachers, technical issues, active participation, motivation, academic

performance being affected, mental health, concentration, feeling particularly low, distractions and satisfaction with this mode of learning.

3. RESULTS

A total of 120 school students participated in this survey. In demographics, more than half the respondents were female (68.33%) and others male (31.67%).

54.17% were not sure about online learning causing depression. 29.17% responded that it didn't cause depression and 15.83 agreed that it causes depression. 43.33% of the participants felt that online learning is stressful. About 51.67% of them felt exhausted after the online classes. About 55% of them were distracted in the online class (Fig. 1). 55% felt academic performance was affected due to online classes (Fig. 2). About 51.67% moderately rated their mental health. Nearly 46% moderately lose their concentration during online classes . 54.17% were satisfied with this new mode of learning (Fig. 3). 53% of them responded that they did not feel any difficulties working with their teachers during online class. 54.17% of them are satisfied with this mode of learning. When compared to male, females were more satisfied with online classes. 44.2% were moderately motivated during online class. 50.8% were moderately able

to participate actively during their online class. Female students did not feel more stressed during online classes than male only 17% male and 35% female felt stressful. Pearson chi-square test showed p value is 0.833 ($p > 0.05$), hence statistically not significant. Most males found it difficult to work with teachers during online classes as compared to females. Technical issues affected both the genders equally, 20% male and 44% female were mostly affected by the technical issues. After switching to online classes, both male (21%) and female (44%) were affected in their academic performance. Pearson chi-square test showed p value is 0.969 ($p > 0.05$), hence statistically not significant (Fig. 4) Male (28%) were satisfied with this new mode of learning whereas 45% female were not satisfied. Female students were more depressed than male students. Pearson chi-square test showed p value is 0.064 ($p > 0.05$), hence statistically it is not significant (Fig. 5).

4. DISCUSSION

According to this present study, it was observed that approximately one-third of the participants were moderately depressed which was also observed in previous studies [26]. In a few other studies conducted among the Asian countries like Malaysia, Singapore, Nepal, Pakistan, it was observed that the students found online learning less appealing than the traditional face to face

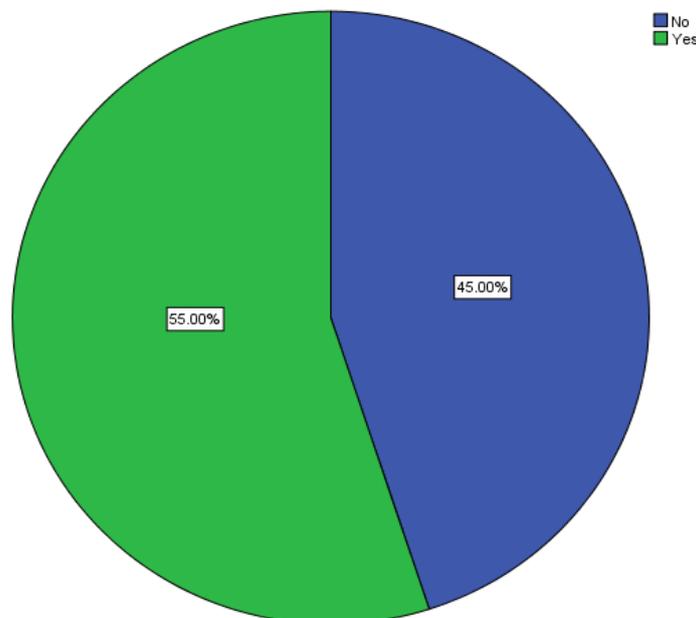


Fig. 1. The pie chart represents the distribution of the students' opinion about whether there are many distractions during online learning. Green denotes yes and blue denotes no. Majority of the participants (55.00%) found many distractions during online classes

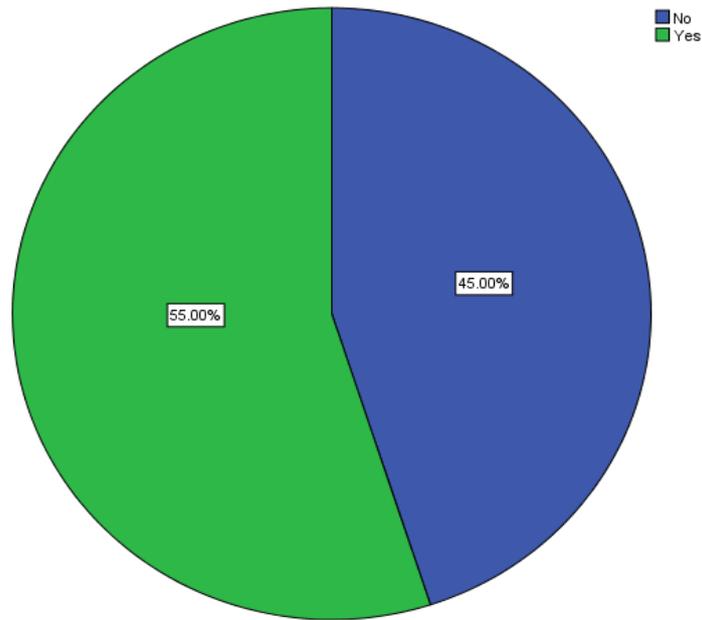


Fig. 2. The pie chart represents the percentage distribution of the students' opinion about whether online learning affected their academic performance. Green denotes yes and blue denotes no. Majority of the participants (55.00%) felt academic performance was affected due to online classes

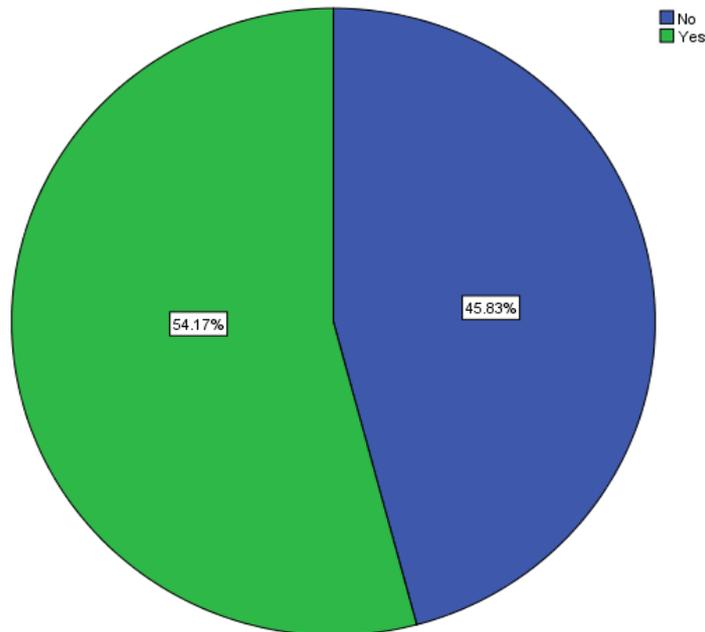


Fig. 3. The pie chart represents the percentage distribution of students' opinion about whether they were satisfied with this new mode of learning. Green denotes yes and blue denotes no. Majority of the participants (54.17%) were satisfied with this new mode of learning

learning [27,28]. E-learning was more satisfying in comparison to face to face learning. Students found it helpful as they could study from anywhere in the world without necessarily going to different places [29,7,18]. In this present study

too, the majority of the participants were satisfied with this mode of learning as the students could do their school work in the comfort of their home which was similar as they need not wake up so early to go to school [30].

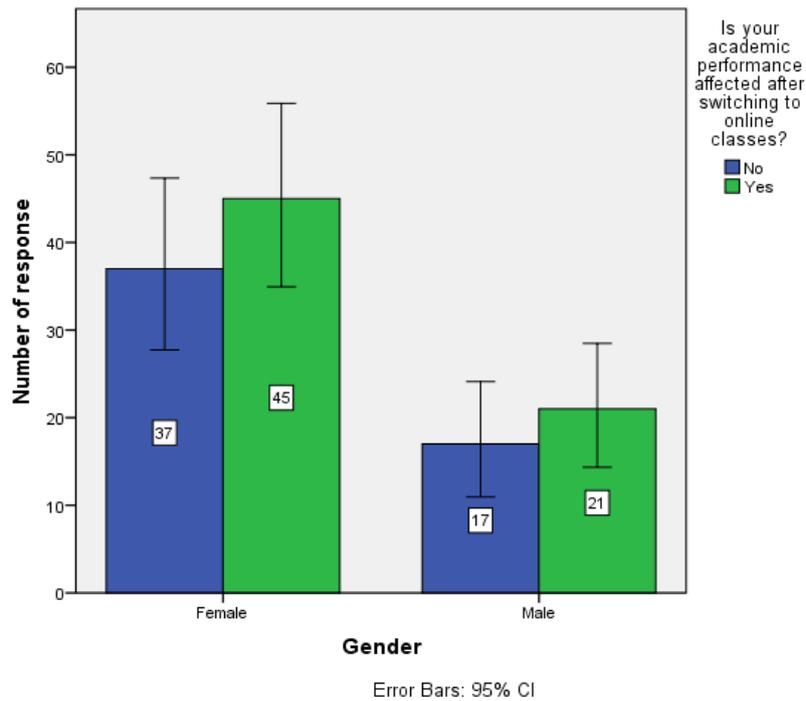


Fig. 4. The bar graph depicts the association between gender and disturbance in academic performance. X axis represents gender and Y axis represents the number of responses. Blue represents no and green represents yes. Female students agreed that their academic performance affected more than male students. Pearson chi-square test showed p value is 0.969 ($p > 0.05$), hence statistically not significant

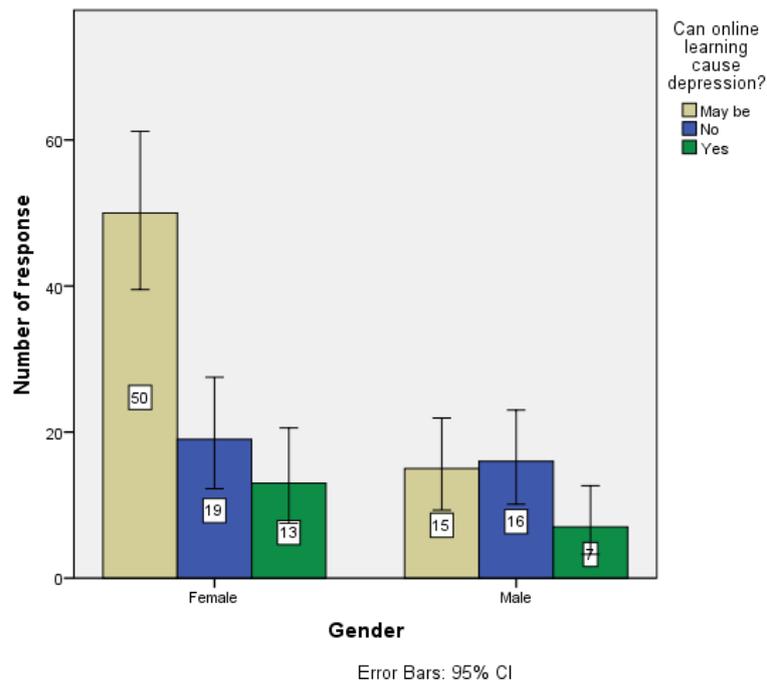


Fig. 5. The bar graph depicts the association between gender and depression. X axis represents gender and Y axis represents the number of responses. Sandal represents may be, blue represents no and green represents yes. Female students were more depressed than male students. Pearson chi-square test showed p value is 0.064 ($p < 0.05$), hence statistically it is not significant

A study presented in a conference at Singapore showed that there were no significant differences between the academic performance of students in online learning and face to face learning whereas in this study, the academic performance of the majority of the participants was affected [30,31]. Another study showed that there is a significant relationship between daily stress and anxiety and the occurrence of health problems [17]. Due to the pandemic, the daily routine has been disrupted which affects the mental health and causes confusion, anger and boredom. This is also observed among a few school students [30–33]. Our previous research work experience has led us to carry out the present survey on current situations [34-37].

The limitation of the study is that it was conducted among a limited sample size and it should have been investigated in different periods during the pandemic to get a better understanding of the psychiatric impact on students. Future studies will be encouraged by including a large sample size and dividing the students into categories of their standards, this will provide a better understanding of the impact of online classes on them.

5. CONCLUSION

Based on this study, about 49.16% of the participants were impacted mentally and are stressed because of online learning and it has also affected their academic performance during this pandemic situation. It was found that female students were more depressed than male students. This study may help them to know stress levels and be aware to take steps to overcome the stress and increase their academic performance.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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