

# **THE EFFECT OF ONLINE CLASSES ON THE LEARNERS' HEALTH AND QUALITY OF LIFE: A SURVEY ON AN INDIAN PERI-URBAN HIGHER EDUCATION INSTITUTION**

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## **ABSTRACT**

The impact of online education on the students' health and quality of life since the start of pandemic is discussed in this paper. The cross-sectional and quantitative type investigation is accomplished in a higher education institution in Paschim Medinipur district of West Bengal, India. Initially, 312 students were selected from 1652 students based on the "Raosoft" scale. But 235 available samples were interviewed by telephone/online from a total of 312 respondents caused by pandemic lockdown and other issues. The empirical survey took place during the time of August 2020 to August 2021. This research investigates the health issues due to regular online classes such as disablement of cognitive functions, eye problems, orthopaedic disorders, insomnia, depression, and anxiety. This study will assist in taking corrective action to secure the future of all these health issues for the students.

**Keywords:** Online classes, Mental health and physical affliction, Peri-urban region, Higher education Institution

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## **INTRODUCTION**

The ongoing COVID-19 pandemic has had a significant impact on all aspects of human life. Studies in the field of mental health and disability have found that, even though the "COVID-19 does not fit into current PTSD (Post-Traumatic Stress Disorder) modalities or diagnostic criteria, new research suggests that traumatic stress symptoms are present as a result of this ongoing global stressor. As a result, it may cause PTSD symptoms" (Brigland et al., 2021).

India is one of the countries that have faced multiple challenges as a result of the pandemic outbreak. The University Grants Commission (U.G.C.) has mandated that colleges and universities conduct teaching and learning virtually, relying on technology (Rana, 2020). Similarly, the Ministry of Higher Education in West Bengal, India, has ordered all academic institutions to close

from March 2020 to July 2020 (Government of W.B., Department of Higher Education, G.O. No: 15-Pr.Secy-HED / 2020), with the deadline being extended. Consequently, despite numerous digital barriers, higher education institutions in West Bengal have begun to offer online courses (Rana, 2020). The gap in knowledge on the relationship between excessive usage of digital screens and health issues among student learners is filled by the present investigation.

## **DISABLEMENT OF COGNITIVE FUNCTIONS**

Cognition is described as “the mental processes involved in acquiring and processing information required for daily living” (Magni & Bilotta, 2016). People with cognitive deficits have poor memory, poor attention, difficulty cognizing information, difficulty recognising people, places, or things, and experience severe mood swings. Such conditions are known as cognitive disorders (Shree & Shukla, 2016).

## **COMPUTER VISION SYNDROME**

Computer vision syndrome is defined by the American Optometric Association as a group of eye and vision problems due to prolonged digital device use. Scholars such as Agarwal et al. (2021) discuss a variety of ocular problems that have been exacerbated during the pandemic, such as irritation leading to tearing, tired eye, burning sensation, headache, blurring vision, redness, as well as double vision.

## **INSOMNIA**

Insomnia is medically described as the presence of an individual's report of difficulty in sleeping (Roth, 2007). Memory, concentration, and performance can all be harmed by sleep deprivation and an irregular sleep cycle. According to Khare (2020), increasing screen time during pandemic harms students' sleep health. Blue light emitted by digital devices has been shown to interfere with the normal functioning of intracellular circadian melatonin release.

## **DEPRESSION AND ANXIETY**

Empirical studies in China (Jiang, 2020), France (Essadek & Rabeyron, 2020) found that a large percentage of students suffer from mental disorders of varying severity. Many students reported depression, anxiety, distress, and even suicidal thoughts (Essadek & Rabeyron, 2020).

## **SIGNIFICANCE OF THE STUDY**

In-depth research has not yet been done in peri-urban areas on the effect of the pandemic “lockdown” measures on physical activity and sedentary behaviour, as well as potential links to the mental health of students pursuing higher education. Therefore, the objective of this study's cross-sectional investigation is to look at changes in students' mental stress, physical activity, and

sedentary behaviour at an Indian peri-urban higher education institution before the government imposed a “lockdown” at the academic institutions. It brings up the goals of our investigation.

## OBJECTIVES OF THE STUDY

- i. To identify the effects of online classes on students' health impacting their quality of lives.
- ii. The outcome of this study shall raise the awareness levels among stakeholders about the negative effects of online classes, which shall call for immediate corrective actions.

## METHODS OF THE STUDY

The study investigates the foundation of quantitative analysis with cross-sectional data of an online and telephonic survey-based study predominantly during the lockdown times. A higher education institution had been chosen for the study area which is mainly peri-urban based and situated in West Bengal, India. The connotation of picking a peri-urban area for the study is neither rural nor urban in its position and characterize (Prakash, 2012). The survey was executed on the core stakeholder i.e. students. Spotlighting the objectives, a questionnaire was organized for data collection. The data were collected through semi-structured interviews within the time of August 2020 to August 2021. The selected students were 312 for the investigation among a total 1652 number of students from all departments of the Institution using the “Raosoft” scale (95% significant value & 5% error) and disproportionate stratified sampling method. But it was feasible to reach 235 students (130 males and 105 female students) respondents only from 312 due to several barriers like lockdown social distancing norms, lack of infrastructure, least interest to provide answers, digital connectivity issues and so on. Their numerical outcomes were analyzed using SPSS 22 version software (windows 10 os) and compute their descriptive statistics.

## DATA ANALYSIS & INTERPRETATION

The study analysis is about the issues related to the Health of the student respondents in below table 1. It shows us very relevant physical and psychological effects of the regular online classes taken by the student respondents during the peak of pandemic times, whether accessing outside resources was restricted or social distancing norms were implemented. Through the interviews of the students, it is disclosed that various physical stresses and optical problems are created due to the regular application of the digital devices for their academic purposes, as if no other options were left. The psychological effects are caused mainly by the isolation. The condemnation of opening institutions and the lack of face-to-face interaction with peers, teachers, and so on generate issues like exhaustion, depression, and anxiety among the students, which show that only online interaction is not beneficial for the students' mental health.

Table 1 displays the quantitative analysis of the study investigation, which discloses that the students have faced neck pain (63.8 percent), followed by headache (57.4 percent), shoulder pain

(53.2 percent), and back pain (46.8 percent). And 72.3 percent of respondents have faced all these problems. The “bad posture” characterized by an excessively bent spine, slouched or slumped back, lunched shoulders, and a weirdly bent arm or wrist is the main cause of this problem (Dhar, 2020). From March 1 to August 31, according to Dhar (2020) of The Times of India, the daily newspaper the online health portal “Practo” saw a 680 percent increase in orthopaedic Tele consultations. In this context, we’d like to mention the Times of India blog post “Why Students are Complaining of Aches and Pain,” which attempts to draw public attention to the orthopaedic problems of Mihika Verma and Krishna Mathur, both 17 years old.

The study finding reveals that a large percentage of the student respondents had faced computer vision syndrome during attending regular online classes such as tiredness of eyes (51.9 percent), Blurring of vision (49.4 percent), Watering of eyes (47.6 percent), Redness/ Dryness of eyes (40.8 percent), Double vision (25.1 percent) and 33.2 percent respondents had faced all above problems. Sawhney et al., (2021) mentioned in their study, an ophthalmologist who talks about the negative effects of blue light in an interview published in The Hindu, a well-known newspaper. Students frequently visited his clinic with concerns of dryness in their eyes and frequent blinking during COVID-19, according to the medical expert. These problems are caused by spending too much time on digital screens. To avoid clinical issues, he recommends that a proper viewing distance be maintained. Another issue associated with online classes is blurred vision, dry eyes, and headaches. Without realising it, students keep their gadgets close to their faces, putting undue strain on the eye muscles and eventually leading to computer vision syndrome.

Our findings support Bhattacharyya et al. (2021) study of digital eye strain in the pandemic. The New Indian Express (2020), a renowned newspaper, published a blog titled “Eye strain from Digital Classes: A Significant Health for Students,” which discusses the ophthalmological issues that students faced during the pandemic. Doctor Sanitha Sathyan, a paediatric ophthalmologist, expressed her concerns in the blog post.

The study investigation showed that massive numbers of respondents had been suffering from psychological anxiety. Exhaustion (80.8 percent), annoyance (68.1 percent), sleeplessness/ insomnia (54.9 percent) and depression (51.1 percent) are major in it. The results are similar to the studies of Essadek & Rabeyron (2020).

To prevent mental health declines, the WHO advised those who live alone to “regularly exercise” (World Health Organization, 2020). In the context of COVID-19, there is a focus on incorporating home-based exercise to prevent a steady decline in mental and physical health (Ravalli & Musumeci, 2020).

**Table 1 : Student respondents' health issues due to attending regular online classes**

| <b>Physical stress during online classes</b>              | <b>Frequency (N = 235)</b> | <b>Percentage (%)</b> |
|-----------------------------------------------------------|----------------------------|-----------------------|
| Headache                                                  | 135                        | 57.4                  |
| Neck pain                                                 | 150                        | 63.8                  |
| Shoulder pain                                             | 125                        | 53.2                  |
| Back pain                                                 | 110                        | 46.8                  |
| All above                                                 | 170                        | 72.3                  |
| Not at all                                                | -                          | -                     |
| <b>Any computer vision syndrome during online classes</b> | <b>Frequency (N=235)</b>   | <b>Percentage (%)</b> |
| Tiredness of eyes                                         | 122                        | 51.9                  |
| Redness/ Dryness of eyes                                  | 96                         | 40.8                  |
| Watering of eyes                                          | 112                        | 47.6                  |
| Blurring of vision                                        | 116                        | 49.4                  |
| Double vision                                             | 59                         | 25.1                  |
| All above                                                 | 78                         | 33.2                  |
| Not at all                                                | -                          | -                     |
| <b>Experience of psychological anxiety</b>                | <b>Frequency (N = 235)</b> | <b>Percentage (%)</b> |
| Exhaustion                                                | 190                        | 80.8                  |
| Depression                                                | 120                        | 51.1                  |
| Annoyance                                                 | 160                        | 68.1                  |
| Sleeplessness/Insomnia                                    | 129                        | 54.9                  |
| All above                                                 | 120                        | 51.1                  |
| None of these                                             | -                          | -                     |

**Source :** Telephonic/online interview from August 2020 to August 2021

## CONCLUSION

The study conclusively shows that educational administrators, institutes, and the government must seriously consider the social and medical effects of online education on students' physical and mental health, and recommend appropriate strategies to mitigate these issues. To make online teaching more meaningful, a collaborative approach incorporating teachers, students, and parents

can all be initiated. When online learning is continued for a long time, there is a requirement for an amended standard operating procedure (SOP) to conduct online lectures, the multilingual feature needs to be added while installing and using software/s in virtual applications software/s, like Google-meet, MS teams etc. Additionally, specific strategies for students with cognitive problems and other disabilities must be developed. To ensure that students do not spend the majority of their quality time in front of their screens, course design, online presentation, and the quantity and quality of the information provided must be restructured. The elevated workload of the academic curriculum should be avoided, and students should be encouraged to participate in extracurricular activities. To the extent possible, more emphasis should be placed on group activities and group learning to ensure that students do not feel isolated. As per the suggestion of the World Health Organization practicing regular exercise brings a positive impact on their mental as well as physical health. Parents should also be made aware of the infrastructure and study postures that must be maintained while attending online classes.

The study was planned in a peri-urban area with only institutions participating. Planning a study to collect data that will yield a more significant and varied sample and will include higher education institutions is possible. Due to the lockdown and social distance norms, an interview was conducted over the phone or online, where the respondents' body language was not apparent and there was not enough time to give them follow-up questions about the interview issues. Future studies could work to go around all of these obstacles, deepen our understanding of how to overcome interviewing challenges, and propose feasible solutions that will benefit students by offering options for more students from different diasporas.

## REFERENCES

- Agarwal, S., Bhartiya, S., Mithal, K., Shukla, P., & Dabas, G. (2021). Increase in ocular problems during COVID-19 pandemic in school going children- a survey based study. *Indian Journal of ophthalmology*, 69(3), 777-778.
- Bhattacharya, S., Saleem, S.M., & Singh, A. (2021). "Importance of effective communication during COVID-19 Infodemic" Are we prepared enough? A reality check! *Journal of Family Medicine and Primary Care*, 10(2), 1068-1071.
- Bridgland, V. M. E., Moeck, E. K., Green, D. M., Swain, T. L., Nayda, D. M., Matson, L. A., Hutchison, N. P., & Takarangi, M. K. T. (2021). Why the COVID-19 pandemic is a traumatic stressor. *PLOS ONE*, 16(1).
- Dhar, S. (2020). A 500% spike in online medical consults since March, finds a survey. *The Times of India*. doi:<https://timesofindia.indiatimes.com/home/sunday-times/a-500-spike-in-online-medical-consults-since-marchfinds-a-survey/articleshow/76548008.cms>

- Essadek, A., & Rabeyron, T. (2020). Mental health of French students during the Covid-19 pandemic. *Journal of affective disorders*, 277, 392–393.
- Government of West Bengal, Department of Higher Education (2020), G.O. No: 15-Pr. Secy-HED/2020.
- Jiang, R. (2020). Knowledge, attitudes and mental health of university students during the COVID-19 pandemic in China. *Children and Youth Services Review*, 119.
- Khare, R., Mahour, J., Ohary, R., & Kumar, S. (2021). Impact of online classes, screen time, naps on sleep and assessment of sleep-related problems in medical college students during lockdown due to coronavirus disease19 pandemic. *National Journal of Physiology, Pharmacy and Pharmacology*, 11(1), 1.
- Magni, G., & Bilotta, F. (2016). Postoperative Cognitive Dysfunction. In H. Prabhakar (Eds.), *Complications in Neuroanesthesia* (pp. 411-422). Academic Press. <https://doi.org/10.1016/B978-0-12-804075-1.00041-9>
- Prakash, A. (2012). The Peri urban Water Security Problématique: A case study of Hyderabad in Southern India. *Peri Urban Water Security Discussion Paper Series*, paper no. 4, SaciWATERS, pp. 2. <http://www.saciwaters.org/periurban/discussion-paper-4.pdf>
- Rana, N. (2021). Online Learning Experiences during COVID-19 in Higher Education Space: The New Normal. *The Online Journal of Distance Education and e-Learning*, 9(1), 137-142.
- Ravalli, S., & Musumeci, G. (2020). Coronavirus outbreak in Italy: Physiological benefits of home-based exercise during pandemic. *Journal of functional morphology and kinesiology*, 5(2), 31.
- Roth, T. (2007). Insomnia: definition, prevalence, etiology, and consequences. *Journal of clinical sleep medicine: JCSM: official publication of the American Academy of Sleep Medicine*, 3(5 Suppl), S7–S10.
- Sawhney, R., Singh, P., Agarwal, G., Sharma, S., Dhanush, B., Karmakar, M. (2021). Impact of Online Classes on the Health and Wellbeing of Young Learners. *Humanities & Social Sciences Reviews*, 9(4), 175-187.
- Shree, A., & Shukla, P. C. (2016). Intellectual Disability: Definition, classification, causes and characteristics. *Learning Community-An International Journal of Educational and Social Development*, 7(1), 9.
- Eyestrain from digital classes a major health concern for students. (2020, June 13). *The New Indian Express*. <https://www.newindianexpress.com/cities/kochi/2020/jun/13/eyestrain-from-digital-classes-a-major-healthconcern-for-students-2155908.html>
- Mental health and psychosocial considerations during the COVID-19 outbreak. (2020, March 18). *World Health Organization*. (No. WHO/2019-nCoV/MentalHealth/2020.1).