IMPACT OF COVID-19 AND ONLINE EDUCATION ON THE MENTAL HEALTH OF MEMBERS OF EDUCATIONAL SPHERE-A CASE STUDY

ARPANA PUROHIT[1], ANAS KHAN RANGREJ[2], ANIKET SAHU[2], ANJALI GURU[2], ATISHAY SINGHAI[2], ANURAG SHUKLA[2], SAMEEKSHA JAIN[1], HARSHITA JAIN[2*]

[1]Adina College of Pharmacy, Sagar (M. P.) India, [2]Adina Institute of Pharmaceutical Sciences, Sagar (M. P.) India
Email: tanuprht@gmail.com

ABSTRACT

Coronavirus disease 2019(COVID-19), the enormously transmissible disease resulting due to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) as the causative agent, instigated a dreadful outcome ensuing worldwide emergency with its rapid spread and greater mortality rate resulting in grievous disruptions. It arose as the greatest substantial world-wide health catastrophe ever since the period of influenza pandemic of 1918, causing more than 3.7 million deaths worldwide. The influence of this pandemic was ascertained in every arena of life on a worldwide level. COVID-19 has devastated many countries, thrashing our health care system besides having a major impact on the academic sector encompassing an enormous number of students, teachers along with staff members. With the implementation of the lock-down the offline classes were substituted for the online mode not only in India but globally. This has chiefly prompted an effect on the mental health of people apart from their physical health. Mental well-being has a vital significance and the spread of pandemic has accelerated a series of mental disorders ranging from anxiety, stress to depressive disorders. This review, based on questionnaires prepared using the perceived stress scale method compiles the response data of how COVID-19 has affected the mental health of students and members of the educational sphere. Not only this but it shows a contrast between the offline and the new tech-friendly online classes. Thus, this survey study reflects on creating a framework for the academic sector to aid in resolving and helping people manifested with mental health issues so as to lead a normal healthy lifestyle.

Keywords: Covid-19, Mental health, SARS-CoV-2

INTRODUCTION

During late December 2019 the initial cases of a principally respiratory viral illness originated in Wuhan, China. In a very brief duration coronavirus disease (COVID-19) quickly propagated globally, hence the World Health Organization (WHO) on March 11, 2020 acknowledged it as a worldwide pandemic. Since then, COVID-19 has devastated many countries, causing mayhem all around the world, battering our healthcare system. Due to the emergence of mutant variants numerous countries are suffering multiple waves of outbreaks [1]. To restrain the transmission of COVID-19 before the development of vaccines and global mass vaccination endeavours, the complete lockdown was imposed, influencing every arena of life. One of the crucially affected sectors is the educational system comprising the massive number of students, learners, teachers and other staff members. On 16 March, 2020, the central government of India ordered the closure of all the educational institute in order to curb the transmission of SARs-COV 2 with the escalating number of positive cases. Everything came to a halt so did the classes and; thus, the traditional teaching method could no longer be continued.

The advancement of technology played a major role in these unprecedented times, which aided in the management of academic calendars, classes and examinations without hindering the quality of education with the use of remote education systems using online tools and platforms via the internet. It was the first time when the online mode of education was implemented throughout India on such a massive scale. Though it was a great boon in the circumstances like these yet it had its own set of difficulties that had to be faced in order to manage the prescribed syllabus and curriculum. Besides the changes brought about due to implementation of lockdown and online classes has vitally affected mental well-being accelerating a series of mental troubles in students and those involved in the educational stream apart from their physical wellbeing. Though as time preceded it became the new normal but now as the mass vaccination programmes pace up

in the country and the COVID-19 surge has been supressed, the offline classes were once again started, which initially instigated several complications. Therefore, this review based on a survey using a series of questionnaires on how COVID-19 has affected the mental health of students and members of the educational sphere and their perspective towards online mode of teaching. Not only this but it shows a contrast between the offline and the new tech-friendly online classes so as to advance the transfer of knowledge and form of evaluation. Thus, this survey study reflects on creating a framework for the academic sector to aid in resolving and helping people manifested with mental health issues so as to lead a normal healthy lifestyle and also create new policies so as to create an integrated manner of education using the advancement of technology.

Methodology

This study aimed to study the impact of COVID-19 on the mental health of students and members of educational sector. Thus, the study was conducted in the following manner

1) Preparation of questionnaire (using perceived stress scale)

2) Data collection

3) Data interpretation and discussion

4) Conclusion

Preparation of questionnaire (using perceived stress scale)

A questionnaire was carefully designed with set of questions relevant to study and understand how COVID-19 impacted the mental health of our target group. The questionnaires prepared first focused on the respondent's view on the several modes of online education followed by the knowledge transfer and benefit of online classes as compared to traditional classroom teaching, and a comparison was drawn between both the modes, additionally the focus was to study the effect on the mental health status of

respondents. Thus, several questions were included derived from the perceived stress scale by Sheldon Cohen to assess the impact of this major change due to the lockdown from offline classes to online mode and again back to the normal lifestyle. The prepared questionnaire was tabulated using google form and was circulated in the institution amongst the target groups to record the responses along with their preliminary information.

Data collection

The questionnaire prepared on google forms was circulated amongst the respondents using various social media platforms like e-mails, WhatsApp, telegram etc. The responses were gathered in form of excel data sheets and the results were construed in form of charts followed by the conclusion derived from them.

Data interpretation and discussion

The responses recorded from the target group were carefully recorded, studied, analysed and interpretated, which helped us to understand how several factors can play a vital role in our day-to-day lives. This survey thus helps us to understand the underlying causes of how deeply the education sector has been affected due to the havoc caused all around the world due to the corona virus. Not only this but the repercussions, the effect that ensues, the future extrapolations and the coping mechanisms on how the institutions can offer help and support in improving the mental health of students and staff members.

Preliminary information

The questionnaire prepared was circulated amongst the college students and staff members of Adina Group of Institutions, Sagar, Madhya Pradesh. The preliminary data was recorded, which included their name, age, sex, occupation, address and how severely their residential area was affected in the covid crisis.

Modes of online classes and complications faced in setting up online classes

The questionnaire included questions about the modes and online tools that were used for the online classes and the preferred modes which provided a user interface which was easy to use and provided better tools for easy learning. With the initiation of online education, there was a boom in IT sector and a numerous number of online tools and applications were introduced which served in providing recorded lecture sessions, online live classes, study materials and a variety of certification courses. Various platforms were used like WhatsApp; Google meet, Zoom, Webex, YouTube, Microsoft teams, Sway am etc. WhatsApp and telegram were the most preferred in mass communication of information since these are very user-friendly and does not need any special technical skills to operate them. Students made use of either recorded sessions (75%) as it's a better option considering network or other concerns making this an easily accessible option or live classes (25%). Classes were taken via presentations, digital content creation using animation and graphics etc. Initially, zoom was most commonly used application for online classes but later on zoom was found to be vulnerable to privacy and data security concerns thus google meet and Web ex came into play. Not only routine but seminars and informational sessions were also conducted regularly for upgrading knowledge and skills.

As far devices were concerned for the online classes, the majority of the respondents had android/smartphones, television, laptop while a few had to purchase new devices or borrow the devices in order to attend their classes and complete their syllabus. Concerning the internet services, these were usually available via data services on mobile or Wi-Fi services. However, several rural areas faced network and connectivity problems which created hinderance in attending online sessions along with electricity interruptions. Following pie-charts depicts the response of the respondents for a number of factors (fig. 1-5).
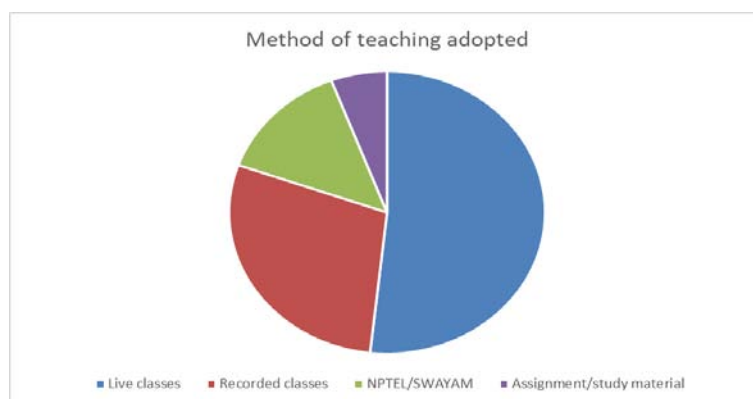

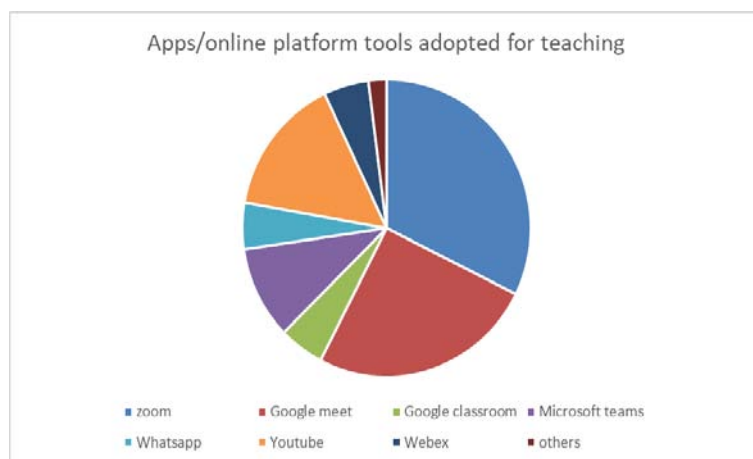**Fig. 1: Chart depicting the methods of teaching adopted by respondents**

Fig. 2: Chart depicting the Apps/online platform tools adopted for teaching
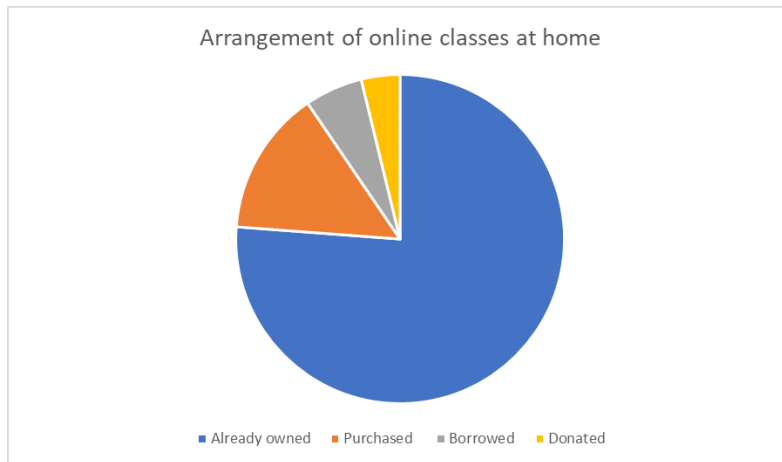
Fig. 3: Chart depicting the several ways the online classes were arranged at home
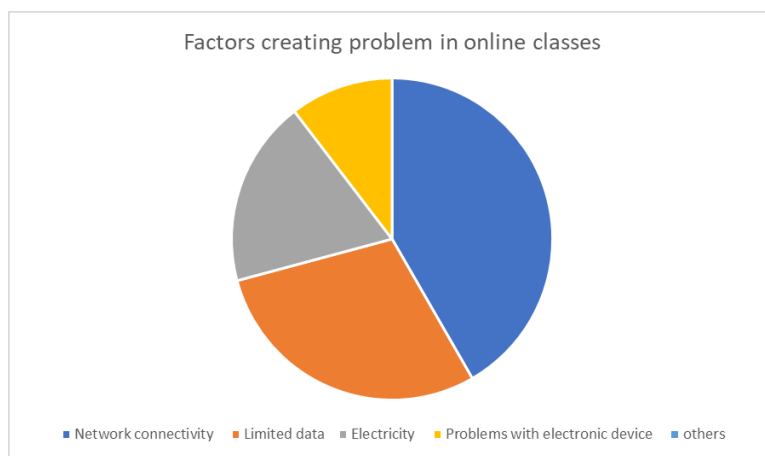

Fig. 4: Chart depicting the several factors creating problems in online classes faced by respondents

Fig. 5: Chart depicting the responses of respondents regarding the mental stress experienced during online classes

Quality of knowledge transfer

Though online classes opened a new door of knowledge transfer on a wider scale with a variety of technical inputs and tools, making them refreshing and interesting, like video learning, graphical representations, PowerPoint presentations, quizzes, meetings and conferences. However, a major disadvantage recognized in this mode is the lack of social interaction among the students and face-to-face interaction between the teachers and students. This is a major setback and the majority of respondents feel direct interaction and individual attention serves to play a vital role in the process of learning. Not only this but an interaction between the students helps them to develop interactive and social skills and aids their learning abilities. A majority of students responded that doubts and problems were solved and clarified in a much better way in offline classes. Some subjects were better covered in offline classes also elaborated discussions that included active participation from students

was still conducted in a better manner in the later. In terms of participation and level of focus of students, though online classes seemed to be of great comfort yet the level of attentiveness in online classes was found to be low as per the response of the students. Although since the classes were attended from home, thus the participation and contribution of parents in the education process enhanced greatly as children were under direct attention and care.

Therefore, to make the online studies more engaging and stimulating, there is a still a need to upgrade the online tools and platforms, making use of online groups, and messaging platforms for doubt clarifications, discussions, study material transfer and assessment tests which can take the online classes to a new level. Based on these factors the response of respondents was recorded and are displayed below in the form of pie charts (fig. 6-11).
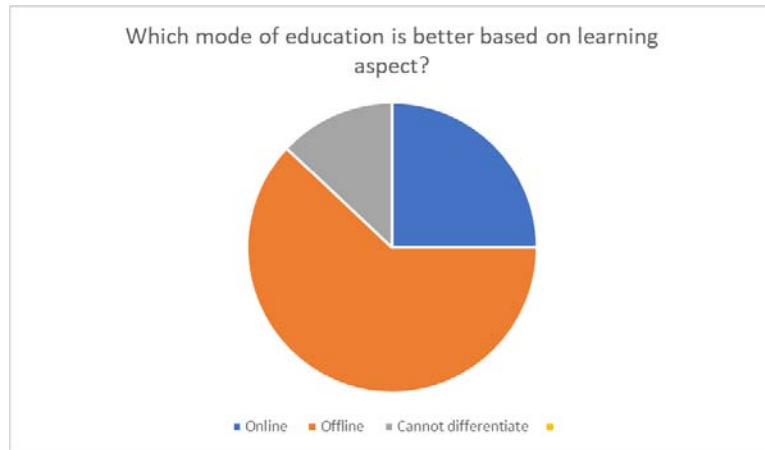

Fig. 6: Chart depicts preferred mode of education based on learning aspect of respondents
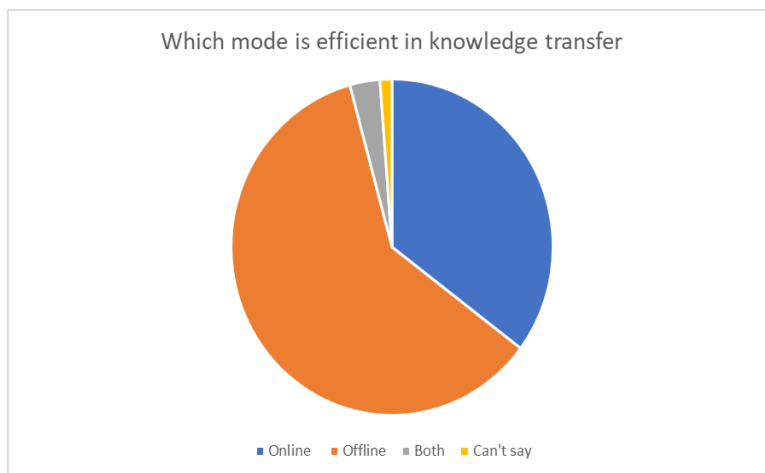

Fig. 7: Chart depicts preferred mode of education based on knowledge transfer
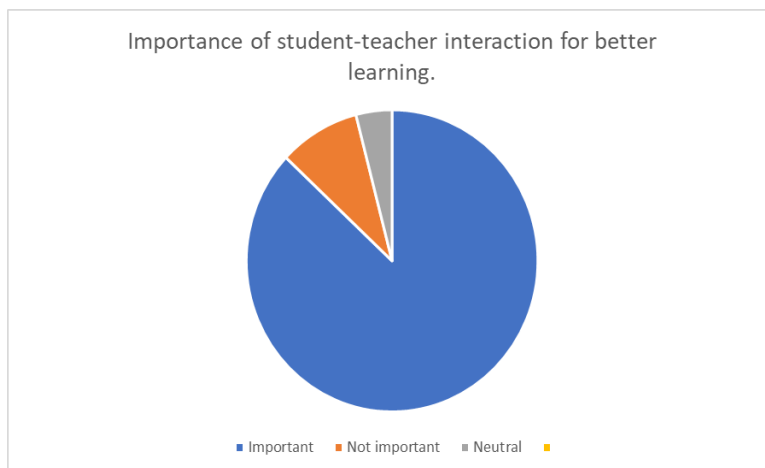

Fig. 8: Chart depicts the importance of student-teacher interaction for better learning
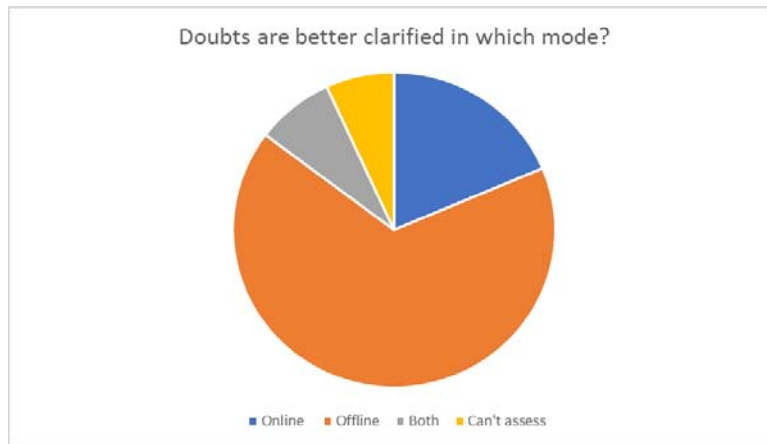
Fig. 9: Chart depicts the importance of student-teacher interaction for better learning
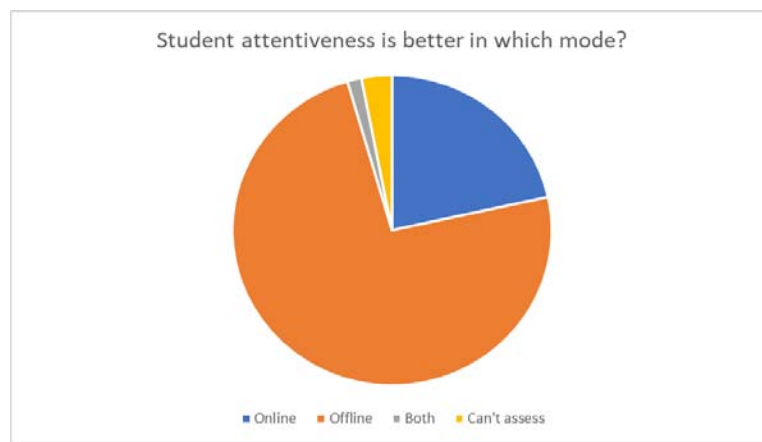

Fig. 10: Chart depicts the level of student attentiveness in several modes
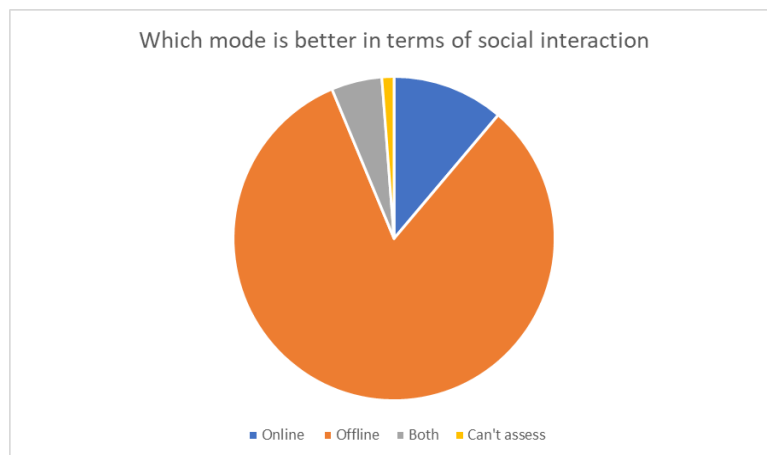

Fig. 11: Chart depicts the level of social interaction in several modes

Level of comfort

When asked about the learning environment and comfort level of online learning, the majority of respondents believed that while the classes could be taken from the convenience of one's own home, there were still many substantial problems. Disturbance brought on by the home's atmosphere, a lack of focus, a slow internet connection, a lack of data, and other technological problems (fig. 12) [2]. Another impediment to online learning was a lack of appropriate gadgets for the classes, which further created problems in online education mode.

Symptoms of depression and anxiety-associated risk factors

Despite the fact that the prevalence of symptoms does not correspond to a clinical diagnosis of depression, 60% of respondents reported having depressive and anxiety symptoms. Anxiety is often comorbid with depression [3]. During the pandemic, many risk factors were discovered to be connected to depressive symptoms. Students were shown to be much more likely than vocational folks to experience depressed symptoms [4-6]. Online classes created mental health struggles for students. Increased screen time has been connected to

sadness, anxiety, and alleged focus issues. Respondents lost out on the routine social connection; as a result, many persons experienced social anxiety once the lockdown was released. During video sessions, students encountered annoying delays, making technology concerns a source of stress and melancholy. Students found it difficult to sit through an hour-long lecture after returning to regular mode from the virtual environment, which made it difficult for them to concentrate. Additionally, it led to unpleasant tension headaches. Many respondents developed bad sleeping habits and harmful effect on their sleep patterns as a result of the online classes. Many people faced loss of appetite, fatigue, social withdrawal loss of interest, over thinking and restlessness due to the transition from online to offline mode [7].
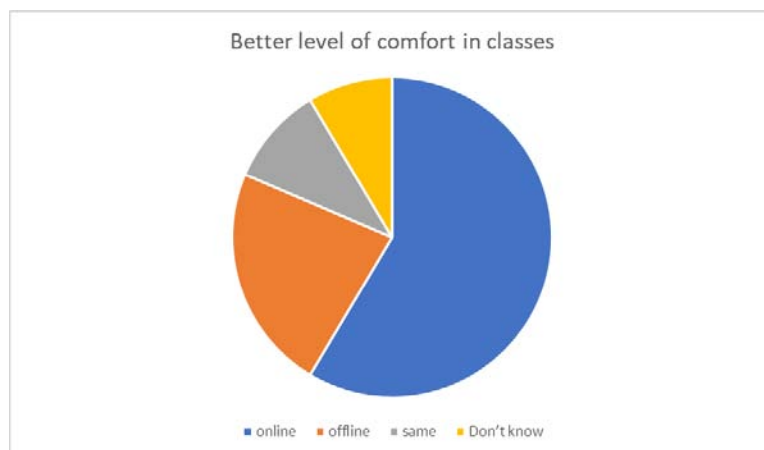

Fig. 12: Chart depicts the level of comfort in several modes

A separate analysis of negative psychological outcomes

According to the findings of these studies, the rates of adverse psychological outcomes were moderate but higher than usual, with symptoms of anxiety ranging from 6.43% to 18.9%, those of depression from 15.6% to 33.9%, those of stress from 26.9%, and those of PTSD from about 8% [8-12]. These investigations consistently found that the student population, younger age group (40 y), and feminine gender had more severe mental symptoms.

Perceived stress scale scores

The PSS is a well-known stress assessment tool that is simple to use and rapid to score. The PSS, which [13, 14] first created in 1983, is still used often to evaluate how diverse life events and emotions lead to varying levels of perceived stress. These days, the PSS is most frequently used as a 10-item scale with the following items on stress that are centred on the respondent's emotions and ideas from the previous month. The overall PSS scores range from 0 to 40 since each of the 10 items is given a score between 0 and 4 (some things are reverse-scored).

- 0-13-Low stress
- 14–26: Moderate stress
- 27–40: High perceived stress

Respondents were asked several questions based on the perceived stress scale and their responses were then converted into scores to calculate the level of stress experienced by respondents. The results are as displayed in fig. 13.
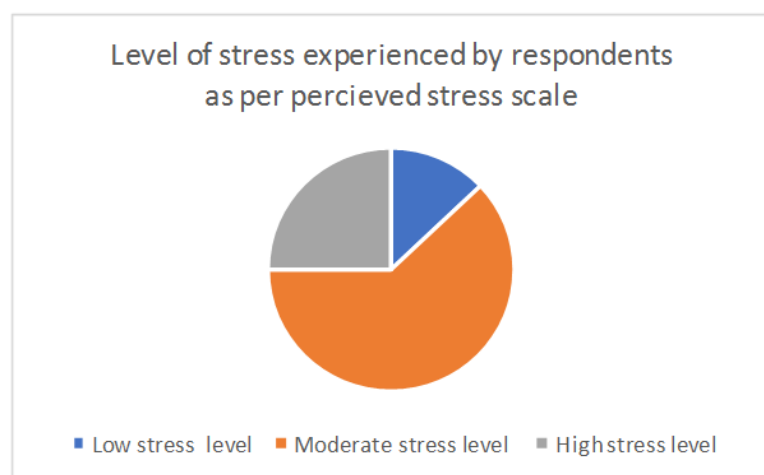
Fig. 13: Chart depicts the ratio of respondent's scores of levels of stress experienced by respondents as per perceived stress scale

Factors that protect against mental disorders

A few studies have found characteristics that shield people from psychological disease symptoms during the pandemic in addition to related risk factors. Lower levels of anxiety, stress and depressive symptoms in the general population were shown to be connected with the timely distribution of up-to-date and accurate COVID-19-related health information from authorities [15]. Positive psychological outcomes have been proven to link with several personality qualities. People who exhibited secure and avoidant attachment patterns, as

well as good coping mechanisms, often displayed lower signs of worry and tension [16, 17]. Additionally, individuals with more social support and opportunities for relaxation during the pandemic showed lower levels of stress, according to research by [18]. People who indulge in activities like arts, music, physical fitness, yoga, and meditation tend to stay calmer during such adversities.

Efforts to reduce symptoms of mental disorders

Policymaking

The corresponding risk and protective variables provide insight into the formulation of public policies intended to lessen the psychological effects of the COVID-19 pandemic on the general populace. First and foremost, the aforementioned vulnerable segments of the population—females, those under the age of 40, college students, and those with chronic or psychiatric illnesses—should receive additional focus and support. Due to the COVID-19 pandemic's restrictions on and delays in in-person healthcare, remote mental health treatments can be provided through internet counselling and hotlines [19, 20]. Last but not least, those who are enduring financial difficulty or job loss as a result of the pandemic may be given financial help (such as benefit money, salary subsidies, and new career possibilities). Government involvement has been demonstrated to be beneficial in reducing suicide instances linked to economic crisis through financial support, housing assistance, access to mental first aid, and encouragement of healthy lifestyle behaviour at the individual level [21]. The institutes should set up counselling units and support group for people dealing with mental health problems as these are scientifically backed methods of reducing the symptoms of stress and anxiety in people. Listening to the concerns of the students may greatly aid in understanding the problem and cause of the stress. After the lockdown students might face a hard time concentrating in the offline classes; thus conducting different activities that stimulates their interest and creating a flexible environment of learning in spite of burdening them with syllabus may further help them to slowly get acquainted with the new routine. Not only this but seeking their suggestions on how to create a welcoming, safe and comfortable classroom may help in the interaction and development of social ease in students. Encourage activities to socialize and enhance interaction with their peers. A positive learning environment is always helpful in reducing stress levels amongst students.

Individual efforts

People can also take action to reduce their psychological distress symptoms. For instance, it has been shown that engaging in regular exercise and adhering to a healthy eating regimen can effectively reduce and even eliminate the signs and symptoms of stress or depression [22-24]. In order to avoid potential false reports and contagious negativity, it is also advised to avoid checking COVID-19-related news while experiencing pandemic-induced anxiety symptoms. Additionally, it is crucial to only seek medical advice from qualified healthcare experts and to only read news articles on COVID-19 that have been published by approved news outlets and organisations. Keeping in touch with friends and family by phone calls or video calls during quarantine can ease the distress from social isolation [25, 26].

CONCLUSION

The devastating effects of COVID-19 was experienced by every sphere of humankind. Now the educational sphere has also resumed their normal traditional teaching from the online education mode. Though both the online and offline education modes have their pros and cons yet as per the survey the responses are still tilted in the favour of the traditional teaching methods. If the tools and platforms are developed further the online mode of education is a vision for the future. Though online classes give the comfort of home, reduces travelling costs, saves time, and gives access to education even in remote locations. Yet it fails to provide social interaction amongst students and teachers, attentiveness, and lacks by the ability to be focussed. These are the deficits that need to be improved in the future to enhance learning and knowledge transfer efficiency. The psychological state of academic sector during the COVID-19 pandemic was evaluated in this systematic review, which also focused on the risk factors involved. In the majority of investigations, unfavourable psychiatric symptoms were shown to be highly prevalent. An unprecedented threat to mental health in high-, middle-, and low-income nations is posed by the COVID-19 pandemic. Priority should be placed on preventing mental illnesses in addition to flattening the viral transmission curve (e. g., major depressive disorder, PTSD, as well as suicide). Government and institution strategy that combines viral risk reduction with measures to lessen risks to mental health is urgently required.

AUTHORS CONTRIBUTIONS

All the authors have contributed equally.

CONFLICT OF INTERESTS

Declared none

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