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Study of Covid-19 – Related Ecological Habitat of College Students: A Survey

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Abstract. In recent years, the interaction of people with the surrounding ecological environment has become increasingly unsafe for health, namely the person' physical and mental capabilities. This is especially true of the younger generation, like students of higher educational institutions, who have weakened immunity due to a busy study schedule, constant mental overload and stress. That is, health, as a sign of the quality of life of a student, is associated with the ecological situation and lifestyle, therefore, is one of the main concepts of human ecology. The influence of additional negative factors, such as stress and restrictions associated with the Covid-19 pandemic, greatly increases the risk of developing students' mental health problems. Unexpected isolation related to Covid-19 has caused disruption to daily routines, especially in students. The sudden change in the learning environment and limited social interactions and activities posed an unusual situation for children's developing brains. The study aim is to investigate and identify the psychological threats posed by students of different ages (under 20, between 21–25, and 26-32) in this pandemic of COVID-19. It was found that 28.0% of students were often nervous and stressed in the age group under 20, in contrast to 26.5% and 11.1% in groups 21 to 25 and over 26, respectively. In the younger group of students, 10.2% of students never felt upset, in the group of 21-25 years old – 8.3% and over 26 years old – 5.6%. It was concluded that it is mandatory to assess the student's psychological health and to plan for necessary support mechanisms, mainly during the recovery phase, because depression, stress, fear of getting infected, fear of losing a loved one, fear about getting jobs and related academic issues, disturbance in sleeping pattern, increase in duration of screen time, etc., were found to be common among students of all age groups.

Keywords: human ecology, student youth, Covid-19, pandemic, restrictions, mental problems, depression, anxiety, academic issues.

1. Introduction

In recent years, the interaction of people with the surrounding ecological environment has become increasingly unsafe for health, namely the person' physical and mental capabilities. This is especially true of the younger generation, like students of higher educational institutions, who have weakened immunity due to a busy study schedule, constant mental overload and stress. That is, health, as a sign of the quality of life of a student, is associated with the ecological situation and lifestyle, therefore, is one of the main concepts of human ecology. The influence of additional negative factors, such as stress and restrictions associated with the Covid-19 pandemic, greatly increases the risk of developing students' mental health problems.

Mental health problems are one of the major obstacles to academic success. Mental problems can affect students' motivation, concentration, and social interactions, and these

are the essential elements for students to succeed in higher education (Unger, 2007). As reported by the UK Parliament Briefing Paper, the mental health related issues of higher education students were a rising concern even before the COVID-19 pandemic because the numbers of students experiencing mental health problems were increasing (Hubble & Bolton, 2020). According to one of the surveys conducted in England, one in every six people suffers from common mental health issues such as anxiety and depression (McManus et al., 2016). The pandemic presented many specific challenges for college students, including the transfer of learning and support services from offline to online mode that many students found difficult to access effectively, ultimately increasing anxiety and concern about their academic performance and long-term employment (Rapanta et al., 2020; Sundarasen et al., 2020; Aristovnik et al. 2020). The measures taken globally to reduce the positivity rate of viruses include lockdown and social distancing that also reduce the chances of socialising and forming relationships, with greater reliance on social media and chronic loneliness that could be brought about by social isolation (Shah et al., 2020).

Various studies have reported the impact of COVID-19 on the mental health of university students and their higher levels of distress-related factors. In one of the US interviews surveys of 195 undergraduate students from one university, (Son et al., 2020) reported the negative consequences of the COVID-19 pandemic and the urgent call to create interventions and preventive strategies. Another US survey of 162 undergraduates (Kecojevic et al., 2020) reported high levels of mental health problems, with depression being associated with difficulties focusing on academic work and loss of employment, and higher levels of anxiety more likely in students who spent more than an hour per day looking for information on COVID-19. An online survey of 255 students at a university in Hong Kong in July 2020 also found high levels of depression, with perceived available peer support being negatively associated with depressive symptoms (Sun et al., 2020). Another cross-sectional web-based study of 324 college students in India between November and December 2020 (Chaudhary et al., 2021) suggested that 68.8% had high fear of COVID-19, 28.7% had moderate to severe depression, and 51.5% had mild to severe anxiety, with having a family member who was infected with COVID-19 being significantly associated with anxiety and depression. Studies have also provided evidence of a worsening of common mental health problems and wellbeing during the pandemic. For example, a survey of undergraduate students by the Higher Education Policy Institute in the UK found that 58% reported a worsening in their mental health because of the pandemic, 14% said it was better and the remaining 28% said it was the same (Hewitt, 2020). Also in the UK, a survey of students in higher and further education conducted by the National Union of Students, found that 52% described their current mental health and well-being as worse, 35% described it as the same and 8% as better, compared with their life before the pandemic (Coronavirus and Students…, 2020). As marked in multiple recent researches that there is an crucial requirement in order to assess the effects of the current pandemic on the mental health and well-being of college students (Zhai & Du, 2020a, 2020b; de Oliviera Araújo et al., 2020; Holmes et al., 2020).

2. Materials and methods

2.1. Survey participants

We conducted the survey with about 468 students from Integral University Lucknow through a Google Forms questionnaire. The form included a total of 22 questions, which were cross-checked by a psychologist from the Integral University. This survey was conducted in order to understand the effect of the pandemic on the mental health of students of various ages. The link was shared between the students through various platforms (WhatsApp, Gmail, etc.). It has been assumed that the participants have entered the correct information in the goggle form according to which the analysis was performed. The results were analysed using Python-based Pandas software. Matplotlib and Seaborn are used to plot the graphs. We received 468 responses, which were divided into three age groups based on their age. Under the age of 20, ages 21–25, and 26–32 Then the data was compared before and during the COVID-19 pandemic, such as sleeping hours before and during the pandemic, to find out the change in sleeping patterns as sleep is related to mental health, etc. We have analysed our data based on age to find out the effect of COVID-19 on college students, as their age is generally between 18 and 24.

The analysis was done on following three age groups:

- Under the age 20
- Age between 21-25
- Age between 26-32

The following questions were asked in the survey.

1. Have you ever been infected with COVID-19?
2. Anyone of your relatives is COVID-19 positive?
3. Are you able to focus on your studies amid COVID-19?
4. In the past month, how often you have been worried about your academic issues and career.
5. How much effort do you make to interact with others before pandemic?
6. How much effort do you make to interact with others during pandemic?
7. Rate the online platform of education?

8. Your sleeping hours per day before pandemic?
9. Your sleeping hours per day during pandemic?
10. Hours you spend on mobile or laptop before pandemic (per-day)?
11. Hours you spend on mobile or laptop during pandemic (per-day)?
12. In the past months, how often have you felt nervous or stressed?
13. In the pat months, how often you have you felt upset because of something that happened unexpectedly?
14. In the past months, often how Have you found that you could not cope up with all things that you needed to do?
15. In the past months, how often you felt confident about your abilities to handle your personal problems?
16. In the past months, how often have you felt that you were unable to control the important things in your life?
17. In the past months, how often have you felt depressed during pandemic?
18. Rate your fear of getting infected?
19. Rate your fear of not getting job during pandemic?
20. Rate your fear of losing loved one amid COVID-19?
21. Are you satisfied by the measures taken by your state or central government regarding COVID-19 situation?
22. Do you believe our health infrastructure got better during pandemic?

3. Results and discussions

3.1. Survey analysis

Total 468 students participated in a survey, namely:

- gender of participants: 42.1% women, 57.9% men
- education: 1.7% PhD, 12% diploma, 15.8% PG, 70.5% UG
- number of vaccines doses taken: 2.6% – do not believe in vaccine, 10.7% – 0 vaccines, 16.1% – 1 vaccine, 70.6% – 2 vaccines

A) Sleeping hours before pandemic and during pandemic (Figure 1)

It was found that students under the age of 20 before the pandemic and during the pandemic slept the same number of hours: 8 hours a day. At the same time, students aged 21-25 to 26-32 years before the pandemic slept for 7 hours a day, and during the pandemic, sleep time increased: students aged between 21-25 years old slept for 8 hours, and ages between 26-32 years slept for 10 hours. The results obtained

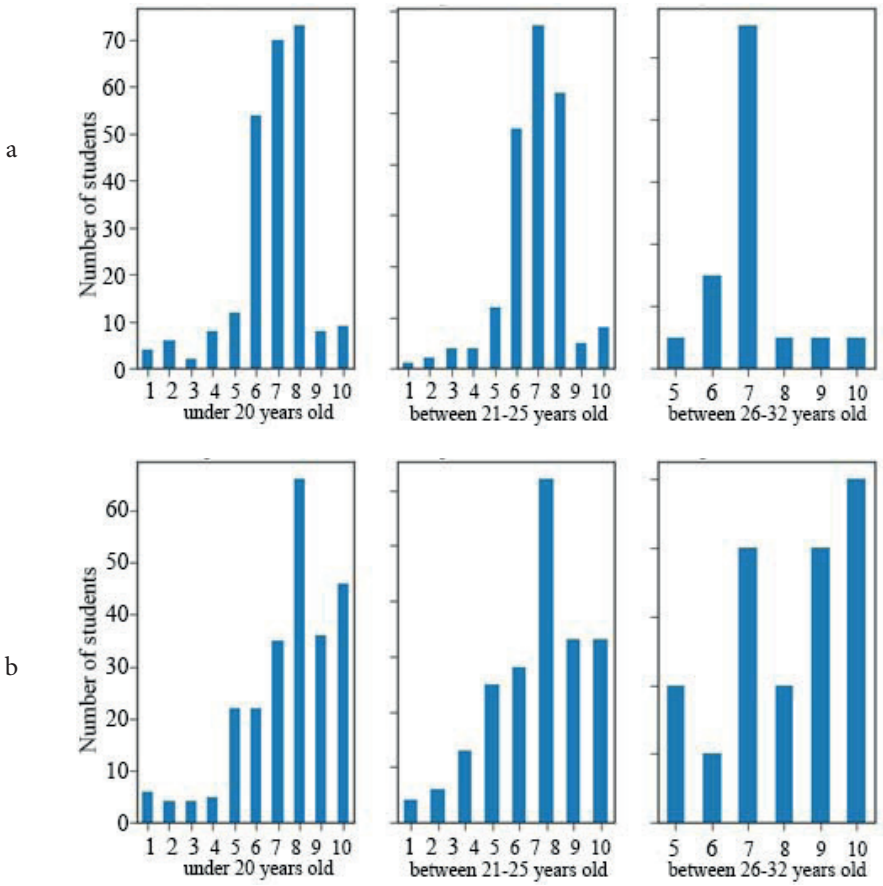


Figure 1. Sleeping hours of students: a-before pandemic, b-during pandemic

are consistent with other similar studies conducted in the US and Switzerland where Rezaei and Grandner (2021) found in most cases an increase in sleep duration by at least 15-30 minutes. At the same time, in the younger age groups (18–29 years), sleep lengthening by more than 30 minutes was more often observed. Also Albrecht et al. (2022) reported more sleep during the pandemic among Swiss adolescents (average age of the study was 16 years). During a pandemic, when schools are closed, students have been found to be able to better coordinate their sleep schedules, resulting in better quality of life and lower caffeine and alcohol consumption (Albrecht et al., 2022).

B) Successful execution of all affairs and the presence of concerns about academic problems and career (Figures 2)

The graphs show that the success of all cases during the pandemic is proportional to the age of the students, i.e. for the older group of students aged 26-32, the percentage of completion of tasks is the highest – 61.1%. The situation is similar with anxiety about academic problems. In the group of students aged 26-32, the highest anxiety 55.6% is observed compared to other groups of 49.6% (under 20 years old) and 46.1% (21-25 years old). Although it should be noted that this group also has the highest percentage of students 16.7% among other groups (9.3% for students under 20 years old, 10.3% for students 21-25 years old) who never worry about these problems. Thus, during a pandemic, the older the students, the less significant academic and career-related problems are for them. What is also clearly seen from the "often worry" indicator: 37.0% – up to 20 years; 36.3% – 21-25 years old; 16.7% – 26-32%.

It is clear from the responses received that the fear of not getting a job was highly rated in all age groups.

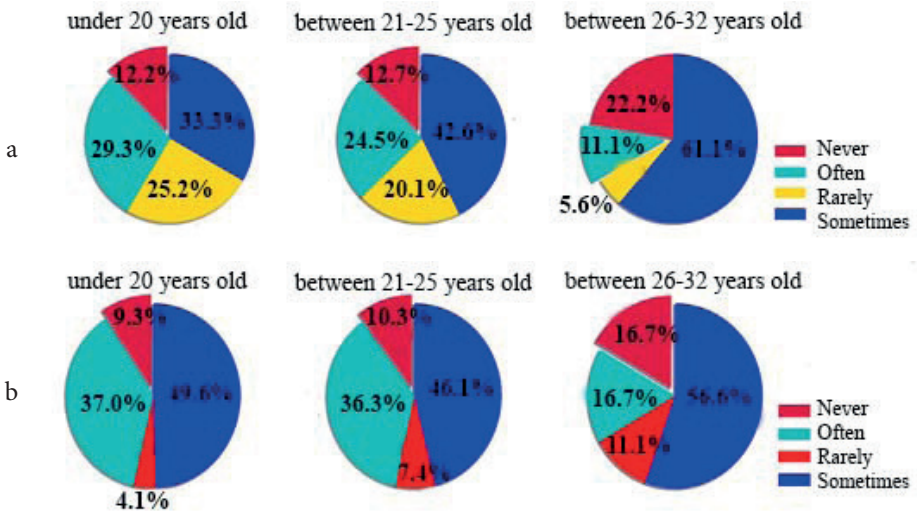
Unfortunately, there has not been enough research done on the number of students able to do all the necessary things in the face of additional restrictions and their concerns about academic and career problems. Research has been found on financial hardship during a pandemic for different segments of students (Soria et al., 2022), on various types of student assistance during a pandemic, such as the development and improvement of online programs (Hollander et al., 2020), student motivation for exchange during a during a global pandemic with heightened health risks (Stewart & Kim, 2021), major barriers to student academic success and their removal (Collins-Warfield & Niewoehner-Green, 2021). However, no studies were found to compare the results with.

C) Hours per day using a mobile phone or laptop before and during the pandemic (Figures 3)

From the results it was concluded that hours spent on gadgets such as mobile and laptops was highly rated in age group under 20 and between 21-25 and was medium rated in age group above 26.

Studies show similar results (Ganne et al., 2021; Lu et al., 2021). The authors reported that during the pandemic there was an increase in screen time compared to pre-pandemic time, that the time spent on mobile gadgets increased from 40% to 71%. A significant relationship has also been noted between increased use of electronic devices and longer periods of sleep (Ali et al., 2022).

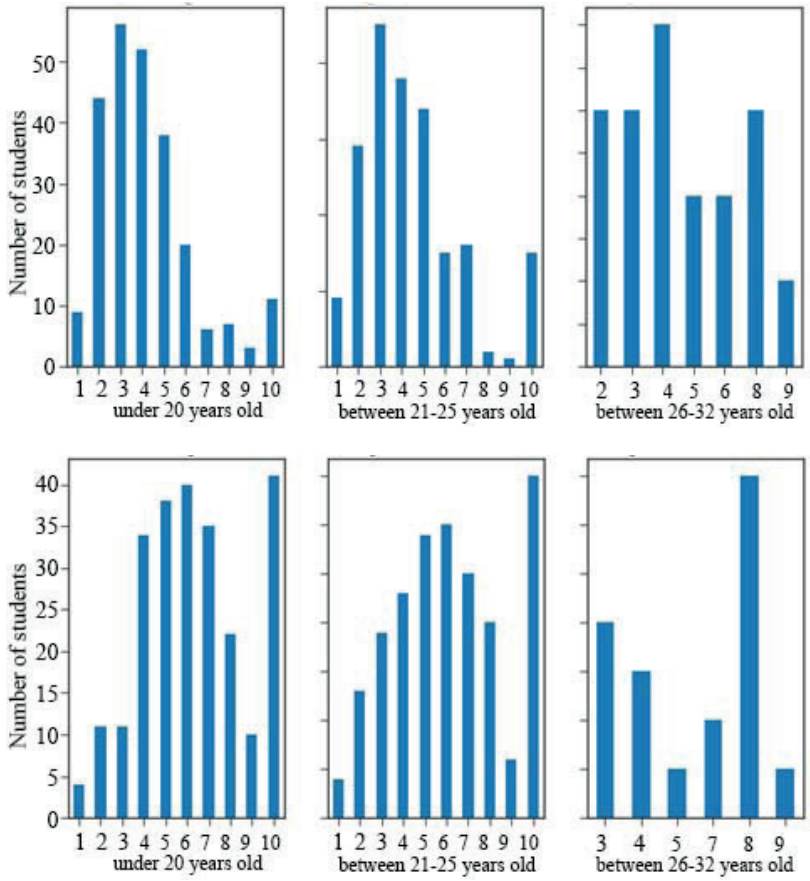
D) Nervousness and stress, upset about some unexpected events, feeling of sadness (Figures 4)



Figures 2. Shows the percentage of students of different age groups regarding coping parameters: a – not able cope up with all things that need to do; b – worried about their own academic issues and career

a

b



Figures 3. Hours spent by students on gadgets before and during pandemic: a – before pandemic; b – during pandemic

a

b

c

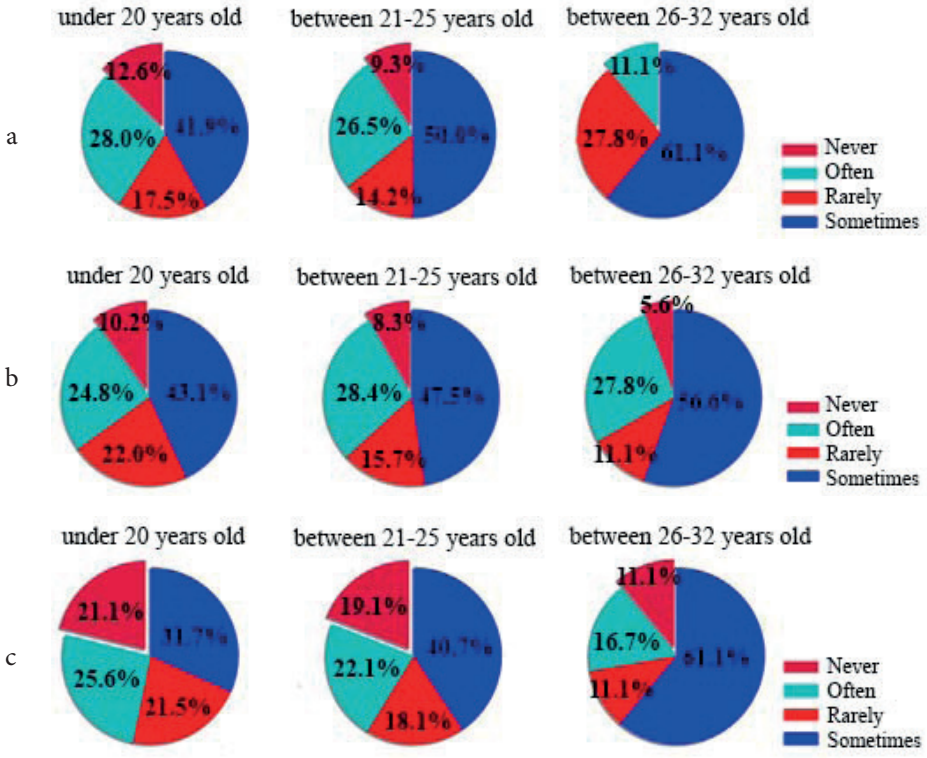


Figure 4. Percentage of students of different age groups: a – nervousness, stress; b – upset about some unexpected events; c – sad state

As depression is one of the serious problems faced by today's generation, people take it lightly. Due to the pandemic, people were forced to stay at home, hostels, etc. and infected ones were quarantined alone and separated from friends and family. That led to loneliness, which is one of the factors of depression.

It was found that at a younger age, the percentage of students who were often nervous and stressed was higher than at an older age. Thus, 28.0% of students were often nervous and stressed in the age group under 20, in contrast to 26.5% and 11.1% in groups 21 to 25 and over 26, respectively. At the same time, there are no students in the group older than 26 who have never experienced stress, in contrast to 12.6% in the group under 20 and 9.3% in the group aged 21-25. This factor needs to be studied in more detail. Although this may be due to the fact that the youngest students in the academic community have less life and experience and less environmental resources due to the fact that they have not yet developed close and deep social and emotional relationships (Erikson, 1968), and they do not perceive the university as a source of instrumental and organizational support, since this is a new environment (Babicka-Wirkus et al., 2021).

A similar dynamic is observed with a state of chagrin due to any surprises. In the younger group of students, 10.2% of students never felt upset, in the group of 21-25 years old – 8.3% and over 26 years old – 5.6%; and 43.1% of the under-21 group, 47.5% and 55.6% of the 21-25 and over 26 groups, respectively, felt distressed at times.

The results obtained are consistent with those of the authors (Lu et al., 2021; Babicka-Wirkus et al., 2021; Ferren, 2021). Such statistics can be justified by the fact that older students have more life experience, including academic (especially by the age of 31) and therefore used active coping strategies more often during a pandemic, in contrast to younger students (Babicka-Wirkus et al., 2021). The goal of these strategies is to address the problem causing severe internal stress, rather than avoiding the situation entirely (Babicka-Wirkus et al., 2021).

E) Felt confident about your ability to handle your personal problems and unable to control the important things in your life (Figure 5)

It is clearly seen that students over the age of 26 were confident in their ability to solve their personal problems, while those aged 21 to 25 sometimes cannot control important things in their lives. Again, this is supported by having more life experience and the willingness and ability to apply certain technologies to solve a problem, but not ignore the problem (Babicka-Wirkus et al., 2021).

F) Satisfaction with measures taken by your state or central government

It has been established that:

Age under 20- 20.7% of students favoured no, 49.6% of students favoured yes and 29.7% of students were not sure about the measures taken by the state or central government.

Age 21 to 25- 30.9% of students favoured no ,46.1% of students favoured yes and 23.0% of students were not sure about the measures taken by the state or central government.

Age 26 to 32- 22.2% of students favoured no ,55.6% of students favoured yes and 22.2% of students were not sure about the measures taken by the state or central government.

Thus, it was concluded that the students above 26 age group were found to be satisfied by the measures taken by the state or central government.

G) Satisfaction with healthcare infrastructure during a pandemic, own fear of covid-19 and the loss of a loved one as a result of their illness

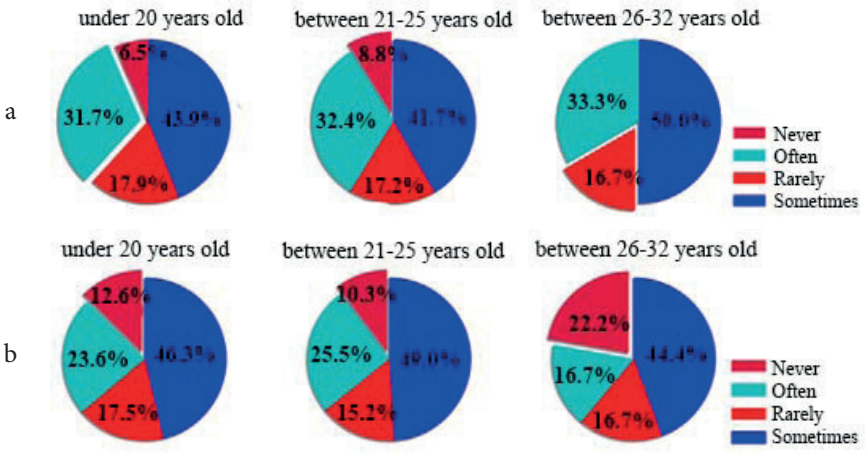


Figure 5. Percentage of students of different age groups: a – self-confidence; b – inability to solve own problems

Regarding satisfaction with the health infrastructure during the pandemic, it was found:

Age under- 20-23.6% of students favoured no, 43.5% of students favoured yes and 32.9% of students were not sure about betterment of health infrastructure during pandemic.

Age 21 to 25- 31.4% of students favoured no, 45.6% of students favoured yes and 23.0% of students were not sure about betterment of health infrastructure during pandemic.

Age 26 to 32-33.3% of students favoured no, 44.4% of students favoured yes and 22.2% of students were not sure about betterment of health infrastructure during pandemic.

Consequently, middle-aged students believe more than others in improving healthcare infrastructure.

Research regarding own fear of covid-19 and the loss of a loved one as a result of their illness demonstrate the results shown in Figure 6.

Dealing with the loss of a loved one at any time is distressing. Losing someone during the coronavirus pandemic, whether to COVID-19 or to other causes, will bring additional challenges. From the survey, it was concluded that fear of losing a loved one was found to be highly rated, which means that the students were afraid of losing their loved ones.

4. Conclusions

The results of this study complement and confirm previous studies showing that important factors such as environment, emotional well-being and social interactions have a significant impact on students' ability to develop.

Mental health is important at every stage of life, from childhood and adolescence through adulthood. Mental health includes emotional, psychological, and social well-being. It affect how we think, feel and act. It also helps determine how we handle stress, relate to others and make healthy choices. To overcome stress and ensure adequate functioning, it is necessary to develop optimal strategies for coping with difficulties, and as a result with stress (Babicka-Wirkus et al., 2021).

Problem as per individual has been increased a lot during pandemic leading to various mental issues which includes:

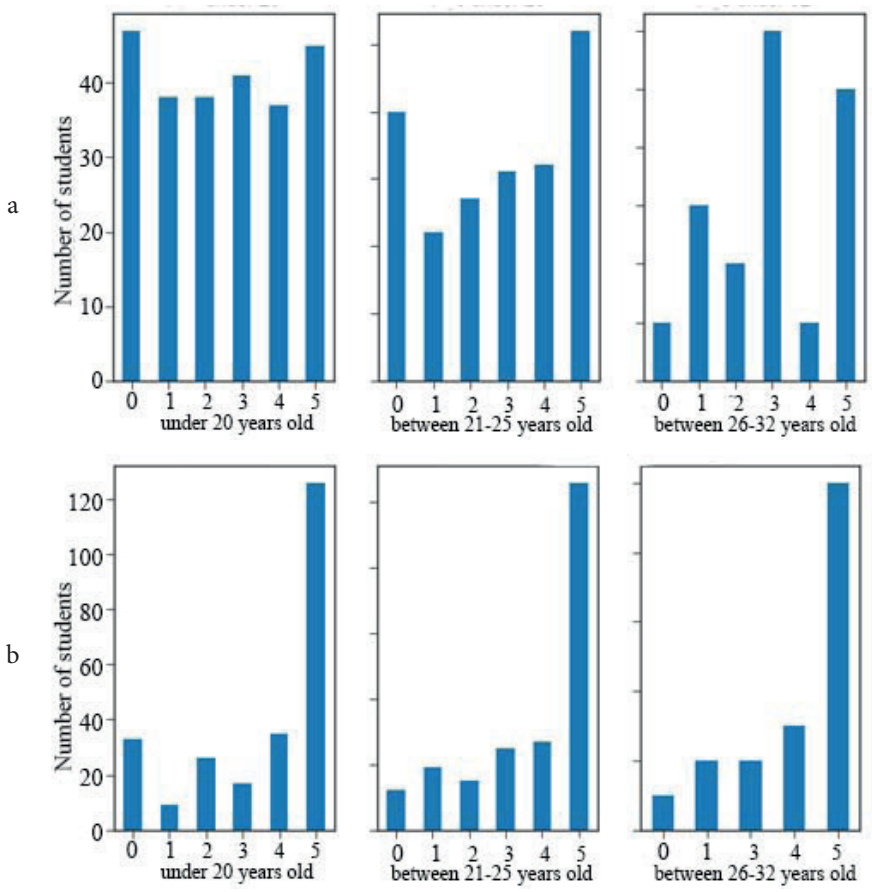


Figure 6. Percentage of students of different age groups: a – fear for oneself before the disease; b – fear about the death of a loved one who may get sick with covid-19

Depression: is one of the serious problems faced by today's generation, yet people take it lightly. Due to the pandemic, people were forced to stay at home, hostels, etc. and infected ones were quarantined alone and separated from friends and family. That led to loneliness, which is an important factor for depression. Given this situation, it was important to ensure that students were fully supported by the university, as studies found that 78% of students needed support, and the largest proportion of students – 25% – needed emotional support (Babicka-Wirkus et al., 2021)

Fear of losing loved ones is also an important factor that disturbs the mental health of students as it raises the risk of major depression, anxiety disorders, post-traumatic stress disorder, and phobias.

Focus on studies has also been interrupted due to lock-down, quarantine, offline classes etc., as they result in loneliness, over-thinking and mental disturbance.

As we observed in our studies, COVID-19 results in a lot of mental distress and depression, and we used mobile as our escape route from that trauma. From the survey report, it was concluded that the maximum percentage of depression was high among individuals in the age group between 26 to 32 and less among individuals in the age group 21 to 25.

From the results it was concluded that screen time was maximum in age group (under 20 and 21-25) and was least in the age above 26.

From the above results it was concluded that fear of not getting job was maximum in age group 21-25 and was least in age group above 26.

From the result it was concluded that the fear of losing loved ones in all age group were highly rated.

From the results it was concluded that worries regarding academic issue and career was maximum in age group 26-32 and was least in age group under 20.

The isolation due to the pandemic does not provide a favourable environmental environment for students, which negatively affects their health. It was concluded that depression, stress, fear of getting infected, fear of losing loved ones, academic issues, disturbance in sleeping pattern, increase in duration of screen time, etc., were found to be common among students of all age groups. Therefore, it is essential to assess the student's psychological health and to plan for the necessary support mechanisms, mainly during the recovery phase.

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