#### **ORIGINAL ARTICLE**



# Higher education students' behaviour and mental health during Covid-19 lockdown: a pilot study

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#### Abstract

**Background** The flare-up of Covid-19 in India caused open turmoil and pressure on emotional wellbeing among university students. At first, it was about course finishing; later, the issues moved to assessment. This scourge increases mental issues, stress, dissatisfaction, sorrow, and nervousness.

Aim The aim of this study was to assess the mental health and behaviour of Mizoram University students during the Covid-19 lockdown period.

**Methods** This study was a cross-sectional investigation, and a snowball method sampling technique was utilised for obtaining information from the students.

**Results** There were 65.2% of students who revealed that they were giving more consideration to their emotional wellbeing during this pandemic. More than half of the participants (67.2%) reported no expanded worry of stress from scholastic work, and 65.2% reported that they were paying more attention to their emotional wellbeing and mental health following the pandemic. Further, 69.7% reported that they were spending more time exercising. Nearly 55% of students took part in Zoom classes, with a length of 35 to 40 min. About 65.7% of students gained proficiency in their course by means of a learning management system. Students performed activities at home during the lockdown period, watching TV (75.4%), reading books (38.7%), and on writing assignments (34.8%); and 34.5% of the students viewed news from TV, newspapers, and social media about the Covid-19 pandemic each day.

**Conclusion** The positive effects on psychological wellbeing may have helped the students adapt to other negative effects and expanded pressure on emotional wellbeing. This pandemic impact will probably be engraved on every individual surveyed.

Keywords Academics · Covid-19 pandemic · Lifestyle · Mental health · Stress

# Introduction

All educational nstitutions were shut down in India due to the Covid-19 pandemic. In the interim, school and college students are worried about hostels, residence clearing, and cancelling of planned activities. Assessments were deferred because of the lockdown, and the actual dates of examinations and reopening of institutions is not known by anybody and is

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uncertain. In this context, numerous students experienced mental pressure, and there is a need to think about the status of their psychological wellbeing. The constant spread of the pandemic, causing closure measures and postponements in restarting schools, colleges, and universities across the nation, is expected to impact the mental health and emotional wellbeing of students. Studies have revealed that a majority of students are experiencing nervousness issues and anxiety (Chen et al. 2020; Yang et al. 2020; Li et al. 2020). Initially, this was about course completion, and university and college educators began web-based instructing; later, concern moved to assessment. Students, particularly those from the more vulnerable segment who do not have computers, laptop, or smartphone, are worried about the method of assessment and examinations.

A number of investigations have demonstrated that posttraumatic stress disorder is firmly identified with sadness, depression, psychological problems, and other mental issues. Social media are one of the main channels providing updated information with regard to Covid-19 (Bao et al. 2020; Gao et al. 2020). Although social media could play an important role in facilitating communication with individuals who are quarantined with their relatives who are far away (Brooks et al. 2018), they are not always a trusted source of information for updates about the pandemic (Gao et al. 2020).

Some studies have revealed the mental health risks of Covid-19 in vulnerable populations including older adults (Rajkumar 2020; Yang et al. 2020), the homeless destitute (Tsai and Wilson 2020), migrant workers (Liem et al. 2020), the mentally ill (Yao et al. 2020; Zhou et al. 2020), pregnant women (Rashidi and Simbar 2020) and Chinese students studying abroad (Zhai and Du 2020). An investigation conducted in China (Leilei et al. 2020) on impact of Covid-19 on youth psychological well-being and mental health, and in India Banerjee (2020) discussed that the significance of therapists during the Covid-19 pandemic is important in teaching critical thinking and problem solving strategies to adapt to the current emergency. Haimin (2020) found that students had an alternative learning experience in this situation from when they were on campus previously.

No such study has been conducted on psychological wellbeing and the way of life of university students in India. Therefore, the study intended to explore the mental health and behaviour of university students during the lockdown period, and whether there was a related effect of the Covid-19 pandemic.

# Methodology

The present study was a cross-sectional investigation. A snowball sampling strategy was utilised for collection of information from the university students. Prior to the research study being conducted, ethical approval was obtained from the research ethical committee of Mizoram University, and consent was also obtained from the Mizoram University students. An online semi-organised survey questionnaire was utilised for collection of data by utilising Google Forms. The sampling of the semi-organized poll was done through messages, WhatsApp, and other social media to the students who had agreed to contact with the investigator. Accordingly, the link was sent to the students withh regard to the primary purpose of contact. Part A of the survey asked for personal characteristics: sex, stream of education, location of residence, and course. Part B of the survey questionnaire was aimed at evaluating the mental health of the students. Respondents were requested to answer Part C of the survey to evaluate the effect of the Covid-19 pandemic on mental health-related behaviour changes, based on yes and no responses.

### Findings

The information was gathered from 894 university students (513 females and 381 males). Out of total participants, 224 were studying arts, 107 commerce, and 284 science, and 279 students were taking professional courses. With respect to area of residence, 376 students were from an urban and 518 students from a rural background.

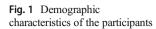
From Table 1, it can be seen that 69% students in general courses participated in the study (25.06% were in arts, 11.97% studying Commerce, and 31.76% studying science), and 31% students in professional courses such as Engineering, MBA, M.Ed., MSW, M.Lib., and MJMC courses. Most of the students (58%) had a rural and 42% students an urban background.

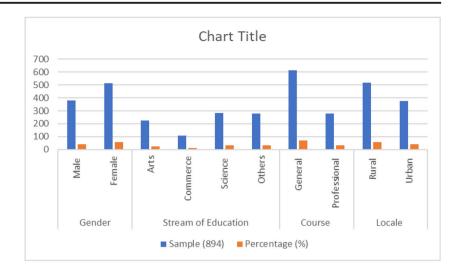
Figure 1 below gives a graphical representation of the first stress factor in Table 1.

Following the onset of the pandemic, more than half of the participants (67.2%) reported no expanded worry or stress in studying. Additionally, 78.2% mentioned that they did not experience increased financial stress arising from the pandemic. A total of 74.5% of participants reported that they did not encounter increased stress from working at home. There were 65.2% of participants who reported that they were paying more attention to their emotional wellness and mental health following the pandemic. Furthermore, 66.3% of participants reported that they were spending more time resting. The majority of participants (65.2%) expressed that they were spending more time relaxing. More than half of the participants (69.7%) reported that they were spending more time exercising. However, it was imperative to ensure that quarantine facilities were not planned simply for lodging huge quantities of individuals, indeed, which can spread the contamination further. Occasionally study periods were additionally delayed, and school openings were held back to decrease the numbers of new Covid-19 cases.

 Table 1
 Demographic characteristics of the participants

Variable	Types	Sample ( $n = 894$ )	Percentage (%)			
Gender	Male	381	42.61			
	Female	513	57.39			
Stream of education	Arts	224	25.06			
	Commerce	107	11.97			
	Science	284	31.76			
	Others	279	31.21			
Course	General	615	69.00			
	Professional	279	31.00			
Locale	Rural	518	58.00			
	Urban	376	42.00			





In Table 2, the overall scores among participants indicated a lowish level of stress. One potential reason behind this effect is that the infection outbreak was not viewed as serious during the time that the survey was conducted. Also, it is conceivable that despite everything, students probably would not have been fully iinformed about the seriousness of the infection, as referenced beforehand. When this study was conducted, the whole of India was locked down: Mizoram University is located in the Aizawl (Northeast of India) and the road distance between the plain areas of the Indian state Assam and Aizawl is approximately 400 km.

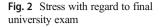
Figure 2 below gives a graphical representation of the first stress factor in Table 2.

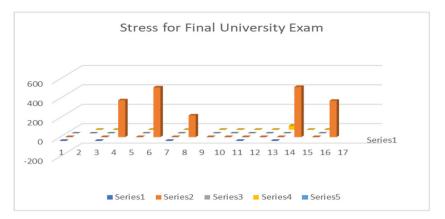
By the month of May 2020, the quantity of affirmed Covid-19 cases in Mizoram State was just one, which is extremely low compared to the rest of India. In addition, most of members reported that they got extended social and family support. The present study also documented that the vast majority of the respondents had positive mental health and psychological well-being. Spending more time to rest was also associated with a lower score in the respondents of the present study. Therefore, these elements might have helped to reduce the stressful impact of the Covid-19 pandemic. Future studies should also investigate if limited knowledge, lack of interest, the relationship between the distance of the survey population from the epicenter of the epidemic, or other factors might contribute to such a limited impact on mental health as reported in the current investigation.

In addition, as shown in Table 3, the majority of the respondents (52.1%) reported that while they felt affected and uncertain because of the Covid-19 pandemic, they did not feel helpless because of the pandemic. Additionally, the majority of participants revealed that they were paying more attention to their mental health, psychological wellness, spending more time relaxing, resting, and exercising after the onset of the pandemic. These positive effects on mental health and

Variables	Categories ( <i>n</i> )	Stress for final university exam			Career stress			Disturbed due to Covid-19		
		Yes	No	P- value <sup>1</sup>	Yes	No	P- value <sup>1</sup>	Yes	No	P- value <sup>1</sup>
Gender	Male (381) Female (513)	342 (89.76%) 476 (92.79%)	· · · ·	0.109	· · · ·	138 (36.22%) 176 (34.31%)	0.554	366 (96.06%) 492 (95.91%)	. ,	0.055
Stream of education		22 (9.82%) 20 (18.69%)	0.006	81 (36.16%) 41 (38.32%)	143 (63.84%) 66 (61.68%)	2.159	216 (96.43%) 102 (95.33%)	. ,	0.237	
	Science (284)	262 (92.25%)	22 (7.75%)		202 (71.13%)	82 (28.87%)		261 (91.90%)	23 (8.1%)	
Course	General (615) Professional (279)	571 (92.85%) 247 (88.53%)	· · · ·	0.751	332 (53.98%) 248 (88.89%)	283 (46.02%) 31 (11.11%)	7.793	589 (95.77%) 269 (96.42%)	(	0.005
Locale	Rural (518) Urban (376)	475 (91.70%) 343 (91.22%)	( )	0.312	333 (64.29%) 247 (65.69%)	( )	1.380	492 (94.98%) 366 (97.34%)	· · · ·	0.000

Chi-square test p < 0.05





psychological wellness may have helped the participants adapt with other negative impacts on mental health, including increased pressure and stress. Then again, an expansion in money-related and family worries in a debacle could be related with some shirking practices, which would have compounded their psychological wellness and mental health and led to a progressively more indolent way of life and more passive lifestyle. This result is similar to the study conducted by Cao et al. (2020).

Figure 3 below gives a graphical representation of the first stress factor in Table 3.

Table 4 concerns the activities the students performed in their home during the lockdown period to use their time; watching TV (75.4%), reading books (38.7%), writing assignments (34.8%), and playing computer games (26.8%). Further, 34.5% of the students viewed the news from TV, newspapers, and social media about the Covid-19 pandemic each day. Overall, nearly 37.3% students felt fairly comfortable, and 46.70% of them perceived family life during the unique time as not terrible, but not great either, and 17% not exhausting. Although personal hygiene was strongly emphasised as a result of the pandemic, there was a small proportion of the students (12%) who believed that they did not pay more attention to personal hygiene than previously, and 88% of the students deemed that wearing facemasks would be necessary while heading outside and beneficial for themselves even when the epidemic is under control and vanishes.

Figures 4 and 5 below give graphical representations of time spent resting and exercising respectively.

The current study results were consistent with the findings reported by Lau et al. (2006) who explored mental health, psychological wellbeing, quality of life, and personal satisfaction in Hong Kong residents during the SARS epidemic in 2003. They also reported increased social and family support as well as positive psychological wellness and mental healthrelated lifestyle changes. The findings are similar to the study conducted by Torales et al. (2020). One potential reason behind these findings was that during the pandemic, the pace of the entire society slowed down. This could have then created more chances and time among the community members to help, support, and care for each other.

In addition, during some of the *Ugadi, Ramzan* and other various festivals in each state, relatives, family members, and companions were tremendously esteemed, and there was expanded correspondence with relatives and companions.

Table 3 Mental health of students with respect to various stress factors

Variables	Categories (n)	Worried about life due to Covid-19			Feeling helpless due to Covid-19			Internet issues		
		Yes	No	<i>P</i> -value <sup>1</sup>	Yes	No	P- value <sup>1</sup>	Yes	No	<i>P</i> -value <sup>1</sup>
Gender	Male (381)	276 (72.44%)	85 (27.56%)	0.005	300 (78.74%)	81 (21.26%)	2.099	333	48	1.221
	Female (513)	448 (87.33%)	85 (12.67%)		321 (62.57%)	192 (37.43%)		211 (41.13%)	302 (5887%)	
Stream of	Arts (224)	200 (89.29%)	24 (10.71%)	8.035	198 (88.39%)	26 (11.61%)	1.051	199 (88.84%)	25 (11.16%)	0.001
education	Commerce (107)	82 (76.64%)	25 (23.36%)		87 (81.31%)	20 (18.69%)		78 (72.90%)	29 (27.1%)	
	Science (284)	204 (71.83%)	80 (28.17%)		192 (67.61%)	92 (32.39%)		230 (80.99%)	54 (19.01%)	
Course	General (615)	487 (79.19%)	128 (20.81%)	6) 0.006	477 (77.56%)	138 (22.44%)	1.918	497 (80.81%)	118 (19.19%)	1.141
	Professional (279)	237 (84.94%)	42 (15.06%)		144 (51.61%)	135 (48.39%)		47 (16.85%)	232 (83.15%)	
Locale	Rural (518)	426 (82.24%)	92 (17.76%) 0.05	0.058	412 (79.54%)	106 (20.46%)	1.641	480 (92.66%)	38 (7.34%)	8.662
	Urban (376)	298 (79.26%)	78 (20.74%)		209 (55.59%)	167 (44.41%)		64 (17.02%)	312 (82.98%)	

<sup>1</sup> Chi-square test p < 0.05

#### Fig. 3 Worried about life



Family members were bound to think about one another and fraternize in light of the fact that they were asked to abstain from going to open places and remain at home, particularly during the celebrations and festivals. In addition, these festivals and celebrations are the most significant state festivals and celebrations because they mark the beginning of a new year according to the traditional local calendar. It also signifies an opportunity for a new beginning and a hope of good things to come. Companions were likewise bound to send respects to one another by means of WhatsApp and potentially other social media.

It is also possible that the students in the survey were only those who had the entusiasm and mental strength to really respond to these questions, which may have significantly skewed the responses towards those normal in a "healthier" population in these circumstances. Additionally, to what degree these study responses might have been affected by perceived monitoring of responses from the students remain uncertain. In the midst of this moment of increased security, particularly digitally distributed security aimed at playing down the crisis, any sort of critical responses or signs that might suggest a sense of things being out of control might be thought to be monitored or suppressed. Additionally, the conceivable recall inclination from responders may have confounded the present findings. The pay level of participants' family was not assessed in the study. In spite of the fact in this study researchers collected occupational information about guardians or parents, the researcher did not collect specific details including whether their parents' occupation and income were related to healthcare.

Participants were approached to provide data with respect to Covid-19 updates and the prevention measures released by the administration. Enormous effort using both qualitative and quantitative techniques ought to be carried out in all districts of different nations to explore the mental health and quality of life among citizens and residents, especially in the areas most severely impacted by the pandemic.

Following the current study, the researcher will conduct a long-term follow-up study on these same participants, as well as a large-scale survey to explore whether there were any significant changes in the mental health impact of the Covid-19 pandemic. The researcher will likewise research whether these responders develop post-traumatic stress after the Covid-19 pandemic is over. This will then provide some important information for community health workers in mainland India to help them tackle these mental health-related issues in response to other similar societal disasters. It is also imperative for mental health workers to be aware that such awful traumatic stress symptoms could lead to the development of avoidance behaviors or passive lifestyles after the

**Table 4**Behaviors of students with respect to use of time

Variables	Categories (n)	Time spent resting			Time spent relaxing			Time spent exercising		
		Yes	No	P-value <sup>1</sup>	Yes	No	<i>P</i> -value <sup>1</sup>	Yes	No	<i>P</i> -value <sup>1</sup>
Gender	Male (381)	280 (73.49%)	101 (26.51%)	0.11	243 (63.78%)	138 (36.22%)	0.51	362 (95.01%)	19 (4.99%)	0.12
	Female (513)	406 (79.14%)	107 (20.86%)		337 (65.69%)	176 (34.31%)		480 (93.57%)	33 (6.43%)	
Stream of	Arts (224)	182 (81.25%)	42 (18.75%)	0.01	81 (36.16%)	143 (63.84%)	1.15	216 (96.42%)	08 (3.50%)	0.20
Education	Commerce (107)	67 (62.62%)	40 (37.38%)		41 (38.32%)	66 (61.68%)		102 (95.33%)	05 (4.67%)	
	Science (284)	202 (71.13%)	82 (28.87%)		202 (71.13%)	82 (28.87%)		265 (93.31%)	19 (6.69%)	
Course	General (615)	501 (81.46%)	114 (18.54%)	0.31	335 (54.47%)	280 (45.53%)	3.19	579 (94.15%)	36 (5.85%)	0.01
	Professional (279)	245 (87.81%)	94 (12.19%)		245 (87.81%)	34 (12.19%)		263 (94.27%)	16 (5.73%)	
Locale	Rural (518)	362 (69.88%)	156 (30.12%)	0.212	342 (66.02%)	176 (33.98%)	1.101	489 (94.40%)	29 (5.6%)	0.10
	Urban (376)	343 (91.22%)	52 (8.78%)		238 (63.30%)	138 (36.7%)		353 (93.88%)	23 (6.12%)	

<sup>1</sup> Chi-square test p < 0.05



pandemic. Our results are also similar to those in the study conducted by YoungMinds (2020).

Future investigation should also incorporate more issues related to mental health questions. Young responsers expressed a strong sense of helplessness, which might be correlated with an expanded utilization of social media. These young responders watch and tune in to increasingly more negative news, which will at that point strengthen their sentiments of tension and discouragement in the midst of emergency. Therefore, questions related to social media use, or internet use, or news consumption would be useful to comprehend the effect of such epidemics on mental health. In addition, questions regarding family members, relatives, or friends who have contracted the infection, health history of the people, and their relationship with people working in the healthcare sector, and existing mental health issues ought to be included.

The Ministry of Health and Family Welfare, Government of India, has provided health advisories, videos, and posters, and even conducted webinars on handling individuals' mental health issues. Two types of devices — cell phone (78.35%) and PC (21.65%) were utilized by the students for accessing the online courses. With respect to online courses, live telecasts rather than

Fig. 5 Time spent exercising

recorded broadcasts of the courses was the preferred choice of most of the students (73.60%). Nearly 55% of students took part in Zoom classes with a length of 35 to 40 min. About 65.7% of students gained proficiency in their courses by means of a learning management system. Also, 72% of students learned through WhatsApp and social media. This is especially important, as this study provides some of the main information about the mental health and emotional wellness impacts of the Covid-19 pandemic. However, the present study has limitations associated with the modest number of the sample size and short timeframe, and poor adherence to the investigation and the sampling method, which constrains us from extending the conclusions of the present findings to the entire university student population in mainland India.

#### Conclusion

Since the lockdown is not finished at this point and there is a further spread of the pandemic, it is possible that the Covid-19 pandemic will cause extreme panic and anxiety among sudents living at home or away from the home. The majority of the participants revealed that they had expanded worry with



regard to learning, worry concerning their final university examination, stress concerning their future career, and upset during the period of lockdown. Moreover, a small percentage of participants reported that they were paying more attention to their emotional well-being, mental health, and investing more energy in unwinding, resting, and exercising after the beginning of the pandemic. These positive effects on psychological wellness and mental health may have helped the participants adapt to other negative effects on emotional wellness, including increased pressure. The present study results show increased social and family support as well lifestyle changes linked to positive psychological wellbeing. One potential reason behind these discoveries was that during the pandemic, the pace of the entire society has eased back down. In this study, it was discovered that there were professional students with an tendency toward mental issues and psychological problems which was higher than the proportion of mental issues in different studies.

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Authors contributions The first author developed the framework and collected data, and the second author analysed the data.

**Availability of data and materials** Data can be made available on sending a request to the corresponding author.

#### **Declarations**

**Ethical statement** The researcher obtained permission from the Research Ethics Committee of the Department of Education, Mizoram University, Aizawl to conduct the study.

**Ethical approval** Ethical approval was obtained from the Ethical Committee, Department of Education, Mizoram University, Aizawl, under reference no, MZU/DoE/439/2020, date 18/05/2020.

**Consent to participate** The university students consented to participate in the research.

**Consent to publish** Both the authors gave their consent to publish in the Journal of Public Health.

**Competing interests** The researcher has no conflict of interest in relation to publication.

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