



Depression and Anxiety among Students in SLIATE during the Initial Stage of Covid-19 Pandemic in Sri Lanka

D.N.R. Meddage¹, D.A. Akuretiya², M.I.F. Ismail², N.A. Kannangara¹

¹ Lecturer, Department of Information Technology, ATI-Dehiwala, SLIATE, Sri Lanka

² Lecturer, Department of Accountancy, ATI-Dehiwala, SLIATE, Sri Lanka

ABSTRACT

With the growth of coronavirus disease 19 (COVID-19), most of the people's lifestyle has changed drastically, which could cause depression and anxiety among people. With the emergence situation all over the world universities shut and move to online platforms. It made a more complicated situation for the students because of economic problems and sudden changes in the environment. The objective of this study is to assess the depression and anxiety among the students of the Sri Lanka Institute of Advanced Technological Education (SLIATE). The method we used was a self-administrated cross-sectional questionnaire (Google form), it was distributed among the accountancy and information technology students in three different Advance Technological Institutes (ATI) Dehiwala, Galle, and Kurunegala which locate in three different geographical areas in Sri Lanka. Results indicated that out of the 208 participants, 60% had no depression symptoms, 26% had mild, 7% had moderate, 4% had moderately severe, and 3% had severe depression symptoms. More than half of students (69%) did not show any anxiety symptoms, 22% showed mild level, 7% had a moderate level, and 2% were severe with anxiety. More than half of students (55.8%) students were worried about the completion of the semester and 93.3% of students were worrying about their future life due to uncertainty of the COVID-19. The conclusion was in pandemic time majority of SLIATE students did not have depression and anxiety symptoms, but they worried about the semester completion date and their future.

Keywords: Depression, Anxiety, Online Learning, SLIATE Students, SLIATE, ATI, Pandemic, COVID-19

1. Introduction

The coronavirus disease (COVID-19) has done dramatic changes to human lives all around the world, particularly after the declaration of it as a global pandemic by the World Health Organization (WHO) by 11th march 2020 (world health organization, 2020). Day by day number of patients is rocketing, it has affected more than 100 countries all over the world including the Asia Pacific region. Around 10.02 million people were infected with COVID – 19, confirmed with the death of another 0.15 million worldwide as of November 15, 2020 (World Health Organization, 2020). Most of the countries worldwide introduced anti-epidemic measures such as shut down the entire transport system, closing down public spaces (Chen & Yuan, 2020, Ahmed et al., 2020), shutdown Airports and harbors to restricting migrants (Zhai & Du, 2020) to avoid transmitting the infection from human-to-human. Sri Lanka detected 1st case on 27th January 2020, 44 years Chinese women from Hubei, following the 1st reported case country has demanded to wear face masks. As of 10th march 2020 1st citizen, a 52-year-old tour guide was detected and on 12th March 2020 (Daily Mirror, 2020). All the higher educational institutes and schools were shut down (News First, 2020) and the government started to build quarantine centers all over the country moreover authorities Patrice declared 16th March as public holiday (Colombo page, 2020, Sunday Observer, 2020), 1st Covid patient died in Sri Lanka on 28th March 2020 (The Times India, 2020) and indefinite curfew for high-risk districts (Economy next, 2020), to ensure 'social distance' through 'home quarantine'. However, all educational institutes reopening extended to the starting of May and later extended to July, but 1st week of July only schools started academic works for grades 5, 11, and 13 (News First, 2020) also planned to re-open all other grades on 27th July 2020 but higher educational institutes are not reopened anyhow 13th July 2020 government closed schools for a week again because of high risk of corona (Union of catholic Asian News, 2020). From time to time schools were opened and closed because of the corona and they towards to online platform for education.

Worldwide higher education students are affected by the COVID -19 pandemic. Their physical and mental responses may differ because of the sudden cultural and social changes with COVID-19 disaster transversely countries. For example, most of the Bangladesh University students are suffering from depression and anxiety symptoms during the ongoing pandemic (Islam et al., 2020). Sri Lanka Institute of advanced technological education (SLIATE) is a popular higher education institute governing by the Sri Lankan government and it comprises 19 Advanced Technological institutes (ATI). After shutdown on March 12, 2020 SLIATE higher authorities were informed to move on with academic works by the online platform. Even though online learning has been given less importance with the shutdown, all the higher educational institutes demanded online education more and more. SLIATE also move up with online learning even they had less experiences. In SLIATE moderate levels of students are ready for online learning, some students are having issues with smart devices, bandwidth, and cost (Akuratiya& Meddage,2021). Even majority had less or no experience with online learning before the COVID-19 pandemic Advanced Technological Institute (ATI) Dehiwala Information Technology Students are more confidence with online education (Akuretiya&Meddage, 2020). Even after the lockdown and home quarantine students had to move with academic and professional studies. This unexpected state has given uncertainty to the students' career life with the depression and anxiety among students. Before this, students were gang with each other, went outing, study together, and participated in many more social and cultural activities. But with lockdown and physical distancing there was no possibility to get together, and extremely limited their lives to the homes, and had to continue studies online. The COVID-19 is a virus with more new mutations that have no treatment other than vaccination. This may also cause more anxiety and fear among the students and they might feel uncertain about their future. The ongoing COVID-19 versions creating psychological and emotional confusions among civilians, increasing mental health problems such as stress, depression, anxiety, sleep complaints, fear (Roy et al., 2020, Xiao et al., 2020)andsometimes it emphasizes suicidal behaviors also (Mamun et al., 2020).

Understanding depression and anxiety among SLIATE students are of great importance hence there is no known information regarding depression and anxiety related to the COVID-19 pandemic among the SLIATE students in Sri Lanka. So, this study is an attempt to access the depression and anxiety levels among the students during the pandemic. Under this, researchers try to identify the risk factors, identify some protective measures to cope with depression and anxiety, and address psychological and mental problems experienced by SLIATE students in Sri Lanka.

2. Literature review

During the ongoing pandemic, a high population of Bangladesh University students was suffering from depression and anxiety symptoms and its rise because of academic and professional uncertainty and financial insecurity (Islam et al., 2020). The students were involved with part time jobs to self-finance for their tuition fees and sometimes funding to their families. However, wit33in lockdown situation they were jobless and disruption for regular income. To overcome depression & anxiety, past research suggested granting scholarships or students loans and student motivation by both government and residential (Islam et al., 2020).

University Students are receiving more COVID-19 information from different sources and that will increase the anxiety level among them. But it has not gone to the level of suicidal feelings. From different countries, various students had different levels of psychological responses relating to COVID-19 (Pramukti et al., 2020). Diverse psychological responses may be due to the different stages of COVID-19 and sociocultural differences. According to Setiati et al. (2020), due to COVID-19 fatality rate in Indonesia was founded to be relatively high (8.9%), and it may have more negatively affected university students than other countries (as cited in Pramukti et al., 2020) also there is greater sadness among Thai students and more suicidal thought among Indonesian students hence they receiving less satisfactory support.

Swiss University students are more concerned about their health, health, and financial situation of their family members and friends and felt lonely during the pandemic. This may predict high concern of anxiety among them. High anxiety symptoms are shown by the students who were more concerned about their health when compared with the students who were less concerned with their health. Other than that, students were more concerned regarding the health of close relatives and financial situation (Amendola, et al.,2021). To overcome students' anxiety universities must implement interventions that can boost the ability of students to face stressful situations adaptively and also, must provide social support. Due to the pandemic meetings with health professionals are limited for students so, universities must arrange possibilities and infrastructure facilities for students to have counseling and psychotherapy sessions.

During the period of the pandemic, the majority of the students had low anxiety and a smaller number of students had moderate and high levels of anxiety. Some COVID-19 patients were associated with fever, myalgia, and sore throat. During the pandemic, psychological interventional programs should be provided to university students to handle their anxiety and stress. Educational programs should be arranged to give updated trusted information about COVID-19. Health education should highlight that the COVID-19 symptoms cannot be neglected, even though there is some similar widespread disease in the country, especially myalgia (Abas, et al., 2021).

The Canadian study focuses on the post symptoms after the quarantine period of the severe acute respiratory syndrome (SARS) in 2004. Among the considerable number of quarantines, the majority were felt with the prevalence of psychological distress symptoms of posttraumatic stress disorder (PTSD) and depression. Out of the total respondent respectively 28.9% and 31.2% had symptoms of PTSD and depression. Also, direct contact or exposure with the SARS patients is associated with PTSD and depression symptoms. (Hawryluck, et al. 2004). But the measurements used to confirm the symptoms of PTSD and depression are not enough to confirm these diagnoses.

The COVID-19 is a challenge to accomplish students' future academic goals and working goals. Some students are major interruptions in teaching assessment in the final part of their studies. Most of the worldwide universities were postponed or canceled campus events such as workshops, conferences, sports, and other activities to avoid high infection disease among students and staff. It increased the tremendous level of stress among university society, which may lead to negative effects on the learning and psychological health of students (Sahu, 2020). Finally, he suggested universities should give more priority to the health of students and staff and should implement proper counseling services. Moreover, he suggests the authorities should take the responsibility of ensuring food and accommodation of international students.

Last few decades Saudi Arabia faced more challenges because of Respiratory Syndrome – Corona Virus (MERS-coV). The health care sector was at the most risk of infection. This may increase their psychological distress due to the uncertainty about the mode of transmission of the disease. Researches have shown high psychological stress during the outbreak. Compare with senior students' junior students shown high anxiety despite having less contact with patients (Abdulkarim et al., 2020). According to Loh, et al. (2005), and Wong et al. (2004), even the medical students' overall estimated stress level is high, they were less stressed than nursing and non-health students. (as cited in Abdulkarim et al., 2020). Comparing with the findings they showed female students reported more anxiety concerning the disease.

3 Methodology

This study was constructed under a descriptive survey research design and a questionnaire was distributed among students in three ATIs (Which functioning under SLIATE) to find their anxiety and depression during the COVID-19 pandemic. SLIATE is a nonprofit, Government, Higher Education Institute in Sri Lanka with 19 branches located all over the island and providing Higher National Diploma (HND) to fulfil requirements of country-wide middle-level management. Due to convenience for this study, researchers selected three ATIs respectively Dehiwala, Galle, and Kurunegala. All these three ATIs offering different HND courses and Accountancy and information technology courses are conducted by all three institutes. The study targets the students reading IT and Accountancy from each three ATIs.

Researchers had developed an online questionnaire using Google forms. A link to the online questionnaire was sent to the students by group e-mail and department heads of each course in respective and circulated among students for collection of data. A cross-sectional survey was conducted from November to December 2020.

The questionnaire included three parts. The first part of the questionnaire asked students demographic details and physical symptoms in the last 14 days information and certainty about the pandemic. The second part was regarding depression and questions implemented based on the Patient Health Questionnaire (PHQ-9). It is an easy way to measure depression using PHQ-9 and predict depression of an individual and their state during the survey and PHQ-9 is a useful tool for detecting depression. The third part was regarding anxiety and questions constructed by using the Generalized Anxiety Disorder (GAD-7) and questions were used for showing anxiety state of and personal moreover GAD-7 has been found successful in identifying anxiety among different populations and thus used for its reliability (Islam et al., 2020). Both sections two and three are using a four-point Likert scale (0= not at all, 3 = Nearly Every Day).

All the data was entered and analyzed through the Statistical Package of Social Science (SPSS Version 20). Descriptive statistics were used to analyze the data. Reliability and validity were calculated by Cronbach's alpha value, which was 0.83.

4. Results and Discussion

Table 1 shows the descriptive information of different particular variables of the three ATIs of SLIATE in Sri Lanka. Most of the 208 participants were females (143, 68.75%) and others are male (65, 31.25%) students. Considering the rules and procedures of SLIATE age is categorized into two, nearly four third participants under the age between 20 to 23 (150, 72.1%), and more than a quarter of are between 23 to 30 students (58, 27.9%). Nearly equal responses from Dehiwala (96, 46.2%) and Galle (84, 40.4%) ATIs and Kurunegala (28, 13.4%) ATI responses are comparatively low. All the participants were students from the accountancy department and more than half of the students were from rural (139, 68.8%) areas while others were from urban (69, 33.2%) areas. Half of the respondents' families don't have stable income (103, 49.5%) and the rest (105, 50.5%) have a stable family income. Fewer students (30, 14.4%) had direct contact with COVID-19 patients while most of the students (178, 85.6%) friends or relatives are not suspected or diagnosed with COVID-19. The majority of students (195, 93.8%) did not have any complaints regarding COVID-19 symptoms during the last 14 Days; others (13, 6.2%) suffered from different diseases. More than half of students (131, 63% are covered their mouth while coughing and sneezing, 46 (21.1%) were covered most of the time, 15 (7.2%) sometimes, and 16 (7.7%) occasionally. Unfortunately, more than half of the students (108, 51.9%) did not spend time on fitness activities and 82 (82, 39.4%) students spend less than one hour and rest (18, 8.7%) 1-2 hours during COVID-19. In the pandemic period, 87 students (41.8%) were spending time between 1 to 2 hours studying, 67 students (32.2%) are 2 to 4 hours, 24 students (11.5%) are more than 4 hours, 23 students (11.1%) are less than 1 hour and 7 students (3.4%) are not at all.

Table 1 Descriptive Information of three ATIs (N=208)

Responses (N=208)	Answers	F (%)
Gender	Male	143 (68.7%)
	Female	65 (31.3%)
Age	Between 20 to 23	150 (72.1%)
	23 to 30	58 (27.9%)
ATI	Dehiwala	96 (46.2%)
	Galle	84 (40.4%)
	Kurunegala	28 (13.4%)
Place of Residence	Urban	69 (33.2%)
	Rural	139 (68.8%)
Stable Family income	Yes	105 (50.5%)
	No	103 (49.5%)
Friend or relative diagnose with COVID-19	Yes	30 (14.4%)
	No	178 (85.6%)
Last 14 days physical health	Fever	3 (1.4%)
	Headache	9(4.3%)
	Cough	2(1%)
	Breathing difficulty	1(0.5%)
	Diarrhea	0 (0%)
	Nasal congestion	1(0.5%)
	Sore throat	1(0.5%)
	No symptoms or complains	195 (93.8%)
Cover mouth coughing and Sneezing	Always	131 (63%)
	Most of time	46 (22.1%)
	Sometimes	15 (7.2%)
	Occasionally	16 (7.7%)
Time for fitness activities	Less than 1 hour	82 (39.4%)
	1-2 hours	18 (8.7%)
	Not at all	108 (51.9%)
Per day study time during pandemic	Less than 1 hour	24 (11.1%)
	1-2 hours	87 (41.8%)
	2-4 Hours	67 (32.2%)
	>4 hours	24 (11.5%)
	Not at all	7 (3.4%)

This study indicated that out of 208 students, 50.5% of students have stable family income and the rest of 49.5% does not have stable family income. That indicated nearly 50% of students are bothering about their family income while the pandemic period. This finding is more similar to the finding of Mohamed et al. (2021), Amendola et al. (2021) where 85.6% of students' friends or relatives are not diagnosed with COVID-19. Also, 93.8% of students do not have any complaints regarding any COVID-19 symptoms during the last 14 days. This study proves that the students are more aware of the simple public health guidelines which 63% of students are always cover their mouth while coughing and sneezing and 46% are most of the time, in previous studies of Pramukti et al., (2020) also mention, that University students are receiving more COVID-19 Information from different sources. But according to this study 51.9% of students are not allocating time for their fitness activities and it implies the students' less interest and knowledge about the importance of exercise. Among the participants, only 3.4% of students are not allocating time daily for their studies during the pandemic and that indicated even though pandemic time also students have a good interest in studies.

Section two of questionnaire occurrence of depression levels according to the cut-off score provided by the authors of PHQ-9 and reason was selecting PHQ-9 because it provides a useful tool for sensing depression (Islam et al., 2020) as well as PHQ-9 is an easy way to predict individual student depression out of all responses, and its range from '0 = not at all', to '3 = nearly every day' (Islam et al., 2020). The level of depression for the study was characterized as 0-4 none, 5-9 mild, 10-14 moderate, 15-19 moderately severe, 20-27 severe.

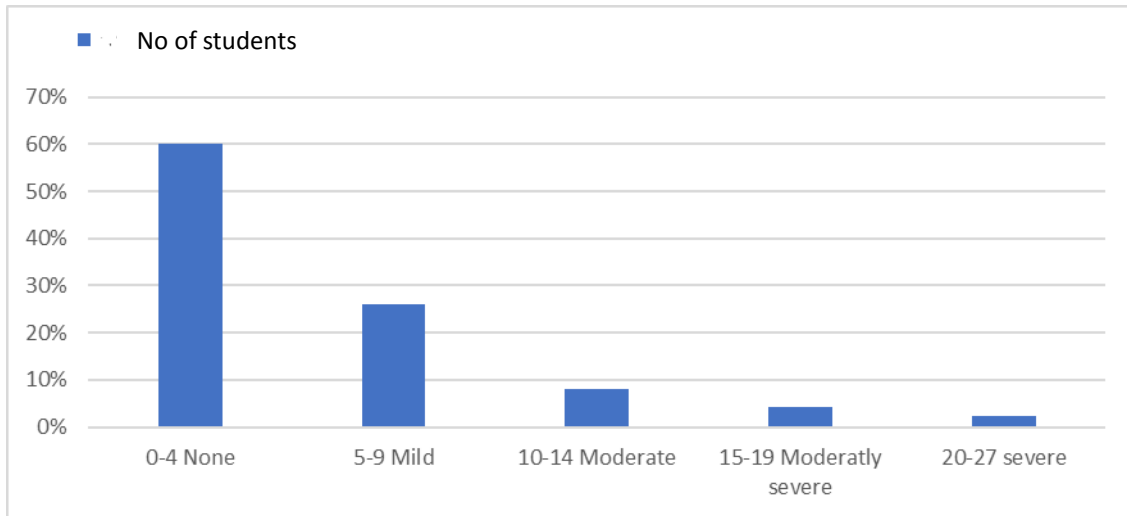


Figure1: Depression level of students (N= 208)

Figure 1 shows the results, expressive evidence of different selected variables of the SLIATE students in Sri Lanka. According to the results show that 125(60%) students were found no depression symptoms during the period survey carried on, 54(26%) students were found mild level depression symptoms,15(7%) students found with a moderate level of depression, 9(4%) students moderately severe and only 5(3%) students suffered from depression, the result is in line with previous studies of Hawryluck, et al. (2004). According to, the results more than half the percentage of students were not suffered from depression and only 5 students were severe from depression, it indicates very low levels of symptoms of depression among the SLIATE students during the COVID-19 initial stage pandemic period.

The last section of the questionnaire was created by using Generalized Anxiety Disorder (GAD-7) since GAD-7 has been found fruitful in recognizing anxiety among students and is used consistently (Hossain et al., 2019, Abdulkarim et al., 2020, Islam et al., 2020 and Amendola, et al.,2021). The questionnaire was used to show the anxiety of an individual student by scaling range from '0= not at all to 3= nearly every day'. The level of anxiety was categorized as 0 to 5 none, 6 to 9 minimal, 10 to 14 moderate and, >=15 severe anxiety.

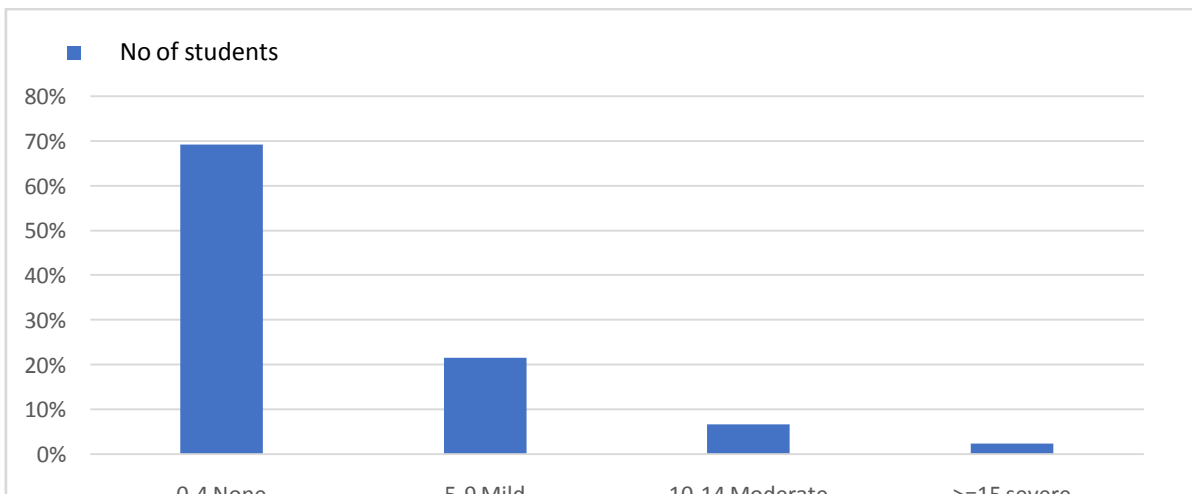


Figure2: Anxiety level of students (N= 208)

Figure 2 illustrates the different levels of anxiety of SLIATE students from three different geographical locations. The 144 (69%) students are not shown any symptoms of anxiety, 45 (22%) students are shown mild level of anxiety, 14 (7%) students have a moderate level of anxiety symptoms while 5 (2%) students severe with anxiety. The results is in line with previous studies Abas, et al. (2021), that found low level results of anxiety symptoms during the COVID-19 pandemic.

According to figure 1 and figure 2, the students were experiencing mild to severe depression (40%) and anxiety (31%). Also, respectively both depression

and anxiety were severe by five students, but only two students from SLIATE were severe by both depression and anxiety during the pandemic period. But the results were not in line with the previous findings by Islam et al. (2020). The results of this research proved in the initial stage of the COVID-19 the SLIATE students are not suffered from depression and anxiety.

In the last section of the questionnaire, there were two common questions asked from students, whether they worried about semester completion and future life. More than half of students 116 (55.8%) were worried about the completion of the semester on time, 56 (26.9%) students were either yes or no and only 36 (17.3%) students were worried about the date of the semester completion. The results were in line with sahu (2020), that found students are interruptions in teaching assessment final part of their studies. The majority of students 194 (93.3%) were worrying about their future life due to uncertainty of the COVID-19 while 14 (6.7%) students were not worrying about their future life. The result is in line with the previous studies of Abdulkarim et al., (2020) & Islam et al. (2021) which shows the high psychological stress among students during the outbreak due to professional and academic uncertainty.

5. Conclusion

This study gives the evidence that more than half percentage of SLIATE students have not been suffering from depression (60%) and anxiety (69%) symptoms during the initial stage of pandemic. The majority of the students (93.8%) had no any symptoms or complains related to during COVID-19 in the past 14 days was associated with low level of depression and anxiety. Also, in the last two weeks the majority of students (85.6%) relatives or friends who are not diagnosed with COVID-19 were also associated with low levels of depression and anxiety (Abas, et al. 2021). Even in the pandemic period the majority of students allocated at least one-hour time for study per day. According to the results, even the majority of students did not suffer from the symptoms of depression and anxiety. The students are worrying with academic and professional uncertainty (Islam et al., 2020) during COVID-19 period. According to the result it is clear even though SLIATE students are not suffering from depression and anxiety symptoms they have fear with their future as well as semester completion which is directly attached to their future plans.

According to the PHQ-9 and GAD-7 we can find only symptoms of depression and anxiety, but the measurements are not enough to confirm the depression and anxiety diagnose. If you get score more than 10 better to contact health professional.

6. Implications and Recommendations

Even students are showing minor symptoms of depression and anxiety majority of students were worried about their semester completion and future uncertainty because of outbreak of novel coronavirus 2 (SARS-Co-2). It may be led more student's depression and anxiety symptoms in the future. Therefore, it is better to implement an intervention before crisis occur, it is suggested the SLIATE to implement the better infrastructure facility to take benefits of student counselling with health professionals. Also, suggest to maintain better carrier guidance unit with the job bank and conduct online examinations and let students to complete their semesters without any shortage. These would eliminate the students fear about effective date of completion and find a job after completion of diploma.

This study done only initial stage of COVID-19. Future studies should look in to the depression and anxiety in second and third waves with delta version of Corona. Further studies can investigate the depression and anxiety symptoms with broader group of respondents from different geographical locations and different departments.

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