



Mental Health Status Among UNIMAS Medical Students During the Pandemic Covid-19

Foong Zhimin¹, Maziah Fathiah Binti Mohammed¹, Aizuddin Zhafri Bin Rasid¹, Nurodarina Binti Othman¹, Norhida Binti Ramli² & Shazrina Binti Ahmad Razali³

¹Faculty of Medicine and Health Science, University Malaysia Sarawak, 94300 Kota Samarahan, Malaysia

²Department of Basic Medical Sciences, Faculty of Medicine & Health Sciences, Universiti Malaysia Sarawak, Kota Samarahan, Sarawak, Malaysia

³Medical Education Unit, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak 94300 Kota Samarahan, Sarawak, Malaysia

Article Info	Abstract
<p>Article history: Received 17 February 2023 Revised 16 May 2023 Accepted 01 August 2023 Available online 01 August 2023</p> <p>Keywords: Depression Anxiety Stress Scale 21 (DASS-21); medical students; mental health status; pandemic Covid-19</p> <p>Correspondence: rnorhida@unimas.my</p> <p>How to cite this article: Foong Zhimin, Maziah Fathiah Binti Mohammed, Aizuddin Zhafri Bin Rasid, Nurodarina Binti Othman, Norhida Binti Ramli & Shazrina Binti Ahmad Razali. Mental Health Status Among UNIMAS Medical Students During the Pandemic Covid-19. MAGNA MEDIKA Berk Ilm Kedokt dan Kesehat. 2023;10(2):179-190</p>	<p>Background: Due to the outbreak of Covid-19, medical students were suffering from poor mental health, leading to depression, anxiety, and stress. Research to better understand mental health is essential because of the high prevalence of poor mental health among students during the pandemic.</p> <p>Objective: Therefore, the study aims to determine the mental health status of UNIMAS medical students during the Covid-19 pandemic. In this study, the predictive validity of the Depression, Anxiety, and Stress Scale (DASS-21) for the presence of a depressive disorder and its associated coping factors were investigated among medical students.</p> <p>Methods: A cross-sectional study was conducted among medical students from the University Malaysia Sarawak's Faculty of Medicine and Health Sciences. The DASS-21 was administered to 411 respondents, and data were analyzed using Man-Whitney and Chi-Square tests.</p> <p>Results: The result showed that most medical students had normal levels of depression (75.7%), anxiety (74.2%), and stress (92.5%). The highest coping method used was rest and sleep (95.1%), followed by singing and listening to music (91.5%).</p> <p>Conclusion: Most UNIMAS medical students were in good mental health during the COVID-19 pandemic. They tend to have a better-coping mechanism before the stressful condition deteriorates.</p>
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INTRODUCTION

Mental health is the "foundation for well-being and effective functioning for an individual and a community," by World Health Organization (WHO).¹ Mental health standards vary as people's behaviors change across time, region, and society.² Poor mental health maintenance will lead to depression, stress, and anxiety. People with "depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration" are called depressed.³ Stress is defined as an emotional disturbance when stressors cause changes.⁴ Anxiety is characterized as the feeling of apprehension and physiological arousal.⁵

Undergraduate medical students must undergo arduous study and training for 5 to 6 years.⁶ Kulsoom and Afsar mentioned that adequate high-level knowledge and skill should be acquired during this period to overcome life-long challenges independently.⁶ As a result, medical students are more likely to suffer from mental illness. In order to graduate from medical school, students need to have high achievement in clinical assessments, assignments, and examinations. As a consequence, students often have no free time for personal interests. Iqbal et al. showed that over half of Indian medical students were sensitive to the effects of depression, anxiety, and stress in research performed in India.⁷

The Covid-19 pandemic has spread around the world.⁸ Medical students' mental health is deteriorating due to the COVID-19 pandemic. Covid-19, according to O' Byrne et al., will impact the educational integrity of medical pro-

grams.^{7,9,10,11,12,13} Many universities have canceled the clinical clerkship to minimize exposure to Covid-19.^{14,15} This delays clinical posting and affects academic records. Besides, problem-based learning interaction, face-to-face anatomy dissection, group discussions, and local examination were also affected.¹⁶ The delivery of academic services is easily disrupted because of Covid-19, such swift and unparallel reorganization cause many students distress.¹⁷ Direct learning has been replaced by e-learning which reduced collaborative experiences among students.¹⁴ Based on Rajab et al., 57.5% of students encountered technical problems while 35% had poor time management when dealing with online education^{8,17} This leads to negative thinking among students. This result is proven by research conducted by Sartora Filho et al., 46.17% of medical students experienced moderate or severe anxiety symptoms, while 64.41% had moderate or severe depressive symptoms during the pandemic.¹⁸ Given the high prevalence of poor mental health among students throughout Covid-19, research to better understand mental health is critical. A study done among medical students at Universiti Putra Malaysia reported that mental health among clinical students is significantly affected among quarantined clinical students compared to preclinical students during the pandemic.⁹

Therefore, the study aims to assess UNIMAS medical students' mental health during the Covid-19 pandemic. In addition, this research is aimed to discover the factors that influence mental health and the coping mechanism to improve mental health problems. The findings

of this study will help us develop better ways of dealing with mental health issues.

METHODS

Quantitative, cross-sectional research was performed from January to August 2021 under the approval of the medical ethics committee, UNIMAS (FME/21/34). The DASS-21 was administered to 411 Faculty of Medicine and Health Sciences respondents. The data were obtained using a validated self-administered questionnaire and convenience sampling. The questionnaire includes socio-demographic information, depression, anxiety, stress survey, factors, coping mechanism, and counseling services adapted from different studies. The survey was distributed using Google Forms and administered in bilingual English and Malay. DASS-21 was to study the level of depression, anxiety, and stress.¹⁹

IBM-SPSS version 27 was used to analyze the data (SPSS Inc. Chicago, IL, USA). Socio-demographic data and other variables were analyzed in percentage and frequency for categorical data and means (SD) for continuous data. The Chi-square test was used to assess the connection between categorical variables. Furthermore, the ANOVA test was used for three or more independent groups to investigate the relationship between categorical and numerical variables. Mann-Whitney U test was also used to see the comparison between dependent variables for two independent groups.

The relationship and determinants of mental health among five variables, namely normal, mild, moderate, severe, and highly severe symptoms of depression, anxiety, and stress

between age group and year of study, were investigated using Chi-square according to the DASS-21 scale. All tests were two-tailed, where P-value was set up as $p < 0.05$.

RESULTS

The data presented in Table 1 were collected among medical students from year 1 to year five from the Faculty of Medicine and Health Sciences (FMHS) in UNIMAS. The information gathered in this part pertains to gender, age, and year of study.

From our findings (Table 1), out of a total of 411 respondents, 119 were male, contributing to 29% of the respondents. In contrast, 292 females participated as respondents, making up the remaining 71% of respondents. The age findings in this study are spread out as the minimum is 19 years old, while the maximum is 25 years old. There were 15 people aged 19 years old (3.6%), 100 people aged 20 years old (24.3%), 113 people aged 21 years old (27.5%), 87 people aged 22 years old (21.2%), 63 people aged 23 years old (15.3%), 25 people aged 24 years old (6.1%) and eight people aged 25 years old (1.9%) participating as respondents in this study.

The level of depression, anxiety, and stress is determined by using DASS-21. Based on Table 2, most medical students have normal mental health status because the mean is within the normal range according to the DASS-21 scale, with depression having a mean of 6.47 (SD=4.885), anxiety having a mean of 5.07 (SD=4.674), and stress having a mean of 6.24 (SD=5.103). Table 3 shows that most medical students have a normal level of depression (75.5%), anxiety (74.2%), and stress (92.5%).

Some students had mild depression (15.1%), anxiety (9.2%), and stress (4.6). 8.5% of students have moderate symptoms of depression, 12.2% have moderate symptoms of anxiety,

and 2.9% have moderate symptoms of stress. Only 0.7% of the respondents experienced severe depression, 3.6% had severe anxiety, and 0.7% had highly severe anxiety.

Table 1. Socio-demographic characteristics of respondents

Variables	(N=411)	Number of Respondents (N)	Percentage (%)	
Gender	Male	119	29.0	
	Female	292	71.0	
Age	19	15	3.6	
	20	100	24.3	
	21	113	27.5	
	22	87	21.2	
	23	63	15.3	
	24	25	6.1	
	25	8	1.9	
Year of Study	Preclinical Years	Year 1	119	29.0
		Year 2	121	29.4
	Clinical Years	Year 3	92	22.4
		Year 4	57	13.9
		Year 5	22	5.3

Table 2. Mean and standard deviation of depression, anxiety, and stress levels among medical students.

Variables	Mean	SD	Level of Severity
Depression	6.47	4.885	Normal
Anxiety	5.07	4.674	Normal
Stress	6.24	5.103	Normal

Table 3. The severity of depression, anxiety, and stress among medical students.

Level of Severity	Depression		Anxiety		Stress	
	Number of respondents (N)	Percentage (%)	Number of respondents (N)	Percentage (%)	Number of respondents (N)	Percentage (%)
Normal	311	75.5	305	74.2	380	92.5
Mild	62	15.1	38	9.2	19	4.6
Moderate	35	8.5	50	12.2	12	2.9
Severe	3	0.7	15	2.6	0	0
Extremely severe	0	0	3	0.7	0	0

Table 4. ANOVA test for comparison between gender, age group, preclinical and clinical years with the level of depression, anxiety, and stress.

Variables	Gender	Age group	Preclinical and clinical years
	p-value	p-value	p-value
Level of depression	0.165	0.108	0.445
Level of anxiety	0.054	0.873	0.883
Level of stress	0.229	0.738	0.721

According to Table 4, the results show no significant difference in the level of stress, anxiety, and depression regardless of gender, age group, and level of study.

Referring to the findings recorded in Figure 1, concerns about whether things can return to normal significantly influence medical students' mental health status (71.3%), followed by the need to accommodate the new learning environment (63.3%). In contrast, the lowest contributing factor is the medical student's concerns about whether there will be graduation (42.8%). Some students also reported being socially and emotionally disconnected from peers (51.8%), and the new examination format (46.5) contributed to their mental health status.

According to Figure 2, there are 11 variables of the coping mechanism medical students use to deal with mental health issues. In this study, the most frequent coping strategies employed by medical students were taking rest and sleep (95.1%) with the lowest mean of 1.08, singing and listening to music (91.5%), watching television and movie (83.9%) and saying a prayer (83.9%). This activity is followed by net surfing (81.0%), sharing with family (77.9%), eating (76.4%), and self-counseling and motivation

(72.0%). The three lowest coping mechanisms were solitary and silent forbearance (60.3%), reading storybooks (55.7%), and meditation and yoga (48.7%), which has the highest mean of 1.67.

According to Table 5, only 14 (3.4%) medical students have access to the UNIMAS counseling service out of the 411 UNIMAS medical students. According to Table 6, there are ten reasons why most UNIMAS medical students tend not to seek counseling services. Fear of unwanted intervention is the reason with the highest percentage (51.4%), followed by the feeling that their problems are not significant (45.6%) and lack of confidentiality (42.35%). Concern that no one will be able to comprehend their situation (35.5%) and a lack of time (32.2%) are two reasons, with a proportion of more than 30. Besides that, reasons that place above 20% is fear of documentation on the academic report (29%), the stigma of mental health care (21.9%), worry about a lack of sensitivity to cultural concerns (21.2%), followed by difficulty with access to care (20.7%). The least common reason for students not using the counseling program is a fear that using it will make them weak, which accounts for just 10.1% of the time.

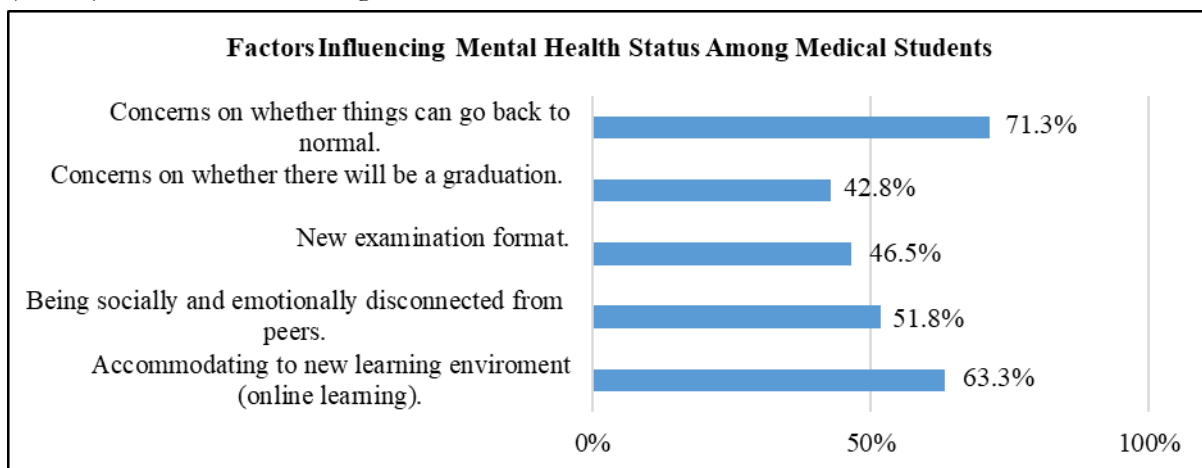


Figure 1. Factors Influencing Mental Health Status Among Medical Students (N=411)

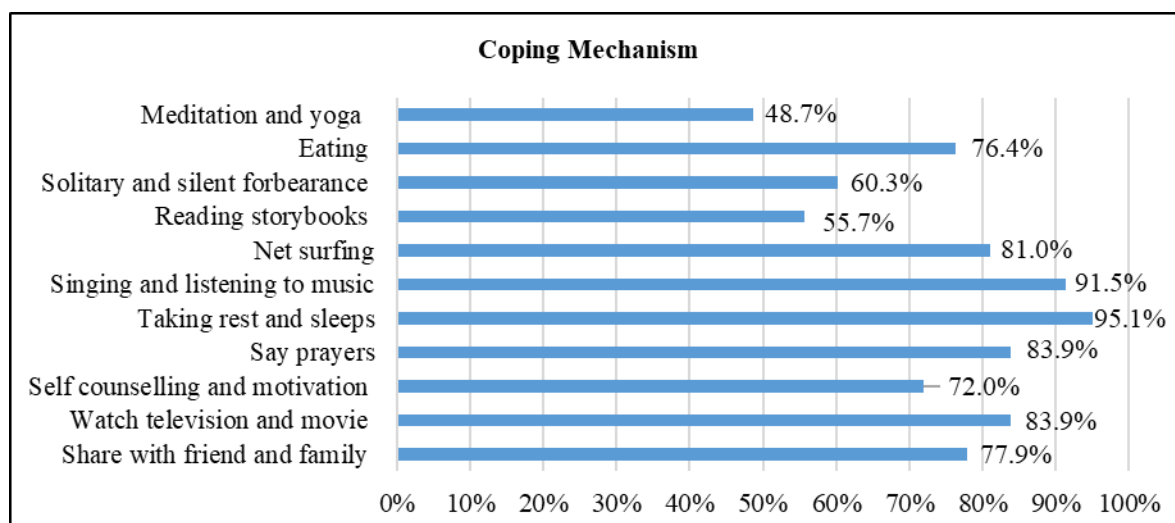


Figure 2. Coping Mechanism Used to Relieve Mental Health Problems Among Medical Students

Table 5. Counseling service access in UNIMAS

Variables	N	Percentage (%)
Access counseling service	14	3.4
Did not access counseling service	397	96.6

Table 6. Correlation between gender, age group, year of study, preclinical and clinical years with depression, anxiety, and stress

Variables	N	Percentage (%)
Lack of time	128	32.2
Lack of confidentiality	168	42.3
Concern that no one will be able to understand my problem	141	35.5
Stigma of mental health care	87	21.9
Feeling that my problem are not important	181	45.6
Fear of unwanted intervention	204	51.4
Feeling that using services will mean that I am weak	40	10.1
Fear of documentation on academic report	115	29.0
Difficulty with access to care	82	20.7
Concern about the lack of sensitivity to cultural issues	84	21.2

DISCUSSION

Socio-demographic Data

The research finding found that out of 411 respondents, there were 119 male and 292 female students, contributing to the ratio being approximately 1:3 (male: female). Most of the respondents are in their early 20s, with the highest number of respondents being in the range of 19 - 21 years old and the lowest number of

respondents being in the range of 24 - 25 years old. The mean age of respondents was 21.46. The respondents' distribution shows higher responsiveness toward the study among preclinical students (Year 1 and Year 2) than clinical students (Year 3, 4, and 5).

Level of depression, anxiety, and stress

Most medical students, according to the results of this survey, have a normal level of severity

of depression, anxiety, and stress. This outcome differs from the study done by Saraswathi *et al.*, which discovered a rise in the incidence of mental health disorders among medical students that display major depression, anxiety, and stress symptoms.^{13,15,20} This is due to the medical institution being in Chennai, Tamil Nadu, which is one of India's top five COVID-19-affected metropolises.¹³

The result obtains from this study shows that there is no significant link between gender and level of depression ($p=0.165$), anxiety ($p=0.054$), and stress ($p=0.229$). According to Gao *et al.*, in general, both male and female college students experienced mild anxiety during their first three years of studies, and in time, male students were less anxious than females in their first and second years.²¹ As for male students, there is a growing ubiquity of depression compared to female students, and eventually, there are no significant gender differences found in stress problems.

This result contradicts what has been found in our studies, as there is no valid correspondence between gender and depression, anxiety, and stress level. Other research findings contradicted the findings, such as male students being more likely to encounter depressive disorder than female students, which is increasingly at odds with what we had found.²² Furthermore, females were more unfortified to stress and pain than males, which is why most females experience a higher level of pain and anxiety than males.²¹

The dissension occurring between our findings and the previous research finding may be due to differences in sample size and the difference in sample demographic. The previous research paper mainly was done in a big sampling size

that consisted of students with different backgrounds, such as students from different universities, students with different rankings, and administrative affiliations. Compared with our studies, we only focus on the medical students of UNIMAS that comes with different background and situation. Also, some research studies tend to focus more on specific populations, such as the Spanish population, as in our studies, the data were collected regardless of students' social background.

Regarding age group, medical students between 19-21 have a higher percentage of severe depression and anxiety. However, there is no correlation between age group and the severity of depression, anxiety, and stress. This research finding is consistent with those of those who found no significant difference in the frequency of depression by age.²⁰ This suggests that all medical students are vulnerable to depression, anxiety, and stress.

However, there is a difference in the correlation between the level of depression, anxiety, and stress between preclinical and clinical years. The study's outcome indicates that both preclinical and clinical students have little to no risk of depression, anxiety, and stress. This outcome is because each variable with the year of study showed the highest rate of the normal stress level by a copious amount. Furthermore, there is no significant association between the year of study and depression ($p= 0.445$), anxiety ($p = 0.883$), or stress ($p=0.721$). This result contradicts the study done by Halperin *et al.*, where preclinical students are more associated with anxiety than clinical students because they are more likely to worry about at-home relocation, exam uncertainty, and less medical school experience. Furthermore, owing to remote

learning and the new online learning style, Halperin *et al.* observed a high frequency of depressive symptoms among medical students, which is strongly related to preclinical students.²³ This contradicts the findings in our research, where results show normal levels of depression and no significant link between the year of study and the level of depression.

Factors influencing mental health status among medical students

The two major contributing factors, which are concerns on whether things can go back to normal (71.3%) and the need of students to accommodate to the new learning environment (63.3%), coincides with a study done by O'Byrne *et al.* where such concerns arise due to the pandemic that had led to abrupt changes in student's daily life such as the closure of universities and public libraries.⁵

Furthermore, many students reported being socially and emotionally disconnected from peers (51.8%) and new examination format (46.5%) influencing mental health status. This result is because, due to the Covid-19 pandemic, there are restrictions on events and gatherings, leading to a limited gathering among students, and due to this, there is the need for remote examination to prevent the spreading of the virus.⁵

The lowest contributing factor is the student's concern about whether there will be graduation (42.8%). This condition may be due to the demographics of the survey, where final-year students (N=22) or clinical students (N=165) have a lower frequency compared to preclinical students (N=240). One factor contributing to the mental health status during online learning among medical students was using digital

learning on top of a well-known 'burnt-out' situation.²⁴

Coping mechanism

According to Shaikh *et al.*, 75% of medical students were pleased with their coping methods, where spending time with friends was the most often mentioned, followed by sleep, music, exercise, and solitude.¹³ In comparison, our study found that rest and sleep are the most important coping mechanisms (95.1%). This condition demonstrates a significant difference in the use of strategies before and during a pandemic. The findings reveal that during the pandemic Covid-19, there was a rise in singing and listening to music among medical students, compared to a previous study that utilized a comparable sample, showing that students were using music to relieve stress and keep a healthy attitude.^{8,25,26,27} This study's findings also revealed that medical students are more likely to do something to distract themselves from their mental health problems. As a result, most individuals prefer to cope with a mental disorder by watching TV, browsing the web, or eating. Apart from that, one of the most efficient methods to keep a positive mentality was found as self-resilience.¹⁷

Our findings show increased self-counseling and motivation compared to comparable research by Eva *et al.* (2005). The study by Shaikh *et al.* was conducted before the pandemic, while ours was carried out during the Covid-19 pandemic.⁸

This research indicates a significant rise in the use of coping mechanisms throughout the pandemic. According to Baste and Gadkhari, music can decrease sympathetic activity and tranquilize the mind.²⁸ Therefore, many medi-

cal students sang and listened to music to de-stress. Religious students had the lowest anxiety levels than secular and traditional students.¹⁹

This research shows that the number of people who say prayers has increased, which is a source of consolation for them through their difficult times. Solitary and meditation, on the other hand, are less utilized as coping mechanisms. The positive religious coping strategy was found to provide a good shield against depression among medical students, whereby positive religion is defined as a secure relationship with God and involves assessing barriers in the light of God's providence.²⁹

Counseling Service

This study focuses on why most UNIMAS medical students tend to hinder from seeking help from counseling services whenever they face problems regarding their mental health issues. The study Using a questionnaire, examined the main barrier faced by the students for them to attend the counseling service. This questionnaire found that the most significant barrier to utilizing counseling services was the fear of unwanted intervention followed by feeling that their problems are not essential and lack of confidentiality.

The barriers that impede students' intention to seek counseling help to ease their problems suggest that there is profound misunderstanding and awareness regarding the privacy safeguard and the essential value of confidentiality exercised by the counselor.³⁰ Fear of unwanted intervention shows that they are timid of their feelings and afraid of being judged. Opening up their feelings to their counselor and being vulnerable requires ample strength, and not

everyone can do so. This situation during counseling would lead to feeling discouraged and overwhelmed.³⁰ Due to this situation, many students shut out seeking help from the counseling service despite the high level of distress.

According to Bennett, people had a hard time admitting they needed help and yielding to the therapy process because they believed they could manage their problems without the support of specialists.³¹ Feeling that their problems are not significant becomes the primary cause that wards them off to seek help which eventually worsens their condition. In line with Rehab, some people think that when they ask for help from other people, they cannot dependently settle their problems, and as such, they are admitting their inadequacy.³² To maintain self-assurance, the students would prefer not to opt for help from a professional.

CONCLUSION

To summarize, the outcomes of this study show that the prevalence of mental health among medical students during the pandemic Covid-19 showed that the majority of medical students had normal levels of depression (75.7%), anxiety (74.2%), and stress (92.5%), only a few having severe symptoms of depression (0.7%), severe anxiety (3.6%) and highly severe symptoms of anxiety (0.7%). Aside from that, our findings indicated that most people with poor mental health are concerned about things returning to normal (71.3%), uncomfortable with unfamiliar learning environments (63.3%), and socially and emotionally detached (51.8%). Due to home-based online learning during COVID-19, some confounding factors not evaluated in this study, such as

cultural background and sociological characteristics, such as socioeconomic and home environment, may have impacted the outcomes. So, future research should consider these possible contributing factors when looking at the overall relationship between depression, anxiety, and stress and the mental health of medical students during this pandemic.

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