ORIGINAL ARTICLE

Psychological Status and Tendency to Cheat During Online Assessment among Pharmacy Students During the COVID-19 Pandemic

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ABSTRACT

Introduction: The COVID-19 pandemic caused a rapid shift towards online education worldwide. This study examines the psychological state and factors associated with depression, anxiety, stress, and perceived tendency to cheat during online assessments among pharmacy students in a university during the early stages of the epidemic. **Methods:** A cross-sectional study was conducted among undergraduate pharmacy students between March and September 2020. Data collected via Google Forms included demographics, study-related parameters, psychological status assessed by the Depression Anxiety Stress Scale (DASS-21), and perceptions regarding cheating and plagiarism during online assessments. Comparison between groups was analysed using t-test and Chi-square test. **Results:** Among 214 students who responded to the survey, most spent 6 to 10 hours daily on online learning (72.4%) and faced internet-related issues (39.7% limited capacity, 60.3% unstable connection). Depressive symptoms affected 51.9% of students, anxiety symptoms 59.8%, with stress mostly mild to moderate. Limited internet capacity is associated with depressive symptoms (p=0.027) and anxiety (p=0.02), and unstable internet connections are correlated with anxiety (p=0.014). Most students (72.0%) believed online assessments facilitated cheating. Primary reasons included the desire for good grades, increased academic workload, and unpreparedness for exams. **Conclusion:** This study highlights a significant prevalence of pharmacy students experiencing depression and anxiety symptoms during the early COVID-19 pandemic, which is linked to internet-related issues. This study provides valuable insights for improving the academic structure and supporting the psychological well-being of pharmacy students.

Keywords: COVID-19 pandemic; Online learning; Pharmacy students; Psychological status; Academic integrity

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INTRODUCTION

The COVID-19 pandemic which began in China around December 2019 is a catastrophe which has spread across the country in a few months (1). To contain the virus, public health measures has been taken and implemented in every country, including lockdowns and closure of most of the sectors including education. This has changed the dynamics of higher education learning. Due to lockdown and quarantine orders from the government to control the spread of the disease, universities were left with no choice but to opt for online learning as an alternative to face-to-face teaching and learning activities. Online learning is a learning method that utilizes the internet for live lectures, assignments, and tests with real-time interaction between teachers and students. Meanwhile, e-learning, or home-based

learning, involves students learning independently through electronic media and pre-recorded materials. The key differences between these two terms lie in the flexibility of learning structures, with e-learning being more rigid and standardized, while online learning allows customization based on individual student's needs, strengths, and weaknesses (2). Many e-learning platforms have been optimised all over the world, including 'Futurelearn', 'Openlearning', 'Moodle','Eduthek' and many more (3).

Using e-learning platforms as a method of teaching portrays certain limitations as well, mainly on the need for a good internet connection. University students who come from lower socio-economic backgrounds might not be able to purchase internet data packages. In addition, those who are living in the area with limited connectivity were also affected. To address this challenge, educators have resorted to alternative communication platforms like WhatsApp and Telegram, which demand lower internet bandwidth (4). However, it's worth noting that some instructors may experience

a longer learning curve in adapting to these new technologies.

Many alterations have been made to adapt to the new learning method and this has created more stress for the students. Students tend to get overwhelmed by the excessive number of information available on the digital platform (5). While fulfilling their overwhelming obligations in academic requirements, they might end up having 'e-learning fatigue'. Excessive time spent on online learning has led to depletion of energy and causing tiredness, and the stress builds up as the students are expected to deliver certain tasks within a time period (5).

With regard to assessments, changing conventional face-to-face examination into an online version has caused substantial changes in the assessment structure. The weightage for online examination was reduced, while the percentage of continuous assessment was increased. This has caused additional assignments given to the students, which may increase the stress and pressure for some of them. Based on an interview survey study conduced in United States among college students 138 (71%) students out of 195 students indicated increased stress and anxiety due to multiple reasons such as fear and worry about their health and their loved ones, difficulty in concentrations, increased concerns on academic performance and many more (6).

Besides students' mental health and wellbeing, another concern following the change towards online assessment is the tendency of cheating and plagiarism. Tests and examinations performed online, which are otherwise closed-book exams, gave room for the students to cheat and plagiarise (7). The act of cheating and plagiarism defeats the purpose of an examination, which is to evaluate the student's ability fairly. If the exam's fairness is compromised, the exam results would be inaccurate in reflecting their actual ability. Although the problem is becoming more common in higher education institutions, the extent of this problem was not reported elsewhere.

Knowing the importance of providing mental health support to students during the pandemic, the study aimed to assess the psychological status among university students during the early pandemic and the tendency to cheat or plagiarise during online assessments. The objectives of the study are: 1) to describe the psychological status (depression, anxiety, stress) among undergraduate pharmacy students; 2) to determine factors associated with those symptoms; and 3) to determine the perceived tendency and reasons for cheating during online assessments.

MATERIALS AND METHODS

Study design
This cross-sectional study included undergraduate pharmacy students in a public university in northern Malaysia, from the first to the fourth year of the pharmacy programme between March and September 2020. The study included all undergraduate students who could read and understand English and excluded those with inactive candidature status. The sampling method used was convenient sampling. The online survey was distributed to the study population through social media, including WhatsApp groups and Telegram. The criteria of the participants were informed in the caption of the questionnaire and information regarding the criteria and consent was provided on the first page of the Google form for them to read and understand before proceeding to the other domains of the questionnaire. Participants will have to check the option 'YES' if they are willing to participate in this study with consent. Participants who did not fulfil the criteria or do not wish to give their consent to this study will be directed to the end of the questions and will not be able to answer the questions again as the settings allow the specific person to only attempt the questionnaire once. Participants who fulfil the criteria will be directed to the following sections of the questionnaire. All the participants will be only allowed to attempt the questionnaire once and therefore duplication of the data will be avoided. The minimum sample size required to get a significant result of a 95% confidence interval with a 5% margin error with a population of 468 pharmacy students is 212. This study was approved by the Human Research Ethics Committee (HREC), Universiti Sains Malaysia with the approval number of USM/JEPeM/20080411.

Study tools
Data was collected using a set of questionnaires in the English language, which was distributed via Google Forms. The questionnaires consisted of four sections: 1) demographics; 2) study-related parameters; 3) psychological status using the DASS-21 tool; and 4) perception of cheating and plagiarism in online assessment. Demographic information includes age, gender and year of study. Study-related characteristics include year of study, place of staying during the pandemic, credit unit in the current semester (<15 units, 16 -19 units, >20 units), hours spent on online learning per day (≤ 5 hours, 6-10 hours, or ≥ 11 hours), internet capacity (limited or unlimited) and internet connection stability (unstable at all times or unstable at certain times). The questionnaire also included questions on chronic diseases, including mental-health-related issues, and whether they are taking any medications.

Depression Anxiety Stress Scale (DASS-21) was used to assess the negative states of depression, anxiety, and stress among the study population by using a self-report 4-point Likert scale (8). This measuring tool is a short form of DASS-42. DASS-21 contains three subscales, each consisting of 7 items which require the participants to reflect on their thoughts, feelings, and behaviour in the past week. Items number 1, 6, 8, 11, 12, 14 and 18 measure stress, items number 2, 4, 7, 9, 15, 19 and 20 measure anxiety symptoms, while items number 3, 5, 10, 13, 16, 17 and 21 measure depressive symptoms. (8). Following is the type of 4-point Likert scale used in this questionnaire together with its score: 1) 0 point ('Did not apply to me at all'- NEVER); 2) 1 point ('Applied to me to some degree, or some of the time'- SOMETIMES); 3) 2 points ('Applied to me to a considerable degree'- OFTEN); and 4) 3 points ('Applied to me very much or most of the time'- ALMOST ALWAYS). Once the scores are obtained, they will be further summed based on the subscale which it represents. Scores obtained from respondents were interpreted by using Table I to identify the severity of the condition.

Table I : DASS-21 severity ratings (*Lovibond et al, 1995*)

Severity	DASS-21 score range		
	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

DASS-21 can be used to assess the psychological distress or disturbance among the participants, but it may not be appropriate for clinical diagnosis and intervention. However, this does not neglect the reliability of this measuring tool. A study has found that Cronbach's alpha coefficient for depression was 0.81,0.89 and 0.78 for depression, anxiety, and stress, respectively (9). One question was used to determine the perception of cheating and plagiarism in online assessments among respondents, which is 'In my opinion, online assessments (i.e. tests, assignments) gave room for student to cheat and/or plagiarise.' This question underwent content validation alongside other items in the questionnaire tool.

Statistical analysis
Continuous variables were expressed as mean ± standard deviation (SD). An Independent t-test was used to compare the continuous variables between two groups and Chi-square test was used for categorical variables. Analyses were performed using IBM SPSS Statistics for Windows, version 27 (IBM Corporation, Armonk, NY, USA).

Table II : General characteristics of the respondents (N=214)

General Characteristics	Respondents, n (%)
Age (mean years ± S.D.)	20.7 ± 1.2
Gender	
Male	45 (21.0)
Female	169 (79.0)
Year of study	
Year 1	55 (25.7)
Year 2	42 (19.6)
Year 3	47 (22.0)
Year 4	70 (32.7)
Current unit in current semester	
<15 units	47 (22.0)
16 -19 units	72 (33.6)
>20 units	95 (44.4)
Have chronic disease	
Yes	1 (0.5)
No	213 (99.5)
Have mental health-related issues	
Yes	3 (1.4)
No	211 (98.6)
Take any medication	
Yes	7 (3.3)
No	207 (96.7)
Place of living during online learning	
Parents' house	196 (91.6)
Rental house (with friends)	1 (0.5)
Rental house (alone)	1 (0.5)
Hostel inside the campus	13 (6.1)
Others	3 (1.4)
Hours spent on online learning per day	
≤ 5 hours	37 (17.3)
6-10 hours	155 (72.4)
≥ 11 hours	22 (10.3)
Internet capacity	
No internet at all	0 (0.0)
Limited internet capacity	85 (39.7)
Unlimited internet capacity	129 (60.3)
Internet connection stability	
No internet at all	0 (0.0)
Unstable connection at all time	9 (4.2)
Unstable connection at certain times	132 (61.7)
Stable connection	73 (34.1)

RESULTS

Characteristics of the respondents
A total of 214 students had completed the survey. The mean age of the participants was 20.7 ± 1.2 with

the age range between 19 to 23 years old (Table II). Nearly half of the students were taking more than 20 credit units in the current semester (44.4%). During the online learning period throughout the early phase of the COVID-19 pandemic, the majority of the students (91.6%) stayed at their parents' house. From the findings, more than half of the participants (72.4%) spent 6 to 10 hours on online learning per day. More than half of them (n= 129, 60.3%) had unlimited internet capacity. However, more than 60% of students reported having an unstable internet connection at certain times.

Psychological status of respondents

Psychological status measured in this study includes depressive symptoms, anxiety, and stress (Figure 1). About half of the students (51.9%) experienced a mild to extremely severe level of depressive symptoms, while 31 (14.5%) had severe to extremely severe depressive symptoms. As for anxiety, there were 128 (59.8%) students experienced mild to extremely severe anxiety symptoms, in which 44 (20.6%) had severe to extremely severe anxiety symptoms. Meanwhile, 34.5% of the students reported experiencing mild to extremely severe stress symptoms, while 24 (11.2%) had severe to extremely severe stress symptoms.
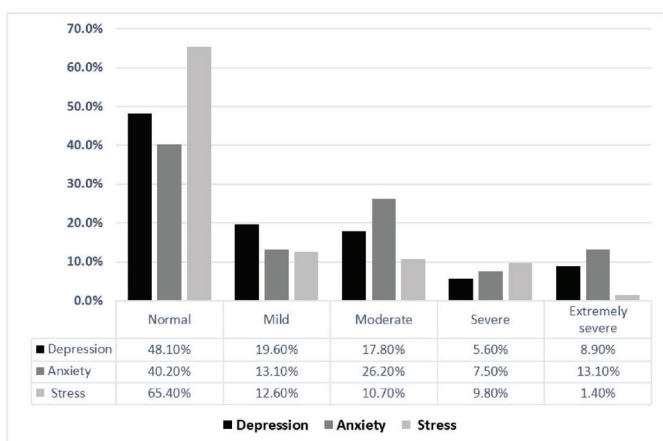

Figure 1 : Prevalence of students with depressive, anxiety and stress symptoms. The cut-off points of Depression: Normal (0 - 9), Mild (10 - 13), Moderate (14 - 20), Severe (21 - 27) Extremely severe (28 - 42); Anxiety: Normal (0 - 7) Mild (8 - 9) Moderate (10 - 14) Severe (15 - 19) Extremely severe (20 - 42); Stress: Normal (0 - 14) Mild (15 - 18) Moderate (19 - 25) Severe (34 - 42) Extremely severe (35-42).

Factors associated with depression, anxiety and stress

As presented in Table III, having limited internet capacity was a significant factor associated with depressive symptoms (p= 0.027). Internet connection stability was one of the determinants significantly associated with anxiety symptoms (p= 0.014). Amongst students with anxiety symptoms, 85 of them (66.4%) faced unstable internet connection at certain times and 8 of them (6.6 %) faced unstable internet connection at all times. However, none of the factors were found to be significantly associated with stress symptoms.

Perceived tendency to cheat and/or plagiarise during online assessments

Out of 214 respondents, 154 (72.0%) agreed that online assessments (e.g.tests, assignments) gave room for students to cheat and/or plagiarise. The most likely reasons to cheat and/or to plagiarise perceived by the respondents include the desire to get good marks, because of academic workload and also unpreparedness for tests or exams (Table IV). Besides, more than half of year 2, year 3 and year 4 students have agreed that academic workload is the contributing factor. However, only 41.8% of the year 1 (N=23) students have agreed that academic workload was the reason for cheating (Figure 2).
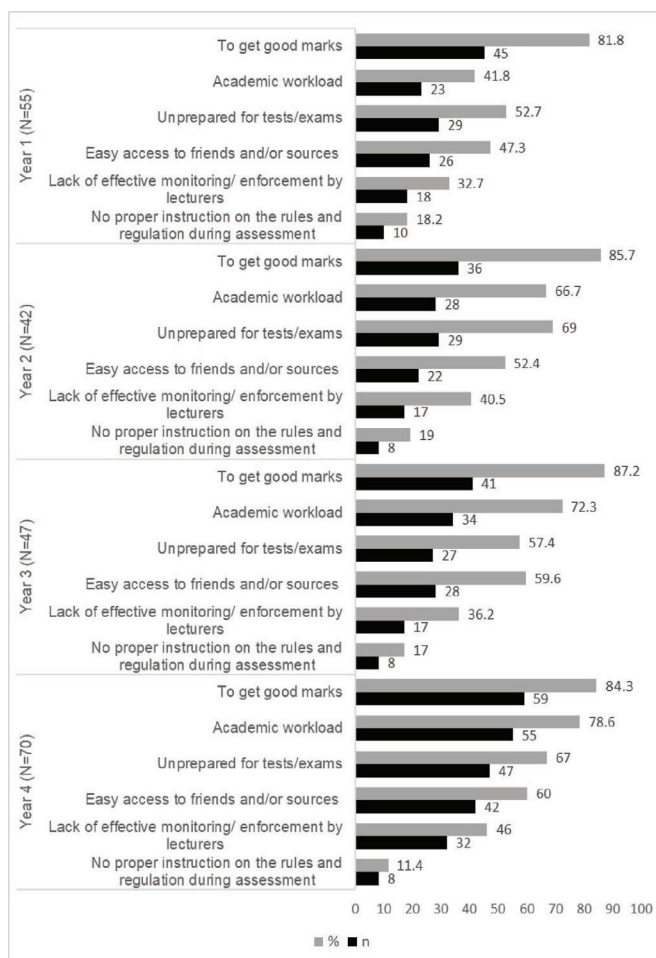

Figure 2 : Reasons to cheat and/or plagiarise during online assessments according to year of study.

DISCUSSION

Psychological status among pharmacy undergraduates

The prevalence of students with depressive and anxiety symptoms in our study was generally comparable as compared to the prevalence previously reported. As for depression, 51.9% recorded having depressive symptoms, which aligned closely with the findings of Wong et al. in a study conducted among university students in Selangor, Malaysia (10). This consistency in the prevalence of depressive symptoms suggests that the challenges posed by the COVID-19 pandemic

Table III : Factors associated with having depressive symptoms, anxiety and stress during online learning (N=214)

Respondent characteristics	Having depressive symptoms (DASS-21 Depression score ≥ 10), n (%)	Not having depressive symptoms (DASS-21 Depression score <10), n (%)	X²	P value	Having anxiety (DASS-21 Anxiety Score ≥ 8), n (%)	Not having anxiety (DASS-21 score <8), n (%)	X²	P value	Having stress (DASS-21 Stress Score ≥ 15), n (%)	Not having stress (DASS-21 Stress score <15), n (%)	X²	P value
Gender												
Male	25 (22.5)	20 (19.4)			23 (18.0)	22 (25.6)			15 (20.3)	30 (21.4)		
Female	86 (77.5)	83 (80.6)	0.310	0.578	105 (82.0)	64 (74.4)	1.795	0.180	59 (79.7)	110 (78.6)	0.039	0.834
Year of study												
Year 1	25 (22.5)	30 (29.1)			30 (23.4)	25 (29.1)			17 (23.0)	38 (27.1)		
Year 2	26 (23.4)	16(15.5)			30 (23.4)	12 (14.0)			17 (23.0)	25 (17.9)		
Year 3	20 (18.0)	27 (26.2)	5.015	0.171	25 (19.5)	22 (25.6)	3.926	0.270	13 (17.6)	34 (24.3)	2.461	0.482
Year 4	40 (36.0)	30 (29.1)			43 (33.6)	27 (31.4)			27 (36.5)	43 (30.7)		
Current unit												
<15 units	26 (23.4)	21 (20.4)			28 (21.9)	21 (22.1)			18 (24.3)	29 (20.7)		
16-19 units	36 (32.4)	36 (35.0)	0.328	0.849	41 (32.0)	31 (36.0)	0.455	0.796	23 (31.1)	49 (35.0)	0.509	0.775
>20 units	49 (44.1)	46 (44.7)			59 (46.1)	36 (41.9)			33 (44.6)	62 (44.3)		
Hours spent on online learning per day												
≤ 5 hours	19 (17.1)	18 (17.5)			21 (16.4)	16 (18.6)			13 (17.6)	24 (17.1)		
6-10 hours	83 (74.8)	72 (69.9)	1.238	0.539	94 (73.4)	61 (70.9)	0.193	0.908	57 (77.0)	98 (70.0)	2.950	0.229
≥ 11 hours	9 (8.1)	13 (12.6)			13 (10.2)	9 (10.5)			4 (5.4)	18 (12.9)		
Place of living during online learning												
Parents' house	99 (89.2)	96 (93.2)			115 (89.8)	80 (93.0)			67 (90.5)	128 (91.4)		
Rental house (with friends)	2 (1.8)	0 (0)			1 (0.8)	1 (1.2)			1 (1.4)	1 (0.7)		
Rental house (alone)	0 (0)	1 (1.0)	3.778	0.437	1 (0.8)	0 (0)	1.347	0.853	1 (1.4)	0 (0)	2.192	0.701
Inside campus	8 (7.2)	5 (4.9)			9 (7.0)	4 (4.7)			4 (5.4)	9 (6.4)		
Others	2 (1.8)	1 (1.0)			2 (1.6)	(1.2)			1 (1.4)	2 (1.4)		
Internet capacity												
Limited internet capacity	52 (46.8)	33 (32.0)			59 (46.1)	26 (30.2)			35 (47.3)	50 (35.7)		
Unlimited internet capacity	59 (53.2)	70 (68.0)	4.893	**0.027**	69 (53.9)	60 (69.8)	5.405	**0.020**	39 (52.7)	90 (64.3)	2.713	0.100
Internet connection stability												
Unstable connection at all time	6 (66.7)	3 (33.3)			8 (6.3)	1 (1.2)			6 (8.1)	3 (2.1)		
Unstable connection at certain times	73 (55.3)	59 (44.7)	3.300	0.192	85 (66.4)	47 (54.7)	8.595	**0.014**	50 (67.6)	82 (58.6)	2.950	0.229
Stable connection	32 (43.8)	41 (56.2)			35 (27.3)	38 (44.2)			18 (24.3)	55 (39.3)		

Table IV : Perceived reasons to cheat and/or plagiarise during online assessments

Reasons	n	%
To get good marks	181	84.6
Academic workload	140	65.4
Unprepared for tests/exams	132	61.7
Easy access to friends and/or sources	118	55.1
Lack of effective monitoring/ enforcement by lecturers	84	39.3
No proper instruction on the rules and regulations during the assessment	34	15.9
Others	2	0.9

had a similar impact on mental health among different student populations in Malaysia. Notably, the prevalence of depressive symptoms found in our study (51.9%) was similar to that of pre-pandemic results reported by Fauzi et al. (2021), where 51.4% of health science students in Malaysia exhibited mild to very severe depressive symptoms (11). Our research is further corroborated by a systematic review that uncovered various challenges faced by pharmacy undergraduates in online education. These challenges encompass health issues arising from prolonged screen use, reduced interaction with peers and instructors, negative emotional responses, and disturbances within the home environment (12). This similarity suggests that the causes of depressive symptoms may extend beyond the immediate impact of the pandemic, specifically for students in the health sciences field. It emphasizes the importance of identifying and addressing the underlying factors that affect students psychological well-being from a broader perspective.

The prevalence of anxiety was shown to be 59.8% in this current study, which is much higher than the prevalence of anxiety among Asian university students as reported in a meta-analysis study, which was 33% (95% CI:0.25–0.43) (13). Conversely, Wong et al. documented a slightly higher prevalence of anxiety during the pandemic at 66.2% (10). Interestingly, an earlier study by Fauzi et al. (2021) conducted before the COVID-19 pandemic, reported an even higher anxiety prevalence of 85.1% (11). A systematic review carried out among health sciences students around the globe has also revealed that anxiety levels were significantly associated with age, gender, education status and COVID-19-positive patients (14). In contrast, a pre-pandemic study conducted in Australia showed results similar to our findings (15). It is important to note that the disparities in prevalence may be attributed to variations in learning methods, student characteristics, and coping mechanisms, particularly considering that

the study by Stormon et al. was conducted before the pandemic when conventional in-person classes were the norm (15).

More than half of the students (65.4%) did not experience stress symptoms worse than normal, and among those who did (34.5%), most fell within the mild to moderate levels. In contrast, another study among Malaysian university students during the pandemic reported a slightly higher stress prevalence was slightly higher of 44.6% (10). The differences in the prevalence might be due to the presence of other mental health issues which might have overshadowed stress symptoms. Additionally, students may have developed effective coping strategies for managing stress, contributing to these outcomes. Our finding correlates with a study involving 500 South Indian pharmacy students, in which 68% of them do not experience any sort of stress symptoms (16). In this case, students might be getting adequate interaction with the environment and family during the pandemic which helps students in alleviating stress symptoms (16).

Factors associated with depressive, anxiety and stress symptoms

With regard to the factors associated with depression, anxiety, and stress symptoms, we are not able to conclude that gender is a contributory factor associated with these conditions. This might be due to the lower number of male participants in this study as compared to the female participants. To the best of our knowledge, previous studies involving pharmacy students had proved that there was no significant relationship between gender and psychological status (17). However, a study conducted by Fayoum University in Iran involving 442 medical students indicated that female students were more prone to stress and anxiety symptoms (18). A meta-analysis by Liyanage et al. (2022) also reported a higher prevalence of anxiety among females (43%) as compared to males (39%) (13). Despite the insignificant findings on the gender factor, female students scored higher percentages for all three DASS-21 subscales.

Our study did not find any significant relationship between the years of study and the psychological status of the students. This is further supported by a study from University Malaya and Manipal Medical University which proved that there was no significant relationship between increasing age and the students' psychological statuses (19, 20). However, a study conducted by Fayoum University in Iran has proved a significant finding on the relation of stress score with increasing age (18). This finding might be associated with the course structure in which, there is a presence of transition in the course structure from basic science teaching to clinical training over the years.

Internet access is considered essential in post-pandemic education. Poor internet connection emerged as one of the factors associated with psychological distress among students (21). A study from Texas University concluded that the internet connectivity factor hindered the students in their e-Learning program (22). A sudden disruption in internet connection may interfere with the online learning process, particularly in synchronous classes. Such interruptions may necessitate students to reconnect to the internet and log back into the sessions, leading to missing information and potential delays in attending classes or completing assessments on time. Although e-learning offers cost-effective and flexible learning opportunities, it is not without drawbacks (23). Rapid changes in the mode of learning and teaching, from traditional face-to-face methods to online learning, were reported as the major challenge by 69.1% of medical students from Jordan (24). Returning home during the pandemic may not always be an ideal decision due to poor internet connection at home and a lack of understanding from family members (25).

Perceived reasons to cheat and/or plagiarise during online assessments
Based on our findings, a significant majority of students (84.6%) perceived the desire to achieve high grades as the primary motivation for cheating and/or plagiarism during assessments. This is potentially influenced by their aspirations to maintain a high CGPA and meet parental expectations. A study involving 310 Iranian students investigated the reasons behind cheating behaviour during exams and found that 41.9% of the respondents (N= 130) selected "getting better score" as their reason for cheating (26).

It is noteworthy that our study was conducted in the early stages of the pandemic, during which the final examination was fully changed to continuous assessment through coursework and assignments which needed to be submitted online. Some of the students may have believed that cheating or plagiarism could not be easily detected, and this could help them improve their grades. However, the changes in assessment methods had increased the academic workload, which was a prominent factor contributing to cheating and/or plagiarism (N=124, 40%). A study conducted in Saudi Arabia involving 57 female distance learning students has concluded that 78.2% of them cheated to get good grades, 69.1% cheated due to absence from the virtual classroom and 70.9% of them cheated due to technical problems (27). Moreover, a study in Romania involving 466 students has found that passing exams has been a concrete reason for these academic misconducts (28). These findings appeared to be consistent with our study results as well. This highlights the importance of evaluating the impact of assessment methods on student behaviour and well-being, particularly in times of significant educational transitions, such as those brought about by the pandemic.

Being unprepared for the test (N= 158, 51.0%) was found to be one of the reasons for cheating. Based on a study, it has been believed that unpreparedness for the test and bulkiness of the materials correlate with each other in which students did not get to prepare for the test due to the huge number of materials (26). Furthermore, this newly changed system appeared to be a sudden solution to ensure the continuity of the academic session, thus it came along with other setbacks too. Lecturers might not have expected that assignment and materials bombardment would appear to be heavy, especially to those who are taking 21 units in the given semester.

Based on our findings, the motivations for cheating and plagiarism during online assessments appear to vary depending on the student's year of study. This can be attributed to the differences in course structure for each academic year. Notably, students from Year 3 and Year 4 are engaged in clerkship sessions, which require active participation in learning activities and completion of tasks within tight timeframes. Additionally, there are discrepancies in the total number of respondents for each year of study, in which a lower participation rate was observed among students in the second and third years.

Based on the overall results, we believe that it is crucial to highlight the role of various parties involved in the psychological well-being and academic integrity of university students. Promoting the severity of cheating and/or plagiarism is vital in motivating students to follow the righteous solution for every challenge faced by students in this e-learning era.

Limitations of study
Overall, there are some limitations found in this study. This study is not generalizable to pharmacy students in other universities as it was done in a single centre. However, this study may provide input on the previous handling of learning and assessment which gives room for the betterment of the academic structure. Besides, the DASS-21 questionnaire is only a measuring tool which assesses the psychological statuses quantitatively. However, considering the pressing issue of mental health awareness especially among university students, data from this study may give an insight into the psychological status of a population of pharmacy students. Finally, a small number of participants, specifically one individual reporting chronic diseases, three with mental health-related issues, and seven taking medications, were identified. Consequently, these factors were omitted from the association studies. Larger-scale investigations are essential to account for potential confounding factors, including those mentioned above.

CONCLUSION

Our study has shed light on the psychological status of undergraduate pharmacy students, with over half of them experiencing symptoms of depression and

anxiety. Importantly, our findings reported limited internet capacity as a significant factor associated with depressive symptoms, while anxiety symptoms were linked to both internet capacity and internet connection stability. Furthermore, our study revealed that the perceived tendency for cheating and plagiarism was predominantly motivated by the aspiration for higher grades. In light of these findings, targeted interventions are needed by various parties to address these issues, while supporting the psychological well-being and academic integrity of students in this digital age.

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