

MENTAL HEALTH PROBLEMS DURING COVID-19 PANDEMIC AMONG UNDERGRADUATES IN CLINICAL COMPARED TO NON-CLINICAL PROGRAMS

Sumaiyah Mat¹, Teoh Jun Jie², Ding Pei Xian², Muhammad Aiman Wafi Bin Termizi², Muhammad Farhan Bin Norhalim², Nawwal Atikah Binti Badri², Ng Xian Yu², Tan Jia Xian², Nor Azlin Mohd Nordin³, Normala Mesbah¹, Nor Azura Azmi³, Asfarina Zanudin³, Ismarulyusda Ishak⁴, Devinder Kaur Ajit Singh¹, Deepashini Harithasan^{2*}

¹ Centre for Healthy Ageing and Wellness, Physiotherapy Programme, Universiti Kebangsaan Malaysia, Malaysia

² Physiotherapy Program, Faculty Health Sciences, Universiti Kebangsaan Malaysia, Malaysia

³ Centre for Rehabilitation Sciences and Specials Needs Studies, Physiotherapy Programme, Faculty of Health Sciences, Universiti Kebangsaan Malaysia. Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur.

⁴ Center for Toxicology and Health Risk, Biomedical Science Programme, Faculty of Health Sciences, Universiti Kebangsaan Malaysia. Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur.

*(Corresponding author: deepa@ukm.edu.my)

Abstract

This study aimed to determine undergraduates' mental health status, quality of life and burn-out status in clinical and non-clinical programs as well as its association during COVID-19 pandemic period. A cross sectional survey was carried out by distributing the questionnaire through online social media platforms such as WhatsApp, Facebook, and Twitter. Mental health, burn-out statuses and quality of life of the undergraduates were assessed using 21-item Depression Anxiety Stress Scale (DASS-21), Copenhagen Burnout Inventory and Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q-SF) respectively. A total of 308 respondents (111 from clinical, 197 from non-clinical programs), mean (SD) age=21.88(1.29) years participated in this cross-sectional online survey. The results revealed that undergraduates in the non-clinical programs are more likely to experience higher levels of depression, anxiety and stress, which

demonstrated by higher median (IQR) scores in each component of DASS-21 (Non-clinical VS Clinical) [depression, 18 (10-28) VS 8 (2-20); anxiety, 16 (8-26) VS 10 (2-16), and stress, 20 (12-28) VS 12 (4-22)]. Similarly, higher burnout median score, 58.83 (48.83 - 75.00) was noted among undergraduates in non-clinical programs with a lower mean (SD) Q-LES- Q-SF score=58.75 (18.03). Undergraduates with good internet accessibility had higher quality of life scores [2.06(1.03-4.13)]. The association between lower mental health status, QoL and burn-out among non-clinical students remained significant even after adjustment for gender, household income, type of university (IPTA vs IPTS), race, and internet accessibility at university. Our findings suggest that undergraduates from clinical programs had better mental health status and quality of life when compared to their peers from non-clinical programs during COVID-19 pandemic period.

Keywords: COVID-19; Mental health status; Quality of life; Undergraduates

Abstrak

Kajian ini bertujuan untuk menentukan status kesihatan mental pelajar, kualiti hidup dan status habis dalam program klinikal dan bukan klinikal serta kaitannya dalam tempoh pandemik COVID-19. Satu tinjauan keratan rentas dilakukan dengan menyebarkan soal selidik melalui platform media sosial dalam talian seperti WhatsApp, Facebook, dan Twitter. Kesihatan mental, status 'burn-out' dan kualiti hidup pelajar dinilai dengan menggunakan 21 item Depression Anxiety Stress Scale (DASS-21), Copenhagen Burnout Inventory dan Quality of Life Funment and Satisfaction Questionnaire (Q-LES-Q-SF). Seramai 308 responden (111 dari klinikal, 197 dari program bukan klinikal), purata umur (SD) = 21.88 (1.29) tahun mengambil bahagian dalam tinjauan dalam talian ini. Hasil kajian menunjukkan bahawa pelajar prasiswazah dalam program bukan klinikal lebih cenderung mengalami tahap kemurungan, kegelisahan dan tekanan yang lebih tinggi, yang ditunjukkan oleh skor median (IQR) yang lebih tinggi pada setiap komponen DASS-21 (Bukan Klinikal VS klinikal) [kemurungan, 18 (10-28) VS 8 (2-20); kegelisahan, 16 (8-26) VS 10 (2-16), dan tekanan, 20 (12-28) VS 12 (4-22)]. Begitu juga, skor median burnout yang lebih tinggi, 58.83 (48.83 - 75.00) dicatatkan di kalangan pelajar prasiswazah dalam program bukan klinikal dengan skor min (SD) Q-LES- Q-SF yang lebih rendah = 58.75 (18.03). Pelajar yang mempunyai akses internet yang baik mempunyai skor kualiti hidup yang lebih tinggi [2.06 (1.03-4.13)]. Hubungan antara status kesihatan mental yang lebih rendah, QoL dan keburukan di kalangan pelajar bukan klinikal tetap ketara walaupun selepas penyesuaian untuk jantina, pendapatan isi rumah, jenis universiti (IPTA vs IPTS), bangsa, dan akses internet di universiti. Hasil kajian kami menunjukkan bahawa prasiswazah dari program klinikal mempunyai status

dan kualiti hidup mental yang lebih baik jika dibandingkan dengan rakan sebaya mereka dari program bukan klinikal selama tempoh pandemik COVID-19.

Kata kunci: COVID-19; Kualiti Hidup; Pra-siswazah; Status Kesihatan Mental

1.0 INTRODUCTION

Coronavirus disease 2019 (COVID-19), a newly discovered infectious respiratory disease had an impact on peoples' life globally. According to UNESCO, there are more than one billion students in the world who have been affected because of school closures. Due to this, teaching and learning process has been switched to online distance learning (ODL), including at higher education institutions. The prevalence of depressive symptoms, anxiety symptoms and sleep disturbance among students at higher education during the COVID-19 pandemic period as reported by a recent systematic review is 34%, 32%, and 33% respectively (Deng et al., 2021).

The main factors that influence the prevalence of depression symptoms among students at higher education institution, includes gender, financial difficulties, level of social support, education level, and country (Deng et al., 2021). Female students tend to have higher anxiety and depression levels (Sheela et al., 2020). In another study, it was found that depressive symptoms were higher in the 18–25 year-old students due to heightened psychological distress as a result of economic effects, changes in academic activities, difficulties adapting to online distance learning methods and uncertainty about the future (Wong et al., 2021). Moreover, disruption in their study routines and perception of living in an area with high prevalence of COVID-19 cases led to lower quality of life (QOL) (Abdullah et al., 2020).

Although undergraduates' mental health has been examined in earlier studies, there is scarcity in research attempting to compare undergraduates in clinical and non-clinical programs, particularly in low to middle income countries such as Malaysia. Understanding the difference between the two programs is important in order to tailor prevention and management strategy of mental health issues and QoL among undergraduates during and after the pandemic.

The present study aimed to determine the mental health, quality of life and burn-out statuses as well as the associated risk factors among Malaysian undergraduates in clinical and non-clinical programs during the implementation of online distance learning (ODL) in Covid-19 pandemic period. We hypothesized that clinical students are more likely to report mental health

problem as compared to non-clinical students as they are restricted to do face-to-face practical session. Nevertheless, these assumptions are yet to be proven.

2.0 METHODS

2.1 Study population

This was a cross-sectional study which conducted via online survey among clinical and non-clinical undergraduates in Malaysia. Clinical undergraduates are those who are pursuing clinical course such Medicine, Allied Health Sciences such Physiotherapy, Audiology, Occupational Therapy, Speech Therapy, Dietetic and Nutrition. While the non-clinical are those who taking other subjects such Art, Business, Biological sciences, Law, and Islamic studies. The inclusion criteria were undergraduates aged between 19-26 years and pursuing either clinical or non-clinical courses at either public or private higher educational institutions. Undergraduates who did not undergo online learning sessions were excluded from this study.

Sample size calculation

The population will be taken from representatives of undergraduate students in Malaysia. Formula used according to Cochran (1977). where, n_0 is the sample size, z is the selected critical value of desired confidence level, p is the estimated proportion of an attribute that is present in the population, $q = 1 - p$ and e is the desired level of precision. Assuming the maximum variability, which is equal to 50% ($p = 0.5$) and taking 95% confidence level with $\pm 5\%$ precision, $z = 1.96$; $e = 0.05$, the required sample size was 384 participants.

2.2 Data collection

This a cross-sectional study in design in which, we used convenient sampling as the sampling method. The method of this study was reviewed and approved by the departmental ethics committee (Ethics Number: JEP-2021-504). The recruitment of the participants was through social media (Facebook, Twitter, or WhatsApp). Undergraduates who agreed to participate were then provided a link to access google forms inclusive of informed consent form, information sheet and questionnaires through an email or WhatsApp.

Demographic data

Demographic data of the respondents was collected in the first part of the questionnaire. It included the demographic background, respondents' universities, courses, year of study and internet accessibility.

Depression, Anxiety, and Stress level

Depression, anxiety, and stress levels of the respondents were assessed using the Depression Anxiety Stress Scale (DASS-21) (Lovibond & Lovibond, 1995) in the second part of the questionnaire. DASS-21 has good reliability and validity. DASS-21 consists of 3 subscales which are Depression (DASS-21-D), Anxiety (DASS-21-A) and Stress (DASS-21-S). Each subscale consists of 7 items. Scores ranges from 0 to 21 are generated from each subscale. The depression, anxiety and stress levels of the participants were calculated and interpreted according to the cut off scores for depression (≥ 10), anxiety (≥ 8) and stress (≥ 15). Based on the cut-off point in DASS-21, the scores lower than 10, 8, 15, for depression, anxiety, and stress respectively are categorized as non-depressed, anxious and stressed.

Burnout status

Personal, work-related, and client-related are the three aspects of burnout in respondents' lives measured using the Copenhagen Burnout Inventory (Kristensen et al., 2005). Copenhagen Burnout Inventory is a 19-item survey with positively and negatively framed items that covers 3 areas: personal (degree of physical and psychological fatigue and exhaustion), work (degree of physical and psychological fatigue and exhaustion related to work), and client-related (or a similar term such as patient, student, etc.) burnout. With the reflection of a good internal consistency of the scale, the Cronbach's alpha for the personal burnout scale is 0.87. There is an intermixing of all the burnout items. In this study, the categories of Always, Often, Sometimes, Seldom, Never/Almost Never with each corresponding to a score of 100, 75, 50, 25, 0 were used as responses. Average scores on the items was used as the result.

Quality of Life

The Q-LES-Q-SF (Stevanovic et al., 2011) is a 16-item instrument to measure the enjoyment and satisfaction of the participants in 8 areas which are physical health, social relationships, subjective feelings, leisure time activities, general activities, work, household duties and school work. Score ranges from 1 to 5 in each item. The raw score was calculated by summing the first 14 items. Then, a percentage maximum possible score was calculated using a formula (raw score -14)/56.

2.3 Statistical analysis

SPSS 20.0 (IBM SPSS Statistics) statistical software package was used for statistical analysis. Kolmogorov-Smirnov normality test was used to identify the normality of data distribution. In

descriptive statistics, continuous data were presented in mean with standard deviation whereas categorical data were presented in frequencies with percentages. Independent t-test was applied for comparison of continuous variables while Chi-square independence test was used for comparison of categorical variables. In addition, logistic regression analysis using mental health status (depression, anxiety, stress) and quality of life as a dependent variable were performed to determine potential risk factors associated with mental health status and QOL among clinical and non-clinical undergraduates. Dummy variables were used to compare between multiple categories, with the lowest category as the reference category. The strength of this association was presented in odds ratio (OR) and 95% confidence interval (CI). Multiple logistic regressions analyses were performed to assess the association between mental health status (depression, anxiety, stress) and QOL following adjustments for potential confounders and mediators.

3.0 RESULTS

3.1 Respondents' Characteristic

A total of 308 subjects, 111 clinical undergraduates and 197 non-clinical undergraduates, with the mean \pm SD age of 21.88 ± 1.29 years participated in the online survey. Majority of the respondents were females, which amounted to 78.4% in clinical and 73.1% in non-clinical programs. The characteristics of the respondents according to clinical and non-clinical programs are as shown in Table 1. There was a significant difference in ethnicity and living arrangement between undergraduates in clinical and non-clinical programs ($p < 0.01$). Further, most of the undergraduates in non-clinical programs stayed with their family (73.1%). While, most of the undergraduates in clinical programs stayed away from their family members (75.9%). A full percentage (100%) of the undergraduates in clinical programs had internet accessibility at the universities. On the other hand, 93.9% of the undergraduates in the non-clinical programs were had internet accessibility at universities which may be reflected by the location of their ODL class as most of the non-clinical students stayed with family. A significant difference ($p < 0.01$) between undergraduates in the clinical and non-clinical programs for internet accessibility was found (Table 1).

Table 1: *Respondents' Characteristic*

Characteristic	Undergraduates in Clinical programs (N=111), 36.03%	in Undergraduates in Non-Clinical Programs (N=197), 63.97%	P-value

Age, years, median (Min-Max)	22(20-30)	22(18-27)	0.707
Gender, Female, <i>n</i> (%)	87(78.4)	144(73.1)	0.304
Ethnic, <i>n</i> (%)			0.001
<i>Malay</i>	54(48.6)	132(67)	
<i>Chinese</i>	46(41.4)	38(19.3)	
<i>Indian</i>	2(1.8)	5(2.5)	
<i>Others</i>	9(8.1)	22(11.2)	
University*			0.832
<i>Public</i>	101(93.5)	182(92.4)	
<i>Private</i>	7(6.5)	15(7.6)	
Year*			
<i>Year 1</i>	9(8.3)	25(11.7)	0.063
<i>Non-year 1</i>	99(91.7)	174(88.3)	0.552
Household Income, <i>n</i> (%)			0.586
<i>B40</i>	44(47.3)	96(53.6)	
<i>M40</i>	40(43)	66(36.9)	
<i>T20</i>	9(9.7)	17(9.5)	
Living arrangement*			
<i>Live with family</i>	26(24.1)	144(73.1)	<0.001
<i>Live away from family</i>	82(75.9)	53(26.9)	<0.001

Good Internet accessibility at Home, yes, <i>n</i> (%)	107(96.4)	191(97.0)	0.791
Good Internet accessibility in university, yes, <i>n</i> (%)	111(100)	185(93.9)	0.008
Electronic Device*			
<i>Laptop</i> , yes, <i>n</i> (%)	104(96.3)	192(97.5)	0.808
<i>Phone</i> , yes, <i>n</i> (%)	93(86.1)	166(84.3)	0.622
<i>Tablet</i> , yes, <i>n</i> (%)	17(15.7)	30(15.2)	0.691

3.2 Mental Health Status Among the Respondents

As depicted in TABLE 2, undergraduates in non-clinical programs had a significantly higher median score of DASS-21 compared to those in clinical programs ($p < 0.001$). The median score of DASS-21 showed that undergraduates in non-clinical and clinical programs have depression, anxiety, and stress with the median score (IQR) of 18 (10-28), 16 (8-26) and 20 (12-28) and 8 (2-20), 10 (2-16) and 12 (4-22) respectively (FIGURE 1). Similarly, a significantly greater percentage of the undergraduates in the non-clinical programs had lower mental health status which is considered as depressed ($score \geq 10$), anxious ($score \geq 8$), and stressed ($score \geq 15$), compared to their peers in clinical programs ($p < 0.001$). The percentages of respondents with depression, anxiety and stress were 77.7%, 79.70% and 66.00% in non-clinical program and 49.50%, 61.30%, and 36.00% in clinical program, respectively. Other than that, a significantly higher mean score of QOL Enjoyment and Satisfaction Questionnaire (Q-LES- Q-SF) was demonstrated among the undergraduates in the clinical compared to those in the non-clinical programs with mean score of 66.89 and 58.75 respectively ($p < 0.01$). Besides, a substantial percentage of undergraduates in non-clinical programs (55.30%) had lower quality of life (QOL) compared to those in clinical programs (36.90%). There was also a significant difference ($p < 0.01$) in the median personal burnout score of undergraduates in non-clinical (58.83) and clinical programs (50.00) respectively (Table 2).

Table 2: *Mental Health Status Among the Respondents*

	Overall	Undergraduates In Clinical Programs (N=111)	Undergraduates in non-clinical Programs (N=197)	P-value
Fear of academic lost, yes, <i>n</i> (%)	258 (83.8%)	98 (88.30)	160 (81.20)	0.106
DASS -21 score, Median (Min-max)*				
<i>Depression</i>	16 (6-26)	8 (2-20)	18 (10-28)	<0.001
<i>Anxiety</i>	14 (6-24)	10 (2-16)	16 (8-26)	<0.001
<i>Stress</i>	16 (8-26)	12 (4-22)	20 (12-28)	<0.001
Dichotomized DASS-21,				
<i>Depression, (≥ 10) n (%)</i>	208 (67.5)	55 (49.5)	153 (77.7)	<0.001
<i>Anxiety, (≥ 8) n (%)</i>	225 (73.1)	68 (61.3)	157 (79.7)	<0.001
<i>Stress, (≥ 15) n (%)</i>	170 (55.2)	40 (36.0)	130 (66.0)	<0.001
QOL Enjoyment and Satisfaction Questionnaire (Q-LES- Q-SF) *				
Score, Mean (SD)	61.69 (17.98)	66.89 (16.76)	58.75 (18.03)	<0.001
Low QOL, <i>n</i> (%)	150 (48.7%)	41 (36.90)	109 (55.30)	0.002
Burnout score, Median (IQR)*				

Personal	58.33 (41.67-70.83)	50.00 (25.00-66.67)	58.83 (45.83-75.00)	<0.001
Work-related	NA	53.57 (28.57-64.29)	NA	NA
Client-related	NA	41.67 (33.33-50.00)	NA	NA

NA- Not Applicable

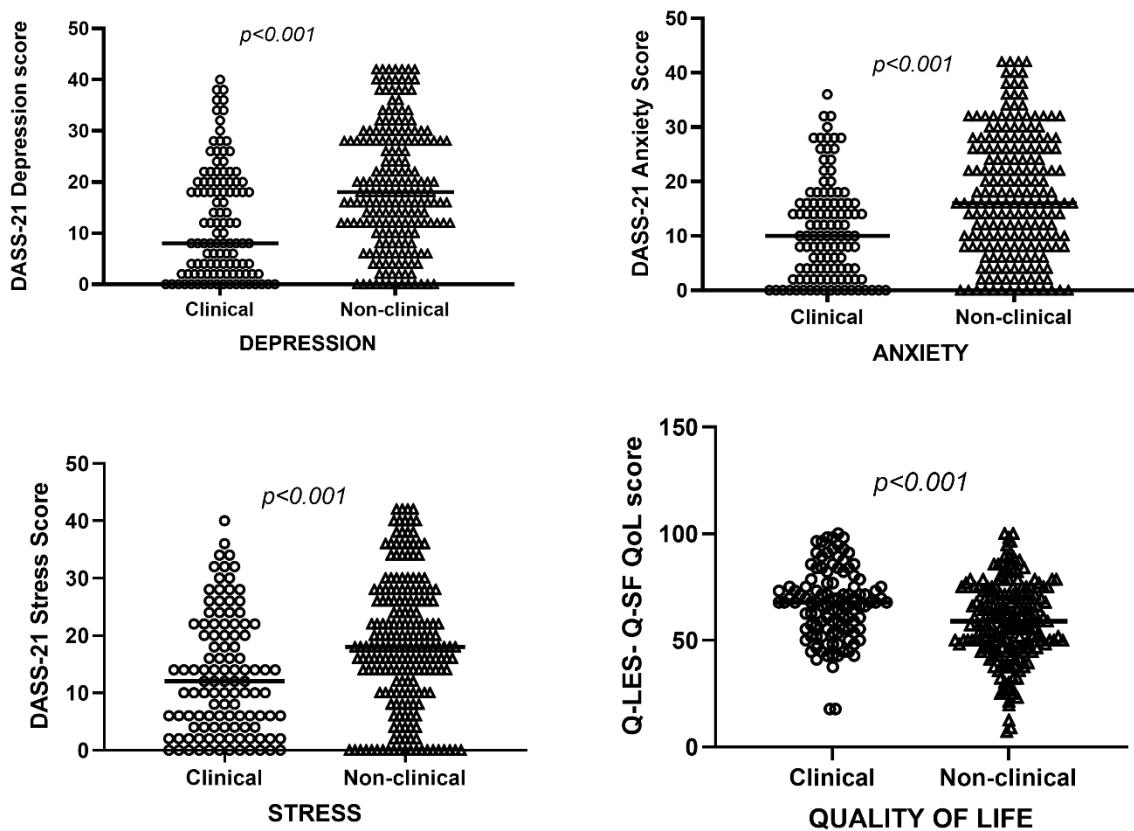


Figure 1: Depression, Anxiety, Stress and Quality of Life score in Clinical and Non-Clinical Undergraduates

3.3 Risk Factors Associated with Mental Health Status

Table 3 shows the logistic regression results for the association between the mental health status (depression, anxiety, stress) and QOL, and potential risk factors of undergraduates in

clinical and non-clinical programs, namely age, gender, ethnic, type of university, year of study, financial source, state, internet accessibility and electronic device used. Undergraduates in clinical programs showed significantly higher mental health status which indicates being less anxious (OR= 0.40, 95% CI = 0.24-0.68) and stress (OR= 0.28, 95% CI = 0.17-0.47) with better QOL (OR= 0.47, 95% CI = 0.29-0.76) in comparison to those in non-clinical programs. The undergraduates from Chinese ethnic group had significantly lower depression (OR= 0.30, 95% CI = 0.18-0.52), anxiety (OR= 0.31, 95% CI = 0.17-0.54), stress (OR= 0.35, 95% CI = 0.20-0.61) scores with a significantly higher quality of life score (OR= 0.37, 95% CI = 0.21-0.64) compared to their peers from Malay ethnic group. Among the Indian undergraduates, the data showed that they had significantly lower anxiety (OR= 0.18, 95% CI = 0.04-0.84) and depression (OR= 0.13, 95% CI = 0.02-0.68) scores compared to those from Malay ethnic group. Overall, the data showed that undergraduates from Indian ethnic group had the least mean score of anxiety and depression compared to the Malay and Chinese ethnic groups. Furthermore, undergraduates with good internet accessibility at the universities showed a significantly higher quality of life scores (OR= 0.18, 95% CI = 0.04-0.83).

Table 3: Risk Factors Associated with Mental Health Status Among the Respondents

FACTORS	Depression, (≥ 10)	Anxiety, (≥ 8)	Stress, (≥ 15)	Poor quality of life (≤ 61)
Clinical VS Non-clinical (Ref group)	0.28 (0.17-0.46)	0.40 (0.24-0.68)	0.29 (0.18-0.47)	0.47 (0.29-0.76)
Age	1.05 (0.86-1.28)	1.01 (0.82-1.24)	1.02 (0.83-1.25)	0.95 (0.79-1.15)
Female Gender	0.92 (0.53-1.61)	0.94 (0.52-1.68)	0.96 (0.55-1.68)	1.28 (0.76-2.14)
Ethnicity				
Malay	reference	reference	reference	reference
Chinese	0.30 (0.18- 0.52)	0.31 (0.17- 0.54)	0.39 (0.23-0.66)	0.37 (0.21-0.64)

<i>Indian</i>	0.24 (0.05- 1.11)	0.18 (0.04- 0.84)	0.25 (0.05-1.34)	0.33(0.06-1.74)
<i>Others</i>	0.92 (0.38- 2.20)	1.00 (0.38-2.62)	0.92 (0.38-2.19)	1.50 (0.68-3.30)
University (Public & Private)				
<i>Public</i>	reference	reference	reference	reference
<i>Private</i>	1.03 (0.41-2.62)	1.72 (0.56-5.23)	1.64 (0.59-4.58)	0.47 (0.19-1.18)
Year of study				
<i>Year 1</i>	reference	reference	reference	reference
<i>Year 2 and above</i>	0.99 (0.46-2.13)	0.68 (0.28-1.62)	0.75 (0.34-1.67)	1.08 (0.53-2.20)
Household Income				
<i>B40</i>	reference	reference	reference	reference
<i>M40</i>	1.07(0.63-1.83)	1.06 (0.61- 1.87)	1.36 (0.79- 2.36)	1.02 (0.62- 1.69)
<i>T20</i>	0.96 (0.40- 2.30)	0.90 (0.36- 2.24)	0.86 (0.36- 2.04)	1.06 (0.46- 2.45)
Internet accessibility				
<i>At Home</i>	0.89 (0.23-3.51)	1.17 (0.30-4.63)	1.45 (0.40-5.25)	0.62 (0.17-2.25)
<i>At University</i>	0.04 (0.31-3.55)	0.90 (0.24-3.41)	1.07 (0.32-3.66)	0.18 (0.04-0.83)
Electronic device				

<i>Laptop</i>	0.59 (0.12-2.87)	0.77 (0.16-3.78)	1.07 (0.26-4.39)	0.47 (0.11-1.90)
<i>Handphone</i>	1.22 (0.64-2.33)	1.33 (0.68-2.61)	1.26 (0.66-2.41)	1.34 (0.72-2.51)
<i>Tablet</i>	1.35 (0.68-2.69)	1.29 (0.620-2.66)	1.03 (0.53-2.00)	1.75 (0.94-3.29)

Ref=reference

3.4 The Associations Between Study Programs (Clinical/Nonclinical) and Mental Health and Quality of Life Status

Table 4 presents the influence of respondents' demographic differences and internet accessibility on the association between the type of programs and the mental health and quality of life. In model 1, following adjustment for the potential confounders of gender, household income and type of university (public versus private), being an undergraduate in clinical program was significantly associated with lower odds of being depressed (OR= 0.21, 95% CI = 0.12-0.36), anxious (OR= 0.35, 95% CI = 0.20-0.60), stress (OR= 0.24, 95% CI = 0.14-0.41) and having lower quality of life (OR= 0.39, 95% CI = 0.23-0.65). The associations remained statistically significant after adjustment in model 2. Following adjustment for internet accessibility at university in model 3, the significant associations between being undergraduates in clinical programs with reduced risk of mental health problem and lower quality of life remained unchanged.

Table 4: *Multivariate Analysis for The Associations Between Study Programs (Clinical/Nonclinical) And Mental Health and Quality of Life Status*

Model	Odds Ratio, OR (95% CI)			
	Depression, (≥ 10)	Anxiety, (≥ 8)	Stress, (≥ 15)	Poor quality of life (≤ 61)
Clinical VS Non-clinical (Reference)				
Unadjusted model	0.28 (0.17-0.46)	0.40 (0.24-0.68)	0.29 (0.18-0.47)	0.47 (0.29-0.76)
Adjusted model 1	0.21 (0.12-0.36)	0.35 (0.20-0.60)	0.24 (0.14-0.41)	0.39 (0.23-0.65)

Adjusted model 2	0.25 (0.14-0.44)	0.44 (0.25-0.80)	0.27 (0.15-0.48)	0.46 (0.26-0.79)
Adjusted model 3	0.24 (0.13-0.43)	0.39 (0.22-0.69)	0.26 (0.15-0.45)	0.40 (0.23-0.70)

Notes:

Adjusted model 1: Adjusted for gender, household income, and type of university (IPTA vs IPTS)

Adjusted model 2: Adjusted for gender, household income, type of university (IPTA vs IPTS), and race

Adjusted model 3: Adjusted for gender, household income, type of university (IPTA vs IPTS), race, and internet accessibility at university

4.0 DISCUSSION

Our study results demonstrate that Malaysian undergraduates in clinical programs had significantly lower depression, stress, anxiety statuses and were less likely to have lower quality of life during the COVID-19 pandemic period as compared to their peers in non-clinical programs. This association was influenced by the demographic, and internet accessibility. Further multivariate logistic regression analyses revealed that the increased odds of lower mental health status and lower QoL among undergraduates in non-clinical programs was significant regardless of the differences in demographic data, and internet accessibility.

In a recent study, O'Byrne (2021) reported that majority of medical students experienced moderate to extreme stress levels with being females significantly associated with higher stress level. Another study which used DASS-21 to examine psychological impact during COVID-19 pandemic in Saudi Arabia, showed increased levels of depression, anxiety, and stress among dental students (Hakami et al., 2021). Subjective mental health status among medical students in Japan significantly declined after Japanese nationwide state of emergency was lifted (Nishimura et al., 2021). Besides, among 1st to 5th year medical students in Saudi Arabia, females had significantly higher prevalence of overall stress compared to males (Abdulghani et al., 2020).

To the best of our knowledge, this was the first study that compared the mental health, QoL and burnout level statuses between undergraduates in clinical and non-clinical programs during the COVID19 pandemic period in low-middle income country (LMICs). Our study results suggest that undergraduates in clinical programs were less likely to become depressed. This could be as a result of many influencing factors including environmental. Notably, majority

undergraduates in the clinical programs were staying in or near their institutions and away from their family. It may be possible that with a more conducive learning environment, they could have been more likely to stay focused.

Furthermore, studying at the institutions with optimum support in terms of internet accessibility, is one of the main requirements for online learning. Although study done by Sundarasan et al. (2020) showed no reasons for undergraduates in non-clinical programs to be prone to have higher levels of anxiety compared to those in clinical programs, we postulated that living arrangement, internet accessibility and social support are some of the main contributing factors affecting undergraduates' mental health status. Other than that, it is possible that undergraduates in clinical programs are used to their training with higher pressure, academic load, comprehensive curriculum and long working and study hours (Rafique et al., 2019). As a result, undergraduates from clinical programs could have easily adapted to the changes and stressful environment during the COVID-19 pandemic period.

Both undergraduates from clinical and non-clinical programs in our study, showed that they had fears of academic year loss but those from the clinical programs had better mental health status with lower stress, depression, and anxiety levels compared to their peers from the non-clinical programs. The rationale for this fear is however not explored. A study by Baloch et al. (2021) among students in Pakistan showed that students were concerned about their completion of the semester during the Covid-19 lockdown periods. Hence, we speculate that the restrictions during the COVID-19 pandemic might be one of the reasons for the fear of academic year loss among undergraduates. This could have affected their mental health status with worry of increase financial burden if they are unable to complete their studies on time in the semester.

Work and client-related burnouts were accessed only among the undergraduates in the clinical programs. For undergraduates in non-clinical programs, their studies were not related to the constructs in these two burnout instruments. In our study, work-related could be assumed to be academic-related. It was defined as the perceived level of physical and, psychological fatigue, and exhaustion by the undergraduates in relation to their studies. In a recent burnout-related study by Daud et al. (2021), it was reported that 41% of the students in the clinical years had experienced burnout, measured using the same Copenhagen Burnout Inventory. For client-related burnout, it is related to psychological fatigue and exhaustion that is perceived by the

person as related to his or her work with the client. In our study, it is only suitable for undergraduates in the clinical programs as all of them interacted with their patients during their studies.

5.0 STUDY LIMITATIONS

Our study has several limitations. Firstly, the samples for our study were obtained using a non-probability convenience sampling method; therefore, it may introduce risk of bias. All the respondents volunteered without us setting the number of undergraduates to be recruited from each university in proportion to the size of the respective university. Apart from that, the non-probability sampling method also does not allow the study findings to be generalized to the population. Secondly, the sample size of the undergraduates obtained could have been more balanced between clinical and non-clinical programs. In our study, only 36% of the respondents were from clinical while 64% of them were from non-clinical programs. This may have threatened the accuracy of our findings where comparisons between the two programs is concerned. Nevertheless, this was the first study to assess the mental health status of undergraduates in clinical and non-clinical programs. This data is useful in informing future study to focus on exploring on how can we enhance ODL in the future.

6.0 CONCLUSION

Undergraduates in non-clinical programs in this study had a lower mental health status compared to their peers in clinical programs, with higher depression, anxiety, and stress levels. Undergraduates in clinical programs were demonstrated to have better quality of life than those in non-clinical programs. In addition, compared to undergraduates in clinical programs, those in non-clinical programs experienced a higher level of personal burnout. Coping mechanism developed among undergraduates in clinical programs might have assisted them to adapt to the new learning style during the Covid-19 pandemic period. Further studies and new approaches of online learning should be explored to improve mental health status and QoL among undergraduates in non-clinical programs.

7.0 REFERENCES

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