

Assessing Depression Levels Among University Students in Selangor, Malaysia: A Post-COVID-19 Analysis of Prevalence and Gender Differences

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ABSTRACT

This pandemic due to COVID-19 has impacted all mental health of the students in the university. The majority of academic and social or personal life of the students has suddenly come to a standstill. This study assessed the gender-focused differences in post-pandemic prevalence and severity of depression among Malaysian university students in Selangor. The students will also be accessed on a cross-section at a quantitative scale, thus involving a web-based questionnaire that orients on the Beck Depression Inventory and is used to gather information from 133 scholars. Descriptive analyses with SPSS 24 show that 80% of respondent manifest symptoms of depression whereby a proportion of 35% shows mild; 25%, moderate; and 20%, severe depression. Analysis revealed that, overall, most female students were significantly more likely than males to experience depression (45% compared to 30%), and results of t-test showed that the difference is statistically significant ($p < 0.05$). Females scored higher on physical symptoms like insomnia and loss of appetite. Therefore, gender-sensitive mental health interventions, including psychological counseling, social support initiatives, and stress management programs, will reduce the long-term effects of the pandemic on health.

Keywords: Depression, Mental Health, College Students, COVID-19, Gender Differences.

INTRODUCTION

The COVID-19 pandemic has brought about unparalleled disruptions in everyday life concerning university-going students with much more relation of challenges in the academic sphere, through social isolation, and financial uncertainty. Closed borders for social interactions caused by landing abruptly in a fully remote learning environment and considering the issues cross-cutting concerns such as future employment have made students increasingly susceptible to psychological distress at the global level (Asbury et al., 2020; Wang et Al., 2020). After a rapid spike in depression among students, studies continue to come out reporting and justifying the increase of depressive symptomatology emerging as a major mental health public concern during and after the pandemic (Muhammad et al., 2020).

Studies in America and China explain that the growing rate of depression among university students was because of the curtailed social support systems after campuses closed due to highly strict social distancing procedures during the pandemic (Cao et al., 2020). Similar trends have been observed in Malaysia, where the Ministry of Higher Education (MOHE, 2021) showed a considerable increase in students facing mental health issues. Much of Selangor, which is home to many higher education institutions, has been hard hit—but the area remains under-

researched to determine post-pandemic rate incidences of depression among university students.

In line with the above, the current study is designed to determine the prevalence and severity of depression among university students in Selangor considering gender differences in the post-COVID-19 period. The study aims to provide evidence of the psychological effects of the pandemic on students, thus making the case for gender-sensitive mental health interventions. Findings from this study would be a resource for informing policymakers and university administrators in designing targeted programs in mental wellness as well as enhancing coping strategies among students in the post-pandemic era.

LITERATURE REVIEW

One of the most common mental health issues that university students face worldwide is depression. The rates of depression among students vary across regions and are influenced by cultural, economic, and social factors. In the current section, previous literature on the prevalence of depression among university students is reviewed against various dimensions, namely; global, regional, and pandemic-related.

Global Student Depressive Prevalence

Studies on depression among university students have been conducted across several regions. Ibrahim et al. (2021) state in their meta-analysis that the overall prevalence of depression in university students worldwide is 30.6% and greatly varies from continent to continent. Estimated at 16.2%, the prevalence of depression among university students in the United States has been found (Eisenberg et al., 2019), while in South America, Brazil reports a prevalence that is higher at 31.4% (Lelles et al., 2020). Some European nations indicate differences: for instance, Hungary shows a rate of 21% (Székely et al., 2020), while the United Kingdom demonstrates a significantly lower rate at 10% (James et al., 2019).

At African level, studies show varying patterns of depression among university students. For instance, a study in Ethiopia indicated a prevalence rate of 17.7% (Yohannes et al., 2020). In Nigeria, however, records showed that there was a prevalence rate of 25.1% (Egbewale et al., 2020). While in Asia, studies conducted in Malaysia and Indonesia reported student depression rates at 28.5% and 25%, respectively (Hassan et al., 2020; Suryati et al., 2021). This indicates that university students across the world suffer from various mental challenges, some of which are aggravated by the high prevalence of socioeconomic conditions in some parts of the world.

Effects of COVID-19 Pandemic on Student Mental Health

Clearly, the covid-19 pandemic has worsened mental health status among university students, followed by a significant rise in rates of depression. In an investigation conducted in China whereby a total of 7149 university students were surveyed, 20.8% of the students reported mild to severe depression, while 28.8% reported moderate to severe anxiety (Cao et al., 2020). Likewise, Sahin et al. (2020) found that during the pandemic, there were depressive symptoms among 71.2% of university students in Turkey. Another research conducted in Spain indicated that during the pandemic incident, about 44.8% of university students had moderate to severe depression (Salazar de Pablo et al., 2020).

These results were alike to those from Malaysia, where university students during the pandemic encountered increased stress and uncertainty. Mental health problems among students owing to academic interruptions, social isolation, and financial instability have been noted by the Ministry of Higher Education Malaysia (MOHE, 2021). Such findings, however, are not available in any particular region, especially Selangor, to analyze post-pandemic effects on student depression levels.

Gender Differences in Depression in University students

It has been well documented that gender differences exist in manifestations and prevalence of depression with an overwhelming majority of studies actually reporting rates more among females. Malaysia is no exception to the trend documented by Foo et al. (2021) in that their findings show more depression among females than males. Similar trends have been replicated on a global scale as studied in China (Xiong et al., 2020) or in the United

states (Son et al., 2020), suggesting that pandemic-related psychological distress was more common among females.

One important reason behind the above gender disparity could be that women are more prone to different forms of stressors like academic pressure, social expectations, and financial problems (Rahman et al., 2017). Other causes of increased prevalence of depression among female students could include physiological reasons such as hormonal factors (Nasr, 2014). More frequent reports of sleep disturbance, decreased appetite, and increased anxiety among females are believed to pose a problem to their mental health challenges (Sahin et al., 2020).

Summary

Much of the existing literature has been valuable in indicating levels of depression among university students; however, certain gaps still exist. First, most studies regarding prevalence of depression in Malaysia focused on the general university population rather than specifically studying regions. Second, studies examining the long-term effects of COVID-19 on students' mental health status are few and far between in Selangor. Third, gender differences in depression have been reported though more need to be done to discover more specific coping strategies and intervention models.

This study intends to cover the gaps by assessing the depression levels of university students in Selangor in the post-pandemic period with emphasis on gender differences. Thus, the research is meant to inform targeted interventions on mental health, as well as policy recommendations to be made for improving student well-being.

METHODOLOGY

Research Design

The present study aimed to investigate the prevalence and severity of depression amongst university students in the Selangor region of Malaysia during the aftermath of COVID-19 using a cross-sectional quantitative survey design. The quantitative method was used because it allows systematic data collection and numerical analysis, followed by objective interpretation of depression levels. This design allows for examining gender differences in depression and recognizing salient psychological symptoms afflicting the students.

Sampling Method and Participants

The study used a convenience sampling method, collecting data from a total of 133 university students in Selangor. The drawback of introducing selection bias through convenience sampling was accepted; the method was adopted because it made sense to get various students during the post-pandemic period. The sample comprised 60 male students (45.1%) and 73 female students (54.9%) to ensure that both genders are represented for a meaningful analysis of gender differences in depression prevalence.

Data was gathered through an online self-administered questionnaire hosted on Google Forms. This questionnaire consisted of demographic questions, details on academic background, and items measuring depression levels.

Data Collection and Instrumentation

Data collection included the Beck Depression Inventory (BDI), a rich instrument developed by Beck et al. (1961) for validation to measure the severity of depressive symptoms. This instrument consists of 21 items and is scored using a four-point Likert scale (0-3), with total scores categorized as follows:

- 0–13: Minimal depression
- 14–19: Mild depression
- 20–28: Moderate depression
- 29–63: Severe depression

The instrument has shown very high reliabilities (above Cronbach's alpha of 0.85) in previous studies using

university student populations (Nasr, 2014; Foo and others, 2021).

Data Analysis

The data collected were analyzed using the SPSS (Statistical Package for the Social Sciences) version 24. Descriptive statistics were used to summarize the frequency of depression as well as gender and symptom severity. To test the significant differences in depression levels between male and female students, independent samples t-test was conducted. Moreover, a homogeneity of variance Levene test was performed to check the validity of the comparisons.

Ethical Considerations

The research studies in this case have followed ethical research guidelines to ensure the confidentiality of participants and voluntary participation. Two informed consent forms were provided to the student participants before they were requested to complete the survey, and all responses were anonymized to protect the identity of the respondents. The participants were made aware of the objectives of the study, their right to withdraw from the research at any time, and confidentiality of their information regarding the study. The participants have made ethical approved since the study involved human beings.

FINDINGS

This part outlines the results of the study on depression among university students in Selangor, the intensity of depressive symptoms, and the gender differences in terms of depression.

Demographic Characteristics

A total of 133 university students in Selangor participated in this study, comprising 60 male students (45.1%) and 73 female students (54.9%). The gender distribution highlights a slight predominance of female participants, which is important in interpreting gender-related differences in depression prevalence. The details are as followed:

Table 1: Gender

Gender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Male	60	45.1	45.1	45.1
Female	73	54.9	54.9	100.0
Total	133	100.0	100.0	

Prevalence and Severity of Depression

The results indicate that 80% of the respondents exhibited symptoms of depression, with varying degrees of severity. The breakdown of depression levels among the participants is as follows:

- 35% (n = 47) experienced mild depression
- 25% (n = 33) experienced moderate depression
- 20% (n = 27) experienced severe depression
- 20% (n = 26) reported no depressive symptoms

These findings suggest that a significant proportion of university students in Selangor continue to experience mental health challenges post-pandemic. The presence of severe depressive symptoms in one-fifth of the sample indicates an urgent need for psychological interventions.

Symptoms of Depression

The core symptoms of depression were studied along the path of the Beck Depression Inventory (BDI) while their incidence in the population of students was analyzed. The findings are reported in Table 2.

Table 2: Prevalence of Depression Symptoms

Depression Symptom	Male Students (%)	Female Students (%)	Total (%)
Insomnia	30.0	50.0	40.0
Loss of Appetite	25.0	40.0	32.5
Fatigue	12.0	6.8	9.4
Indecisiveness	16.5	31.6	24.0
Work Difficulty	33.1	33.1	33.1
Pessimism	33.8	44.8	39.3
Feelings of Hopelessness	28.3	44.2	36.3
Frequent Crying	15.0	35.0	25.0
Suicidal Thoughts	12.0	23.0	17.5

Data reported female students higher in the incidences of insomnia, appetite loss, pessimism, crying, and suicidal thoughts. This means that students experience depression-associated emotional and physical symptoms more than their male counterparts.

Psychological Factors Associated with Depression

Apart from the depressive symptoms, 17 psychological factors were put under study to see how they relate to students' mental health. Results are displayed in Table 3.

Table 3: Depression's Psychological Factors

Psychological Factor	Frequency (%)
Sad	
Do not feel sad	56 (42.1%)
Feel sad	3 (2.3%)
Persistently sad	20 (15.0%)
Pessimism	
Not discouraged	64 (48.1%)
Feel discouraged	45 (33.8%)

Feel hopeless	7 (5.3%)
Sense of Failure	
Do not feel like a failure	75 (56.4%)
Feel like a failure	26 (19.5%)
See only failures in life	31 (23.3%)
Self-Dissatisfaction	
Enjoy life as before	58 (43.6%)
Do not enjoy life as before	49 (36.8%)
No satisfaction in anything	21 (15.8%)
Guilt	
Do not feel guilty	20 (15.0%)
Feel guilty most of the time	73 (54.9%)
Feel guilty all the time	7 (5.3%)
Suicidal Thoughts	
No suicidal thoughts	101 (75.9%)
Suicidal thoughts (but no intent)	31 (23.3%)
Would like to kill themselves	1 (0.8%)
Do not feel guilty	20 (15.0%)
Feel guilty most of the time	73 (54.9%)
Feel guilty all the time	7 (5.3%)
Suicidal Thoughts	
No suicidal thoughts	101 (75.9%)
Suicidal thoughts (but no intent)	31 (23.3%)
Would like to kill themselves	1 (0.8%)

Findings show that a fair number of students constantly endure sadness, pessimism, self-dissatisfaction, and guilt, all of which may influence their level of depression.

Statistical Analysis of Gender Differences in Psychological Symptoms

To evaluate the statistically significant gender differences in depressive symptoms, Levene's test for equality of

variances and t-tests for equality of means were conducted. The statistics are as summarized in Table 4.

Table 3: Statistical Analysis of Gender Differences in Psychological Symptoms

Psychological Factor	Levene's Test (p-value)	t-Test (p-value)	Significance
Insomnia	0.082	0.029	Significant
Loss of Appetite	3.188	0.076	Significant
Irritability	4.899	0.029	Significant
Work Difficulty	4.687	0.032	Significant
Crying	1.729	0.191	Not Significant
Pessimism	1.958	0.164	Not Significant
Guilt	1.829	0.179	Not Significant

The study confirmed that insomnia, loss of appetite, irritability, and work-difficulty symptoms were significantly higher in female students ($p < 0.05$). Suicidal thoughts, crying, pessimism, and guilt, however, did not differ significantly between genders, indicating that symptoms were experienced by both in similar levels.

Summary

The findings show that depression is a serious mental health issue among university students in Selangor, with 80% of the respondents having experienced some degree of depressive symptoms. Female students experienced significantly higher levels of insomnia, appetite loss, irritability, and emotional distress.

An incidence of severe depression at 20% and suicidal ideation at 23.3% calls for targeted mental health interventions that include:

- Counseling programs based on the needs of males and female
- Peer support to combat isolation and stress
- University workshops with stress management techniques
- Early identification of students at risk

Beyond these findings, evidence now exists to enable policymakers and university administration to establish mental health support systems that impact students' well-being so that they can excel academically and socially in the post-pandemic era.

DISCUSSION

This research studied depression levels among university students in Selangor during the post-COVID-19 period, especially focusing on gender differences. The findings reveal that 80% of the students showed symptoms of depression, with 35% mild depression, 25% moderate, and 20% severe depression. Of the affected students, female students made up 45% and male students only 30% for a significant difference statistically ($p < 0.05$). The female students also reported higher incidence of insomnia and loss of appetite, indicating a greater physical symptomology susceptibility toward depression.

The high prevalence of depression among students in this study fits with worldwide findings indicating increased mental health challenges post-pandemic. Studies conducted in China and Spain similarly reported elevated depression rates among university students due to prolonged social isolation and academic uncertainties (Cao et

al., 2020; Salazar de Pablo et al., 2020). In Malaysia, Foo et al. (2021) also found that university students experienced heightened psychological distress following the pandemic, further assigning support to the findings of this study.

There are several factors that may account for the high rates of depression among university students in Selangor. One major point is academic stress and uncertainty. The transfer from online to face-to-face learning and most importantly having to catch up on work has greatly distressed students, especially those nearing graduation. Many are also facing uncertainty about their career prospects with the unpredictable job market post-pandemic. This has led to increased anxiety and depressive symptoms with students trying to cope with academic expectations against future concern.

Another factor affecting levels of depression is social isolation and the absence of a confederation of support. The long durations of lockdowns with very limited social living caused by the pandemic lost social ties among students, which resulted in symptoms of loneliness and emotional upheaval. Many students depended on peer connections and social activities for coping mechanisms of emotional distress. Adapting to the new academic environment proved difficult for such students. Some students had started to become socially withdrawn even after re-establishing face-to-face sessions, which may trigger the persistence of depressive symptoms.

Many students reported a rise in stress levels with financial concerns weighing heavily on their minds. Many students were experiencing financial instability during the pandemic due to the loss of family income or reduced job opportunities. Such economic worry added to the already existing psychological strain on the shoulders of student dependent on part-time jobs or parental support for their academic pursuits. This uncertainty regarding financial stability might have also deteriorated their mental well-being, as insecurity about finances has been singled out as one of the major stressors for university students.

Additionally, these gendered psychosocial responses may account for higher rates of depression in female students. Studies suggest that women are more likely to internalize stress and experience emotional distress, compared to men who may cope with externalizing strategies (Rosmarin et al., 2013). Hormonal differences may also play a role, as societal expectations for women increase stress about family responsibilities versus those placed on men. A heavy toll is placed on women's ability to cope with the emotional stressors of depression on account of academic pressures plus family responsibilities. This is consistent with past research claiming that female students present with more anxiety, sleep disturbances, or emotional exhaustion than their male counterparts (Nasr, 2014; Rahman et al., 2017).

Mental Health Intervention Implications

Therefore, the salient findings of this research necessitated the timely development of targeted mental health interventions to ameliorate the psychological hurdles confronting university students, particularly female students. Counseling programs that are gender-sensitive should be instituted in universities in order to ensure that psychological help is provided according to the needs of male and female students. Female students are more likely to be emotionally distressed and therefore would benefit from counseling focused on emotional regulation and coping strategies, whereas male students may benefit from problem-solving approaches and stress management techniques.

Universities could also facilitate peer support groups whereby students exchange experience and gain emotional support from fellow students. Peer-initiated mental health initiatives have been shown to be effective in reducing stigma and motivating students to seek help. Furthermore, stress management workshops utilizing mindfulness, CBT, and resilience-based strategies could provide students with mechanisms to better cope with academic and social stressors.

They should also be encouraged to bring about a very active role in supporting students' mental health- university administrators and professors received a little training to 'spot the signs' or early stages of psychological distress in students and refer them to sufficient counseling, thereby preventing serious developments in mental health. Flexibility in academic policies should include extended deadlines and short mental health breaks to relieve academic stress from students experiencing mental health challenges.

Limitations and Recommendations for Future Studies

Those interested in post-pandemic depression among university students within Selangor will benefit from this study, but at the same time, some limitations should be cited. One limitation, for example, was the sample size and representativeness; only 133 students from Selangor were involved in the study, which might not be representative of all Malaysian university students. Future research will hopefully address this factor and increase size and diversity of sample for better generalization.

Thus, the limitation of relying on self-report data can evoke social desirability bias, whereby participants might inappropriately downplay or exaggerate their symptoms according to perceived social expectations. Future studies ought to blend self-reports with either clinical assessments or further in-depth interviews for a more coherent picture of the mental health situation that students are in.

Moreover, owing to the nature of cross-section design employed in this study, it presents a snapshot of depression levels at one point in time. However, mental health fluctuates and hence depression levels may at times increase or decrease. It is, therefore, prudent to do longitudinal studies in an effort to observe changes in depression levels over a period of time so as to ascertain whether depressive symptoms decline, improve, or escalate as student progress in their post-pandemic academic life.

This study affirms that the COVID-19 pandemic impacted deeply on the mental health of Selangor university students, with female students experiencing much higher levels of depression in contrast to male students. The findings highlight the urgent need for gender-sensitive broad-spectrum mental health interventions to alleviate the long-term effect of pandemic situations. Counseling services, peer support, and stress management programs will be necessary to maintain student well-being in a post-pandemic world.

CONCLUSION

For this research, we looked at the prevalence and magnitude of depressive symptoms concerning university education in Selangor after the COVID-19 period, and we tried to study gender differences. According to the reports, evidence about 80% respondents in this study were found with depressive symptoms with a mild and severe depression frequency of 35% and 20%, respectively. There exists a statistically high gender difference in such conditions, with reported cases of female students being 45% depressed relative to male students, who comprise 30% of the total population. All these differences were proved statistically significant with p-value lower than 0.05. In addition, incidence reports indicate higher frequencies of sleep disturbances and appetite loss among these students, suggesting that they are at a higher risk of both symptoms, both psychological and physical, of depression.

This particular study has generally shown that there will be long-term psychological effects of the COVID-19 pandemic on university students. Moreover, it indicates the need for immediate-focused mental health interventions. This approach is important because depression is significantly associated with more female than male students. Thus, institutions should introduce gender-sensitive peer-gathering counseling programs, peer support networks, and stress management workshops to target specific needs in meeting mental health problems. Academic institutions should boost awareness programs targeting faculty on students' mental health issues so that their educators would be able to support students undergoing such stressful occasions.

However, this study has some limitations despite all the contributions it has made. The limitations as a result of using self-reported data and convenience sampling will definitely bring some bias. Lastly, the study is cross-sectional; thus, it cannot be evaluated to show any change over time in depression levels. Future studies should incorporate a larger more diverse sample and implement longitudinal designs to follow up the emerging trends in mental health among university students. In addition, qualitative research methods such as interviews and focus groups could shed more light on students' experiences and coping strategies.

Hence, the post-pandemic mental health issues of university students, especially females, require immediate attention. Quite a few mental health policies, student support initiatives, and early intervention programs are important in improving students' well-being and performance. Universities, policymakers, and professionals

working in mental health need to come together to forge a sound strategy to mitigate the psychological impacts of the pandemic and provide an enabling environment for students to learn in the post-COVID-19 world.

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