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COVID-19 Related Anxiety And Obsession (Coronaphobia) Screening Among Undergraduate, Diploma And Foundation Students In Cyberjaya

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Abstract:

Background: Since the first case of COVID-19 in Malaysia, the general population has been on high alert in taking measures to protect themself from getting infected. The purpose of this study is to study the prevalence of Coronaphobia among university students in Cyberjaya and to see how other factors such as their knowledge and sociodemographic factors play a role in the level of Coronaphobia.

Materials and Methods: A cross-sectional study (N=204) with convenience sampling was disseminated among students in Cyberjaya using a questionnaire that covers the sociodemographic factors, knowledge on COVID-19, and the anxiety and obsession towards COVID-19. The data were descriptively analyzed. Odds ratio was used to further tabulate appropriate findings from the survey. The JASP 0.14 software was used to analyze the quantitative data.

Result: A total of 2.45% and 14.22% of the respondents are found to have anxiety and obsession over COVID-19 respectively. 95.59% of students in Cyberjaya have good knowledge of COVID-19. There were no statistically significant associations between gender, ethnicity, or field of study with anxiety towards COVID-19 ($p > 0.05$). There were no statistically significant associations between the aforementioned sociodemographic variables (gender, ethnicity, field of study) with an obsession towards COVID-19 ($p > 0.05$). Non-Malays were 4.167 times more likely to have a poor level of knowledge towards COVID-19 as compared to Malays (OR = 4.167; 95%CI: 0.071, 2.783; $p < 0.05$). However, there was no significant association between gender and field of study with the knowledge on COVID-19 ($p > 0.05$). There was no significant association between knowledge on COVID-19 with anxiety towards COVID-19.

Conclusion: The knowledge of COVID-19 among university students is good, however, could be improved among students who are non-Malays. There is no association between knowledge of COVID-19 and anxiety towards COVID-19, however, those with good knowledge of COVID-19 tend to exhibit obsession towards COVID-19.

Keywords: Anxiety, Coronaphobia, COVID-19, Cyberjaya, Obsession

1. Introduction

The first cases of COVID-19 were reported in December 2019 in Wuhan, China (WHO, 2020). By January 2020, there were 3 reported cases in Malaysia (Shakirah et al., 2020), forming the first wave of COVID-19 in Malaysia, which was primarily imported into the country by tourists. By the 11th of March 2020, the Director-General of WHO announced COVID-19 as a pandemic (WHO, 2020).

The second wave of COVID-19 that emerged after a religious event in Sri Petaling at the end of February gave rise to the Sri Petaling Cluster, the largest cluster in Malaysia to date (Shakirah et al., 2020). This led to the announcement of the Movement Control Order (MCO) by the Prime Minister, Tan Sri Muhyiddin Yassin on the 16th of March, which was set to commence from the 18th of March 2020. The enforcement of MCO had successfully decreased the number of cases. By July, strict restrictions had been lifted, allowing the people to resume their daily routine while adhering to some newly implemented standard operating procedure (SOP) which included registering their whereabouts on the MySejahtera mobile application and wearing a mask in public places.

However, Malaysia entered the third wave of COVID-19 in October 2020, as announced by the Director-General of Health, Tan Sri Dr. Noor Hisham Abdullah at a press conference on the 2nd of October 2020 (Bernama, 2020). The return of travelers from Sabah led to a spike of cases in Selangor and Kuala Lumpur, leading to a Conditional Movement Controlled Order on the 14th of October 2020 (MOH, 2020). This was then followed by the nationwide CMCO from the 9th of November 2020 until the 6th of December 2020, with the exception of a few states (Awani, 2020).

With the pandemic being a relatively new experience for the general public, it is not surprising that many are worried about the implications and long-term effects of this pandemic. It is also undeniable that students, specifically university students, are among those heavily affected by the implications of the pandemic, with university closures, and postponement of internships and graduation. The uncertainty in their academic careers, coupled with the general worry regarding the COVID-19 pandemic, may take a toll on students.

Therefore, considering this, we decided to focus our research on the screening of COVID-19 related anxiety and obsession, known as Coronaphobia, among university students, as well as investigate how other factors, such as their sociodemographic background and knowledge on COVID-19 plays a role on the level of anxiety and obsession.

2. Materials and Methods

This is a quantitative cross-sectional study, conducted from 2nd July 2021 until 20th September 2021. The study population involved in this survey comprises undergraduate, diploma, and foundation students from the University of Cyberjaya, Limkokwing University, and Multimedia University. The inclusion criteria was that the participant must be a full-time university student, while the exclusion criteria were postgraduate students. The non-response criteria include individuals who did not respond to two reminder emails or one reminder message.

The sampling frame was undergraduate, diploma, and foundation students in Cyberjaya, and the sampling unit was individuals who volunteered to participate in the survey and fulfilled the inclusion and exclusion criteria from the sampling frame. Using a formula by Israel (2012), the sample size was 196 with a 95% confidence interval and a 7% margin of error. However, after including 10% of estimated

nonrespondents in the calculation, the sample size required for this study was determined to be 216.

The survey was conducted via convenience sampling through the networks of the researchers by dissemination of questionnaires through Email and Whatsapp. The data were collected via Google Forms with close-ended questions. The questionnaire was written in English as our sample population consists entirely of university students.

Our questionnaire consists of 3 parts; 1. Sociodemographic characteristics, 2. Knowledge on COVID-19, 3. Anxiety and obsession (Coronaphobia). Part 1 consists of 8 questions of sociodemographic characteristics, including age, gender, race, religion, nationality, university, faculty, and monthly household incomes. Part 2 consists of 13 questions regarding knowledge on COVID-19. We had adapted questions from a study in China that had previously been used in a local study by Azlan et al. (2020). For the knowledge questions, items 1 to 4 were regarding participants' knowledge about the clinical presentation of COVID-19, items 5 to 8 were about transmission routes, and items 9 to 13 were questions of prevention and control of COVID-19. The response options to these items are "True", "False" and "Not sure" where a correct response receives 1 point and 0 points to incorrect or unsure responses. Scores of 10 and above indicate good knowledge while scores below 10 were interpreted as poor knowledge on COVID-19.

Part 3 comprises a total of 9 items, 5 items from the Coronavirus Anxiety Scale (CAS) by Lee (2020) and 4 items from Obsession with COVID-19 (OCS) also by Lee (2020). The Coronavirus Anxiety Scale consists of 5 items, each of which was scored on a 5-point scale ranging from 0 (not at all) to 4 (nearly every day) for the past 2 weeks. There is a strong correlation between COVID-19 and anxiety if participants scored equal to or more than 9 on the scale. The Obsession with COVID-19 Scale consists of 4 items where each item was rated on a 5-point scale ranging from 0 (not at all) to 4 (nearly every day) for the past 2 weeks. A total score equal to or more than 7 indicates probable dysfunctional thinking about COVID-19.

The survey was conducted via Google Forms where the questionnaires were distributed to students of the selected universities in Cyberjaya via Email and Whatsapp. A pre-test of the questionnaire was done on a few students from each undergraduate, diploma, and foundation course at the University of Cyberjaya which total up to 21 courses chosen by the researchers. The selected students were asked to provide feedback on the questionnaire so that the researchers could improve the set of questions as necessary.

JASP 0.14 software was used to analyze the quantitative data collected via the questionnaires. The data were descriptively analyzed, and odds ratio was used to further tabulate appropriate findings from the survey. Findings are considered statistically significant if the p-value is less than 0.05 with a confidence interval of 95%.

Participants who scored equal to or more than 9 on the Coronavirus Anxiety Scale (CAS) and/or equal or more than 7 on the Obsession with COVID-19 Scale (OCS) indicate probable psychological concern that may require medical attention or treatment. Hence, to address the potential severity of anxiety and obsession towards COVID-19 based on the Coronavirus Anxiety Scale (CAS) and Obsession with COVID-19 Scale (OCS), a letter of recommendation was sent via email to the aforementioned group of participants in order for them to receive medical consultation from a General Practitioner (GP) at a nearby health clinic.

3. Ethical Reference

This survey was approved by the Research Ethics Committee, Faculty of Medicine University Of Cyberjaya.

4. Results

Sociodemographic characteristics of university students in Cyberjaya

There were a total of 204 responses out of 216 total respondents in this study after excluding duplicates and responses that did not match our criteria. As shown in Table 1, the majority of study participants were female (64.71%), Malay ethnic (75.49%), and were studying science-related courses (92.65%). There was a discrepancy in the total number of data from the field of study due to invalid information provided by the study participants. However, the remaining data of the aforementioned participants were included in this study in the following tables.

Table 1. Sociodemographic characteristics of the respondents

Sociodemographic Variables		Frequency (n)	Percentage (%)
Gender	**Male**	72	35.29
	Female	132	64.71
Ethnicity	**Malay**	154	75.49
	Non-Malay	50	24.51
Field of Study	**Science**	189	92.65
	Non-science	13	7.35
Total		**204**	

Anxiety towards COVID-19

As shown in Table 2, 2.45% of university students in Cyberjaya had anxiety while the rest (97.55%) were not found to be anxious towards COVID-19. University students who had anxiety towards COVID-19 were only females (3.79%) while none was found to be anxious from the male category. Similarly, only Malays were found to be anxious (3.25%) compared to non-Malays who did not report any anxiety towards the virus. In the field of study, there was a higher prevalence of non-science university students in Cyberjaya who were found to be anxious at 7.69% as compared to science students who reported only 2.12% of anxiety. According to our results in table 3, there were no statistically significant associations between gender, ethnicity, and field of study with anxiety towards COVID-19 ($p > 0.05$).

Table 2. Prevalence of anxiety and obsession

Variable	Frequency (n)	Percentage (%)
Anxiety		
Normal	199	97.55
Anxiety	5	2.45
Obsession		
Normal	175	85.78
Dysfunctional	29	14.22
Total	**204**	

Table 3. Association between selected sociodemographic factors and anxiety

Sociodemographic Variables		Normal n (%)	Anxiety n (%)	Total n (%)	Odds ratio (95%CI)	p-value
Gender	**Male**	72 (100)	0	72 (100)	1	**0.988**
	Female	127 (96.21)	5 (3.79)	132 (100)	1.127e-7(-2119.254,2087.257)	
Ethnicity	**Non-malay**	50 (100)	0	50 (100)	5.252e+6(-2087.781,2118.729)	**0.988**
	Malay	149 (96.75)	5 (3.25)	154 (100)	1	
Field of Study	**Science**	185 (97.88)	4 (2.12)	189 (100)	3.854(-0.919,3.617)	**0.244**
	Non-science	12 (92.31)	1 (7.69)	13 (100)	1	

Obsession with COVID-19

Regarding obsession towards COVID-19, 14.22% of the study participants were found to be dysfunctional while the other 85.78% of students were normal as shown in Table 4. Those with a dysfunctional obsession towards COVID-19 were mostly females (17.42%), Malays (14.94%), and those studying non-science-related courses (15.38%) as compared to males (8.33%), non-Malays (12.00%), and those studying science-related courses (13.76%) respectively. However, there were no statistically significant associations between gender, ethnicity, and field of study with an obsession towards COVID-19 ($p > 0.05$).

Table 4. Association between selected sociodemographic factors and obsession

Sociodemographic Variables		Normal n (%)	Dysfunctional n (%)	Total n (%)	Odds ratio (95%CI)	p-value
Gender	**Male**	66 (91.67)	6 (8.33)	72 (100)	1	**0.082**
	Female	109 (82.58)	23 (17.42)	132 (100)	0.431(-1.791,0.107)	
Ethnicity	**Non-malay**	44 (88.00)	6 (12.00)	50 (100)	1.288(-0.708,1.214)	**0.606**
	Malay	131 (85.06)	23 (14.94)	154 (100)	1	
Field of Study	**Science**	163 (86.24)	26 (13.76)	189 (100)	1.140(-1.432,1.693)	**0.870**
	Non-science	11 (84.62)	2 (15.38)	13 (100)	1	

Knowledge on COVID-19

The prevalence of good knowledge about COVID-19 among university students in Cyberjaya was found to be 95.59%, while only 4.41% had poor knowledge as shown in Table 5. Whereas, Table 6 shows that there was a relatively poor level of knowledge on COVID-19 among females (4.55%), non-Malays (10.00%) and students studying non-science-related courses (7.70%) as compared to males (4.17%), Malays (2.60%), and students studying science-related courses (3.70%) respectively. Nevertheless, non-Malays were 4.167 times more likely to have a poor level of knowledge on COVID-19 as compared to Malays (OR = 4.167; 95%CI: 0.071, 2.783; $p < 0.05$). However, there was no significant association between gender and field of study with the knowledge on COVID-19 ($p > 0.05$).

Table 5. Knowledge of COVID-19

Variable	Frequency (n)	Percentage (%)
Knowledge		
Good	195	95.59
Poor	9	4.41
Total	**204**	

Table 6. Association between selected sociodemographic factors and knowledge on COVID-19

Sociodemographic Variables		Knowledge		Total n (%)	Odds ratio (95%CI)	p-value
		Good n (%)	Poor n (%)			
Gender	**Male**	68 (95.83)	4 (4.17)	72 (100)	1	**0.900**
	Female	126 (95.45)	6 (4.55)	132 (100)	1.095(-1.326,1.508)	
Ethnicity	**Non-malay**	45 (90.00)	5 (10.00)	50 (100)	4.167(0.071,2.783)	**0.039**
	Malay	150 (97.40)	4 (2.60)	154 (100)	1	
Field of Study	**Science**	182 (96.30)	7 (3.70)	189 (100)	0.462(-2.948,1.402))	**0.486**
	Non-science	12 (92.30)	1 (7.70)	13 (100)	1	

Knowledge on COVID-19 associated with anxiety and obsession

Based on Table 7, 2.56% of the university students with a good level of knowledge on COVID-19 were found to have anxiety towards COVID-19 as compared to university students with poor level of knowledge on COVID-19, in which none were found to have anxiety towards COVID-19. However, there was no significant association between knowledge on COVID-19 with anxiety towards COVID-19.

On the other hand, according to Table 8, university students in Cyberjaya who had a good level of knowledge on COVID-19 were 1.341 times more likely to experience dysfunctional obsession towards COVID-19 (95% CI: -1.823, 2.411; $p > 0.05$).

Table 7. Association between knowledge on COVID-19 and anxiety

Variables	Normal n (%)	Anxiety n (%)	Total n (%)	Odds ratio (95%CI)	p-value
Knowledge					
Good	190 (97.44)	5 (2.56)	195 (100)	**2.015e+6(-3453.165,3482.198)**	**0.993**
Poor	9 (100)	0	9 (100)		

Table 8. Association between knowledge on COVID-19 and obsession

Variables	Normal n (%)	Dysfunctional n (%)	Total n (%)	Odds ratio (95%CI)	p-value
Knowledge					
Good	167 (85.64)	28 (14.36)	195 (100)	**1.341(-1.823, 2.411)**	**0.786**
Poor	8 (88.89)	1 (11.11)	9 (100)		

5. Discussion

Our study investigated the levels of anxiety and obsession towards COVID-19 among university students in Cyberjaya within the period of two months. The findings from our study showed that 2.45% of the university students in Cyberjaya were having anxiety towards COVID-19 which interestingly differs from the study conducted among college students in China (Chang et al., 2020) where 26.60% of their participants showed symptoms of anxiety. This discrepancy may be due to the difference in study methods and screening tools used because our study used the Coronavirus Anxiety Scale (CAS) (Lee, 2020) while their study used the Generalized Anxiety Disorder 7 (GAD 7) questionnaire.

Other than the levels of anxiety, this study also examined the levels of obsession among university students using the Obsession with COVID-19 scale (OCS) (Lee, 2020). Our study found that 14.22% of the students were found to be dysfunctional which happens to be similar to a study conducted in Jordan where their students reported an obsession of 6.8% towards COVID-19 (Al-Shatanawi et al., 2021). This similarity may be due to the fact that the sample for both studies was mostly from science-related courses which might contribute to the low prevalence of obsession towards the virus.

However, this will be discussed further in the next section where we reveal the association between both anxiety and obsession with the sociodemographic factors (gender, ethnicity, field of study).

This study revealed that the female gender experiences higher levels of anxiety compared to males. Our findings were not statistically significant however it is similar to other studies (Irfan et al., 2021)(Sundarasen et al., 2020)(Tesema et al., 2021). Females have more difficulty in disengaging their attention from threatening stimuli and have more sensitive anxiety than males because they tend to overestimate the potential of threat as studied by previous research before (Tan et al., 2011)(McLean and Anderson, 2009). Since the pandemic of COVID-19 is an emergence of a new virus, the female students may perceive it worse than it should be leading to a higher level of anxiety contributed by the implementation of Movement Control Order where everyone was ordered to stay in their respective homes and avoid going to crowded places which may exacerbate their bad perception towards the virus itself.

We also found that the Malay students were found to be anxious compared to other ethnicities (Non-Malays; Chinese, Indian, others) but this is inconsistent with the previous study where they found that there were increased odds of having a higher level of anxiety among the Chinese students instead (Irfan et al., 2021). The previous study believes that Chinese students were more anxious towards COVID-19 because they worry about their families in China but since our study reveals higher anxiety among Malay students, it may be due to the high prevalence of Malay students that participated in our study compared to the prevalence of other ethnicities. However, the association between anxiety and ethnicity in our study was not statistically significant hence we could not offer a conclusion for this factor.

Compellingly, our study revealed that non-science students reported higher anxiety than students who study science-related courses. This corresponds to previous studies where students in management studies had higher levels of anxiety (Sundarasen et al., 2020) and lower levels of anxiety among those in medicine-based courses (Woon et al., 2021). Information on COVID-19 is widely spread after the pandemic began so everyone has the same opportunity to learn about the disease. However, non-science students may experience difficulties in understanding the virus since it is not their expertise hence leading to a higher level of anxiety compared to those who study science-related courses.

With regards to obsession towards COVID-19, our study found that females have a higher prevalence of dysfunctional obsession compared to males and this correlates to a previous study as well (Al-Shatanawi et al., 2021). This may be due to the fact that females are 1.6 times more likely to experience obsessive-compulsive disorder (OCD) than males as analyzed from various studies (Batya, 2020). Although the obsessive-compulsive disorder is not directly related to obsession towards COVID-19, having excessive thoughts suggests that an individual is obsessed with a certain issue. This study also revealed that there is a higher prevalence of dysfunctional obsession towards COVID-19 among Malays and those who study non-science-related courses. However, we were unable to compare these findings with any literature due to a lack of studies on this matter. These findings may be due to similar reasons stated during the discussion regarding associations between ethnicity and field of study with anxiety towards COVID-19 in the previous section.

According to our findings, the majority of university students in Cyberjaya have good knowledge of COVID-19, with a prevalence of 95.59%, and only 4.41% have poor knowledge. These results were in line with the previous

online survey of 4,850 Malaysian residents on Knowledge, Attitude, and Practice (KAP) towards COVID-19, which also revealed that the majority had a good level of knowledge on COVID-19, with an 80.5% accuracy rate on the knowledge questionnaire (Azlan et al., 2020). These findings could be a reason for effective infection control in the early period following MCO in Malaysia. Nonetheless, there were still a few percentages of people who have a poor understanding of COVID-19. Despite the fact that health authorities have consistently disseminated COVID-19 information since the disease was first discovered in Malaysia, there also has been an increase in false and inaccurate information (Azlan et al., 2020).

Based on our research, there was a relatively poor level of knowledge on COVID-19 among females (4.55%) as compared to males (4.17%). However, there was no significant association between gender with the knowledge on COVID-19 ($p > 0.05$). Similarly, a study conducted in Bangladesh also found that there was no significant correlation between gender and knowledge regarding COVID-19 ($p=0.829$) (Ferdous et al., 2020). However, based on another cross-sectional survey conducted in Malaysia by Azlan et al., 2020, revealed that there was a significant association between knowledge on COVID-19 and gender, females had a higher mean knowledge score of 10.6 compared to 10.3 for males ($p<0.001$).

This study also found that there was a relatively poor level of knowledge on COVID-19 among non-Malays (10.00%) as compared to Malays (2.60%), where non-Malays were 4.167 times more likely to have a poor level of knowledge on COVID-19 as compared to Malays (OR = 4.167; 95% CI: 0.071, 2.783; $p < 0.05$). In contrast, there was no significant correlation between ethnicity and knowledge of COVID-19 in another cross-sectional study conducted in Malaysia. ($p=0.46$) (Puwaneswarry et al., 2020). Due to the fact that Malay students make up the largest percentage of participants in our study compared to other ethnicities, there may be an imbalance that leads to inaccurate results.

Our findings also revealed that students taking science-related courses have a higher level of knowledge on COVID-19 than students taking non-science-related courses. However, there was no significant association between the field of study with the knowledge on COVID-19 ($p > 0.05$). Likewise, another research conducted among undergraduate students in Malaysia also found that science students have a greater level of knowledge of COVID-19 than non-science students, nonetheless, there was no significant association between the field of study and knowledge of COVID-19 ($p = 0.227$) (Shahrina et al., 2021). This could be because the majority of science students have a basic understanding of how the virus spreads. As a result, they gain a better understanding of COVID-19.

Among the university students with a good level of knowledge towards COVID-19, 2.56% of them were found to have anxiety towards COVID-19 as compared to those with a poor level of knowledge towards COVID-19 which none were found to have anxiety towards COVID-19. There was no significant association between knowledge on COVID-19 with anxiety towards COVID-19. This finding is consistent with a study conducted in Bengaluru, India by Shailaraja et al. (2020), which reported that there was no significant correlation between knowledge on COVID-19 with the level of anxiety ($p = 0.92$). However, a cross-sectional study in Wuhan, China, found that those with higher knowledge scores were less likely to have anxiety symptoms compared to those with lower scores (OR = 0.847, 95% CI: 0.724, 0.990) (Ding et al., 2021). The discrepancies in findings may be attributed to different timelines of the pandemic at which the studies were conducted, as the knowledge levels on COVID-19 may be expected to increase with time and that the anxiety towards COVID-19 may decrease with

time as the Malaysian government's initiative on COVID-19 vaccination proves to be successful and effective to prevent the rising death rates due to severe COVID-19 infections.

On the other hand, university students in Cyberjaya with a good level of knowledge on COVID-19 were 1.341 times more likely to experience dysfunctional obsession towards COVID-19 though the odds ratio analysis was not significant (95% CI: -1.823, 2.411; $p > 0.05$). This may be due to the convenience sampling method causing a non-randomized group of participants. Similarly, Al-Shatanawi et al., 2021 reported that university students who self-reported to be obsessed about the COVID-19 pandemic had significantly higher levels of COVID-19 knowledge ($p = 0.012$). This may be attributed to the fact that students with a dysfunctional obsession with COVID-19 are more likely to have a heightened sense of awareness and acquire information about the disease.

6. Conclusion

In conclusion, the prevalence of anxiety is quite low, with only 2.45% of respondents showing signs of anxiety towards COVID-19. The prevalence of dysfunctional obsession towards COVID-19 is quite high at 14.22%. The prevalence of good knowledge about COVID-19 is also high (95.59%). However, there is no significant association between sociodemographic factors with anxiety and obsession with COVID-19. As for the association between sociodemographic factors and knowledge about COVID-19, non-Malays are more likely to have poor knowledge compared to Malays. There is no significant association between knowledge on COVID-19 and anxiety of COVID-19, however, those with high knowledge are 1.341 times more likely to exhibit dysfunctional obsession towards COVID-19.

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8. References

1. Al-Shatanawi, T., Sakka, S., Kheirallah, K., Al-Mistarehi, A., Al-Tamimi, S., Alrabadi, N., Alsulaiman, J., Al Khader, A., Abdallah, F., Tawalbeh, L., Saleh, T., Hijazi, W., Alnsour, A. and Younes, N., 2021. Self-Reported Obsession Toward COVID-19 Preventive Measures Among Undergraduate Medical Students During the Early Phase of Pandemic in Jordan. Frontiers in Public Health, 9. (Online). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8606560/ (17 February 2022).
2. Azlan, A.A., Hamzah, M.R., Sern, T.J., Ayub, S.H., & Mohamad, E. (2020). Public knowledge, Attitudes and Practices Towards COVID-19: A Cross-sectional Study in Malaysia. PLoS ONE. 15 (5): e0233668. (online). https://doi.org/10.1371/journal.pone.0233668 (25 December 2020).
3. Batya S. Y., 2020. 'Worldwide Prevalence' of OCD Higher in Women vs Men. (online). https://www.medscape.com/viewarticle/934423#:~:text=A%20higher%20mean%20lifetime%20prevalence,some%20po

int%20in%20their%20lives (19 February 2022).

4. Chang, J., Yuan, Y., Wang, D. 2020. Mental Health Status and Its Influencing Factors Among College Students During The Epidemic of COVID-19. National Library of Medicine. (online). https://pubmed.ncbi.nlm.nih.gov/32376528/ (31 October 2020).
5. Daud, R. 2020. Lima Perkara Penting Sidang Media Ismail Sabri Hari Ini. Awani. (online). https://www.astroawani.com/berita-malaysia/lima-perkara-penting-sidang-media-ismail-sabri-hari-ini-267339 (31 October 2020).
6. Ferdous, M. Z., Islam, M. S., Sikder, M. T., Mosaddek, A., Zegarra-Valdivia, J. A., & Gozal, D. 2020. Knowledge, attitude, and practice regarding COVID-19 outbreak in Bangladesh: An online-based cross-sectional study. PloS one, 15(10), e0239254. (online). https://doi.org/10.1371/journal.pone.0239254 (2 February 2021).
7. Irfan, M., Shahudin, F., Hooper, V., Akram, W. and Abdul Ghani, R., 2021. The Psychological Impact of Coronavirus on University Students and its Socio-Economic Determinants in Malaysia. INQUIRY: The Journal of Health Care Organization, Provision, and Financing, 58, p.004695802110562. (online). https://doi.org/10.1177%2F00469580211056217 (18 February 2022).
8. Israel, G. D. (2012). Determining Sample Size. University of Florida IFAS Extension. (online). https://www.psycholosphere.com/Determining%20sample%20size%20by%20Glen%20Israel.pdf (8 January 2021).
9. Lee, S. A. (2020). Coronavirus Anxiety Scale: A Brief Mental Health Screener for COVID-19 Related Anxiety. Death Studies . 44 (7): 393 - 401. (online). https://doi.org/10.1080/07481187.2020.1748481 (8 December 2020).
10. Malaysia Expected to Enter the Third Wave of COVID-19. 2020. Bernama. (online). https://www.bernama.com/en/general/news_covid-19.php?id=1886014 (14 November 2020).
11. McLean, C. and Anderson, E., 2009. Brave men and timid women? A review of the gender differences in fear and anxiety. Clinical Psychology Review, 29(6), pp.496-505. (online). https://doi.org/10.1016/j.cpr.2009.05.003 (19 February 2022).
12. Ministry of Health. 2020. COVID-19 Malaysia Updates. (online). http://covid-19.moh.gov.my/sorotan/102020/peningkatan-kes-yang-mendadak-di-selangor (14 November 2020).
13. Puwaneswarry, M., Nathratul, A.Z., Gaaitheri, K., Lim, K.Q., Wong, Y.H., Tang, S.L., Ng, C.G. 2020. Development of Knowledge, Attitudes and Practices (KAP) towards COVID-19 Pandemic in Malaysia. Med & Health Dec 2020. 15(2): 262-275. (online). https://doi.org/10.17576/MH.2020.1502.23 (18 February 2022).
14. Shahrina, I., Sharifah, F.S.M., Fatin, A.R., Noor, A.I., Sharifah, N.S.M. 2021. KAP towards COVID-19: A Case Study of Undergraduate Students in Malaysia. The Malaysian Journal of Islamic Sciences. 33(4): 2289-4799. (online) http://doi.org/10.33102/uij.vol33noS4.421 (18 February 2022).
15. Shakirah MS, Ang ZY, Anis-Syakira J, Cheah KY, Kong YL, Selvarajah S, Balqis-Ali, NZ, Fun WH, Sararaks S. 2020. The COVID-19 Chronicles of

Malaysia. In the Face of a Pandemic: National Institutes of Health.

16. Sundarasen, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G.M., Khoshaim, H.B., Abid Hossain, S.F., Sukayt, A. 2020. Psychological Impact of COVID-19 and Lockdown among University Students in Malaysia: Implications and Policy Recommendation. International Journal of Environmental Research and Public Health. 17(17): 1-13. (online). https://pubmed.ncbi.nlm.nih.gov/32867024/ (26 October 2020).
17. Tan, J., Ma, Z., Gao, X., Wu, Y. and Fang, F., 2011. Gender Difference of Unconscious Attentional Bias in High Trait Anxiety Individuals. PLoS ONE, 6(5), p.e20305. (online). https://doi.org/10.1371/journal.pone.0020305 (19 February 2022).
18. Tesema, A., Shitu, K., Adugna, A. and Handebo, S., 2021. Psychological impact of COVID-19 and contributing factors of students' preventive behavior based on HBM in Gondar, Ethiopia. PLOS ONE, 16(10), p.e0258642. (online). https://doi.org/10.1371/journal.pone.0258642 (17 February 2022).
19. World Health Organization. Coronavirus Disease (COVID-19) - Events As They Happen. World Health Organization. (online). https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen (31 October 2020).
20. Woon, L., Leong Bin Abdullah, M., Sidi, H., Mansor, N. and Nik Jaafar, N., 2021. Depression, anxiety, and the COVID-19 pandemic: Severity of symptoms and associated factors among university students after the end of the movement lockdown. PLOS ONE, 16(5), p.e0252481. (online). https://doi.org/10.1371/journal.pone.0252481 (17 February 2022).