

Perceived Stress Level and Its Stressors Among Malaysian Undergraduate Nursing Students During COVID-19 Pandemic

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ABSTRACT

Introduction: As COVID-19 Pandemic hit across the globe, the closure of higher institutions and the shifting to online platform has become the stress factors related to learning activities for the nursing students. Hence, this study was conducted among Malaysian undergraduate nursing students to determine the level of perceived stress and to examine the relationship between the stressors and the perceived stress level. **Methods:** This is a cross-sectional study using convenience sampling conducted among undergraduate nursing students in one public university in Malaysia. The study participants (n=201) had been recruited by distributing an online survey which was consisted of three parts; socio-demographic characteristics, stressor factors, and Perceived Stress Score (PSS-10). **Results:** Majority of the respondents had moderate stress (n=154, 76.6%) with the total mean PSS-10 was 21.29 (SD=±5.57). Significant differences in PSS-10 score were found in terms of level of study, satisfaction in nursing study, current living location, and negative life events ($p<0.05$). **Conclusion:** The results from the study indicated that most of the undergraduate nursing students had moderate stress and it is associated with level of study, satisfaction in nursing study, current living location and the present of negative life events. This finding could inform the nursing lecturers and the Malaysian educational institutions for establishing a mechanism of identification and support system for the nursing students associated with the stressors.

Keywords: Academic, COVID-19, Nursing Students, Perceived Stress, Stressor

INTRODUCTION

Undergraduate nursing students are the vulnerable group that are prone to experience stress (1). This is because academic and clinical requirements for every semester in which they need to strive before they can graduate as a nurse (2). The stress level could have worsened among the nursing students as apparently the COVID-19 virus has become pandemic around the globe (3).

A report by International Association of Universities (IAU) of higher education institutions

across the world showed that more than 90% of surveyed institutions from 109 countries have replaced classroom instruction by remote teaching or are in the process of developing solutions to continue distance teaching and learning (4). As COVID-19 affected the teaching and learning, the shift from face-to-face to distance teaching, limited access to technical infrastructure, competences and pedagogies for distance learning and the requirements of specific fields of study such as in nursing could lead to stress (4).

According to Yazdani et al. (2010), stress is an individual's response to the stimuli and interaction between the individual and the environment. Stress is also a multidimensional phenomenon which is focused on dynamic relationship between the individual and the environment (5, p.208). Thus, changes in educational system environment due to COVID-19 in Malaysia can cause stress among university students.

The concern to the shift of teaching and learning among the students is that when the stress is not

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properly managed, it may lead to frustrations, nervous breakdown or other mental health problems (6). This is because stress is associated with the development of anxiety and depression, and a positive relationship between stress, anxiety and depression is well-established (7). Therefore, it is important to assess the level of stress among undergraduate nursing students as they are to be qualified as registered nurses and thus become the Malaysian asset for ensuring the quality of nursing care services in Malaysia.

According to Da Fonseca et al. (2019), a better management of stress symptoms among nursing students might improve long-term academic performance and can have positive health impacts for new professionals (8). Therefore, this study was conducted among undergraduate nursing students with the aims to determine the level of perceived stress and to examine the relationship between the stressors including socio-demographic characteristics and academic matters in COVID-19 situation and the perceived stress among the undergraduate nursing students.

METHODS

This is a quantitative cross-sectional study using convenience sampling among undergraduate nursing students of one public university located on the East Coast of Peninsular Malaysia. The respondents are chosen based on two criteria which are: 1) undergraduate nursing students, and 2) had registered for semester 2 2020/2021 (during the data collection period).

The self-administered questionnaire used in this study consisted of three parts. Part A was consisted of sociodemographic characteristics which included; gender, level of study, household income per month, parents' marital status, and cumulative grade per average (CGPA). Part B consisted of stressor factors questionnaires, are based on the literature for the satisfaction in nursing study (9 García-González et al., 2021), and current negative life events (10 Chi et al., 2020). Researchers also considered the study factors for stressors as undertaken by the nursing students in the undergraduate nursing program and in light of COVID-19 pandemic mode of teaching and learning, ie., the living situations of students, current mode of learning, number of academic and clinical assignments, and current living location.

Part C was to assess the level of perceived stress among the respondents using Perceived Stress Scale (PSS-10), ie., the widely used psychological instrument that measures the degree to which situations in one's life are appraised as stressful

(6). The perceived stress scale (PSS) was tested for its acceptable range of reliability and validity by various previous studies with alpha value, α ranging from .78 to .87 (12-13).

The questionnaires were using Likert scale (0 - never, 1 - almost never, 2 - sometimes, 3 - fairly often, and 4 - very often) and the total score was categorized as low stress (scores ranging from 0-13), moderate stress (scores ranging from 14-26), and high stress (scores ranging from 27-40). For hypothesis testing which is to examine the relationship between the stressors and the level of perceived stress among the participants, the researcher used the total score instead of the category of stress.

The data was collected from early April to the end of May 2021 through online survey and only those who met the inclusion criteria were recorded in this study. Ethical approval was obtained prior to this study. All the data was treated as confidential.

The data collected was analysed using SPSS (ver.25.0). Descriptive analysis is presented in tables using frequency, percentage, mean and standard deviation to evaluate the sociodemographic characteristics, stressor factors, and Perceived Stress Score (PSS-10). Independent t-test, and One-way ANOVA were used to examine the relationship between variables. The data were then interpreted based on p-value with level significant is set below than 0.05.

RESULTS

A total of 201 undergraduate nursing students had enrolled voluntarily in this study. male respondents were 45 (22.4%), and female respondents were 156 (77.6%). Majority of respondents were final year students ($n=75$, 37.3%), came from B40 household income or lower-income group as referred in Malaysian income classification ($n=130$, 64.7%), married parents ($n=178$, 88.6%), and obtained 3.49 and below in CGPA ($n=105$, 52.2%). In Table 1, majority of respondents had moderate stress ($n=156$, 76.6%) compared to the rest. Overall, the mean score for PSS-10 was 21.29 ($SD=\pm 5.57$) which is in the category of moderate stress, with minimum score of 6.0, and maximum score 36.0.

Based on the Table 2, there were no significant difference between perceived stress among respondents according to gender, household income per month, parents' marital status, and CGPA ($p > 0.05$). However, there was significant difference between perceived stress, and the level of study as $p < 0.05$. Respondents who were in their

first-year of study had the highest stress ($M=23.09$, $SD=\pm 5.25$) compared to the other level of studies.

There were significant difference between perceived stress among respondents according to satisfaction in nursing study, current living location, and current negative life events ($p<0.05$). Respondents who were neutral/dissatisfied in nursing study was more stress ($M=22.94$, $SD=\pm 5.52$) than those who were satisfied. Moreover, respondents who currently live at hometown were more stress ($M=22.71$, $SD=\pm 5.24$) compared to those at the campus. Besides, respondents who had none of negative life event were more stress ($M=22.25$, $SD=\pm 5.14$) compared to those who had at least one.

However, there was no significant difference between perceived stress among respondents according to current method of learning, number of academic or clinical assignments as $p>0.05$

Table 1: Perceived Stress Level among undergraduate Nursing Students (N=201)

Variables	Mean (\pm SD)	Min	Max	n	%
Total score	21.29 (5.57)	6.00	36.00	-	-
Category of stress					
Low	-	-	-	14	7.0
Moderate	-	-	-	154	76.6
High	-	-	-	33	16.4

^bhypothesis was tested using One-way ANOVA

* Result is significant at $p<0.05$

Table 2: The relationship between the stressors and perceived stress level (N=201)

Variable	Mean (\pm SD)	t/ F-value	p-value
Gender		0.78 ^a	0.44
Male	45 21.87 (5.98)		
Female	156 21.13 (5.46)		
Household income per month		0.42 ^a	0.68
(RM)4849 (B40) and below	130 21.41 (5.25)		
RM 4850 (M40) and above	71 21.07 (6.16)		
Parents' marital status		1.10 ^a	0.27
Married	178 21.45 (5.78)		
Divorced/widowed	23 20.09 (3.42)		
Cumulative Grade Point Average (CGPA)		-0.16 ^a	0.88
3.50 and above	96 21.23 (5.85)		
3.49 and below	105 21.35 (5.33)		
Level of study		5.51 ^b	0.00*
First year	47 23.09 (5.25)		
Second year	39 22.41 (5.69)		
Third year	40 18.68 (5.50)		
Final year	75 20.99 (5.27)		
Satisfaction in Nursing study		-4.25 ^a	0.00*
Satisfied	103 19.73 (5.18)		
Neutral/ dissatisfied	98 22.94 (5.52)		
Current method of learning		1.03 ^a	0.31
Online mode	103 21.74 (5.10)		
Hybrid mode	98 20.93 (5.93)		
Current living location		1.88 ^a	0.04*
Hometown	49 22.71 (5.24)		
Campus	152 20.84 (5.62)		
Current negative life events		1.67 ^a	0.05*
None	22.25 (5.14)		
At least one event	20.59 (5.54)		
Number of academic/clinical assignments (practical) (average number of assignments in the program per semester = 7)		0.7 ^a	0.49
7 or below	133 21.10 (5.70)		
8 and above	98 21.68 (5.34)		

DISCUSSION

Our result showed that the majority of nursing students were having moderate stress and only below a quarter (16.4%) students had high perceived stress. In similar, the study by Aslan and Pekince (2021) among nursing students reported the moderate score of perceived stress ($M=31.69 \pm 6.91$) (1). Meanwhile, Taleb et al. (2020) which focused on students enrolled in health professions faculties concluded that the levels of stress were moderate across all these programs using the Perceived stress scale (PSS-10) (14).

Another study by Awoke et al. (2021) which also used PSS-10 recorded that more than one-third (39.5%) students experienced high perceived stress with the cut-off score of equal to or higher than 25 (15). However, the result from the current study only involves the undergraduate nursing students which can be considered as a small scale of study as compared to the study by Awoke et al., (2021) which was conducted among health sciences university students.

There was a significant relationship between level of study with the perceived stress of respondents. The first-year students recorded the highest stress compared to other level of studies. It is contradicted to a study by Elias et al (2011), stated that the final year students were found to be the most stressful group among the undergraduate students (16).

The high stress among first-year students could be due to the implication of COVID-19 pandemics since early 2020 which have shifted new norms of learning due to Movement Control order (MCO). It is supported with a study by Aslan and Pekince (2020), who stated that the stress levels of those between 18 to 20 years of age might have been increased due to the interruption of education and clinical practices during their early educational life, lack of professional knowledge and skills, felt anxious to pass the lesson, and the imposed curfew (1).

It was found that students who were neutral or dissatisfied with their nursing study had higher perceived stress than those students that were satisfied. Rathnayake and Ekanayaka (2016) stated that satisfaction with current program was an important factor behind the development of negative emotional issues than their interest toward the nursing course. It could be inferred that satisfaction in the enrolled course is important to determine the emotional well-being rather than the interest of the course (17).

Moreover, students that currently stayed at their hometown had higher perceived stress than students that currently stayed at the campus. Besides commitment in study, students who stayed at home had family commitment which they need to take care of, which added their stress. In supporting this, a study carried out by Acharya and Charlise (2015) on university nursing students found that less perceived family support was related to higher academic stress (6)

Furthermore, students who had at least one negative life event had lower perceived stress than students who had no negative life events. The students with at least one negative life event might have received emotional support which was not measured in this study as compared to those without negative event. Hence, their score on perceived stress was significantly lower as compared those without encountering negative life event.

CONCLUSION

Overall, as the COVID-19 hits the world, the mental health issues have become the main concern towards the university nursing students. Their study has been affected by the remote learning, and has to practise strict infection control during clinical training. The study revealed that majority of the students had moderate perceived stress. Nursing students who are first- year, currently living at hometown are the students that need to give attention on their mental health issues. Besides, university administrators need to periodically assess the satisfaction of study among students as it might affect their mental health.

As part of the study limitations, the study findings are limited to nursing students and not generalized for other undergraduate students from other programs. Moreover, the small sample size especially the sample of male nursing students and only a particular institution is also presented as a limit in this study. Meanwhile, this study is not identifying the correlation between lockdown due to pandemic crisis with the level of perceived stress. Last but not least, this study was not measuring the social support, and distraction activities which could possibly affect/contribute to stress level among the students.

CONFLICT OF INTEREST

The authors would like to declare that there was no conflict of interest in publishing this research finding.

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