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The Effect of Stress on Distance Learning Nursing Degree Students: A Cross-Sectional Study

Rosuzeita Fauzi[1*], Muhamad Fauzi Mazlan[2], Muhammad Ariff A Rahman[3] Siti Khuzaimah Ahmad Sharoni[4] and Roslinda Isa[5]

[1,2,3,4,5] Centre for Nursing Studies, Faculty of Health Sciences, Universiti Teknologi MARA Cawangan Selangor, Malaysia
**Corresponding author: [1]rosuzeita@uitm.edu.my*

ABSTRACT

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Nursing is acknowledged to be a stressful profession worldwide. Being a nurse and a student at the same time is a considerable challenge. Many part-time students experienced stress as they complete their studies. This study aims to investigate the level of stress among e-PJJ nursing degree students. It also seeks to identify the causes and effects of stress on the students. This study applied a quantitative cross-sectional study design. Purposive sampling was used to select the target population of 96 e-PJJ nursing degree students at UiTM Selangor, Puncak Alam campus. The participants included all nursing degree students who were enrolled in a flexible learning course. This study was conducted between January 2019 and January 2020. The study showed most of the respondents had mild stress to severe stress. Headache was identified as the most common effect of stress, while the less common effect is drastic weight loss. Two significant academic factors, feeling stressed as the submission deadline neared and sitting for the examination, were the most influential in causing stress. The one-way ANOVA found statistical differences between the number of children and the stress level. A Tukey post hoc test revealed that those with two children have a significantly higher level of stress, followed by those with one child and those with four children. In conclusion, this study found that most e-PJJ nursing degree students experienced stress, mainly at a low level. Well-managed stress is essential in ensuring part-time students can succeed both in their work and studies.

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1. INTRODUCTION

Nursing education in Malaysia is undergoing continuous major transformation at a more advanced level. Implementation and constant professional development practices are seen as an advancement of practice in the nursing profession. On the other hand, with the support of higher authority, there have been many universities that offer undergraduate courses in nursing with flexible study time or part-time distance study. This career advancement does not come easily. A lot of hard work and sacrifice are contributed to achieving success. It should be noted that previous studies have indicated that the undergraduate nursing education system is evident in putting students through a stressful phase (Brown et al., 2016).

Distance learning or part-time students involved in this profession deal with stress in the workplace and their studies. It is clear from the extensive evidence in the literature that nursing is acknowledged to be a stressful profession worldwide (Lim et al., 2010). The research study by Ugwoke et al. (2018) also found that academic stressors are consistently highly ranked in studies where participants are associated with packed schedules, busy juggling study, and work-life, including extracurricular activities. These activities can take a toll on the physical and mental health of the students, mainly if they do not get enough rest or sleep. If left untreated, these stressors can compound over time, leading to even greater levels of stress. There is ample evidence supporting the pressure of working and studying at the same time. Preparing for examinations and acquiring professional knowledge, skills, and attitudes were reported as the most stressful aspects of the medical or health profession training by Kulsoom (2015) as many skills and knowledge need to be acquired in a short period.

Stress is produced through an individual's interaction with their environment due to their evaluation of their ability to cope with a demanding situation that exceeds the resources available to them, thus endangering their physical, psychological, and emotional well-being (Lyon, 2012). Stress may result in adverse health effects, low achievement in their studies, and low job performance. Previous studies have indicated that one-third of all college students ranked "stress" as the highest health affecting symptoms which caused anxiety, depression, and poor sleeping pattern (Ugwoke et al., 2018). Stress in students occurs when they need to juggle between work and studies, where both aspects require goals and objectives that need to be met quickly. Apart from that, identifying stressors and the stress level is very important in maintaining a part-time student's lifestyle. Evans et al. (2007) reported that previous studies showed that preparing assignments for submission and juggling between work commitments and study were items with the highest stress ratings with 94.0% and 92.9%. Other potential stressors included workload, completing assignments (51%), and the writing demands at the necessary academic level (32%). In addition, headache and sleep disturbance were the most common symptoms of stress. People are usually unaware and do not notice that they are under stress until it is too late, as the signs may not be obvious initially. In maintaining a healthy lifestyle, it is vital to be aware of and notice all stress symptoms from the beginning and treat them with appropriate stress coping methods.

Stress among nurses is evident in the literature on nursing, but there is little information on the specific stressors that affect registered nurses undertaking further academic studies (García & Ayala, 2017). Therefore, this study aims to investigate the level of stress among e-PJJ nursing degree students. It also seeks to identify the main stressors that contribute to stress among e-PJJ nursing degree students. Knowing the symptoms of stress and the factors that may predispose to stress could help students reduce or prevent stress-related incidences. Early detection could be made so that prevention and coping measures can be taken.

2. METHOD

2.1 Study Design, Location, and Sampling

This study was based on a quantitative cross-sectional study design. The study was conducted at the Faculty of Health Sciences, UiTM Selangor, Puncak Alam campus. The targeted population for this study was the e-PJJ nursing degree students. In this study, the operational definition for e-PJJ is an e-learning system that offers working adults to engage in a distance learning programme. A purposive sampling method was used where 96 students were chosen from a sample of students in total. Each of the respondents was selected according to each group's name list according to inclusion criteria and asked whether they are willing to participate in this study or not.

Sampling size was determined using the formula table develop by Krejcie and Morgan (1970). Based on the formula table, the sample size required is 96 students. Ethical clearance had been obtained from Research Ethics Committee UiTM: 600-IRMI (5/1/6). All the respondents who took part in this study were given a subject information sheet and consent before distributing the questionnaire. The study protocol, including the documentation data and all other information generated, is strictly confidential. No information will be released to any unauthorized third party without prior written approval.

2.2 Research Instrument

A two-section questionnaire was used for data collection. Section A was to gauge demographic data. It consists of six questions to gather respondents' demographic data, including gender, age, marital status, number of children, monthly income, and current semester. Section B presented the Student Stress Inventory (SSI), with 40 items adapted from Mohamed Arip (2016). The SSI consisted of two-part; Part I measured the effect of stress, consisting of 10 items, while Part II consists of three subscales to determine the level and cause of stress among students. The three subscales are Interpersonal Relationship, Academic, and Environmental. Each part was measured using the Likert scale where the designed ordinal scale of "Never-1," "Somewhat Frequent-2," "Frequent-3," and "Always-4" is used. The value mark given for each choice is 1 for "Never," 2 for "Somewhat Frequent," 3 for "Frequent," and 4 for "Always." Finally, scores for all items will be calculated to see which subscale gave the highest scores. All scores for each subscale will be totalled to determine the stress level. It is suggested that those who obtained a score between 122 to 160 reflected having "severe stress," whereas a score between 81 to 121 reflected having "moderate stress," and those who obtained a score of 40 to 80 were having "mild stress." The administration process took approximately 15 to 20 minutes.

2.3 Statistical Analysis

Data collected was analysed by using IBM SPSS version 25.0. Demographic data, stress level, causes, and effects of stress were analysed using descriptive statistics with means, standard deviations, frequencies, and percentages. Independent t-test and one-way ANOVA were used to determine the relationship and differences between sociodemographic factors with the level of stress. The accepted significance was set at $p<0.05$.

3. DATA ANALYSIS AND RESULTS

3.1 Demographic Data

As shown in Table 1, the highest percentage of participation in this study was 89 females (93%), followed by seven males (7%). Most of the participants were those in the age range of 31-40, with 65 (68%) participants. Besides that, more than half of the participants were married, with 63 (66%) participants and only 2 (2%) were widowed. A total of 51 (53%) participants has one child, and only 4 (6%) have more than five children. Most of the participants in this study have a monthly income between RM 4,000.00-6,000.00 (58%).

Table 1. Sociodemographic Characteristics of e-PJJ Nursing Degree Students

Demographic	**Frequency**	**%**
Gender		
Male	7	7
Female	89	93
Age		
20-30	25	26
31-40	65	68
41-50	5	5
≥ 51	1	1
Marital status		
Married	63	66
Single	31	32
Widowed	2	2
No. of child		
1	51	53
2	26	27
3	9	9
4	6	6
5 ≥	4	4
Monthly income (MYR)		
1000 - RM3000	36	38
4000 – RM6000	58	60
7000 – RM9000	2	2
≥ 10000	0	0

3.2 Stress among e-PJJ Nursing Degree Students

The results from the Student Stress Inventory (SSI) for this study are shown in Table 2. The total mean (SD) score for SSI was 74.79 (16.79), whereby the maximum score was 128, and the minimum score was 40.

Table 2. Level of Stress among e-PJJ Nursing Degree Students (N=96)

Variable	**Mean**	**SD**	**Min**	**Max**
Total Score SSI	74.79	16.79	40	128
Subscale score				
Physical	18.57	4.71	10	29
Interpersonal Relationship	15.33	4.73	10	35
Environment	20.82	6.52	10	36
Academic	20.05	5.85	10	36

Table 3 shows the level of stress by categories. The result showed that the majority of students have *"mild stress"* 67.7% (n=65), followed by *"moderate stress"* with 29.2% (n=28), and only 3.1% (n=3) of the students experienced *"severe stress."*

Table 3. Level of Stress among e-PJJ Nursing Degree Students (*N*=96)

Level of Stress	Frequency (*n*)	Percentage (%)
Mild	65	67.7
Moderate	28	29.2
Severe	3	3.1

3.3 Effect of Stress among e-PJJ Nursing Degree Students

Table 4 presents the responses on the effect of stress. The result obtained indicated that *"headache"* is the most significant effect of stress, with a mean (SD) score of 2.36 (0.88). Also, students indicated other physical symptoms, including *"back pain"* with a mean score of 2.31 (0.87), *"constant tiredness or fatigue"* with a mean of 2.16 (0.86), and *"sleep problem"* with 2.10 (0.92). The three lowest mean (SD) score was for *"sweating or sweaty hands"* with a mean score of 1.53 (0.632), *"difficulty breathing"* with a mean score of 1.38 (0.72), and *"drastic weight loss"* with a mean score of 1.34 (0.72).

Table 4. Mean and Frequency Effects of Stress for Each Item (*N*=96)

Effect of Stress	Mean	SD	Frequency			
			Never	Somewhat Frequent	Frequent	Always
Total Effect of Stress	18.57	4.71				
Subscale effect of stress						
Physical Symptoms						
Headache	2.36	0.88	14	45	25	12
Back pain	2.31	0.89	14	51	18	13
Sleep problem	2.10	0.92	27	41	19	9
Difficulty breathing	1.38	0.72	71	16	7	2
Excessive worry	2.03	0.83	26	46	19	5
Stomach pain and nausea	1.56	0.74	56	26	14	0
Constant tiredness or fatigue	2.16	0.86	20	50	17	9
Sweating or sweaty hands	1.53	0.63	52	37	7	0
Frequently cold	1.79	0.83	43	32	19	2
Drastic weight loss	1.34	0.72	75	11	8	2

3.4 Main Causes That Lead to Stress among e-PJJ Nursing Degree Students

Table 5 shows the causes of stress among the e-PJJ nursing degree students. It is clear that the highest causes of stress from the *"Interpersonal Relationship"* subscale are for item "I feel guilty if I fail to fulfil my parent's hope," which was 63.5 %. The lowest percentage was for the item *"My families are not supportive,"* with 13.5%. Thus, these findings show that the majority of the students feel obliged to fulfil their parents' aspirations and will most likely strive to achieve them causing additional stress even though their families are supportive. Furthermore, for the *"Environmental"* subscale, the highest percentage was 90.6% for item "I feel scared being in an insecure place," and the lowest percentage is 21.9% for item *"I have a transportation problem."* These findings revealed how well the e-PJJ students are at adjusting to the social environment and how high or low their resiliency level is. However, for the *"Academic"* subscale, the findings showed that most e-PJJ students, or 90.6% of them, agreed with the item