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Personality Characteristics of Nursing Students with Stress Perception in Clinical Practice in the Era Covid-19 Pandemic

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Abstract:

Objective: To investigate the relationship between personality traits of nursing students and perceived stress in the clinical environment in the Era Covid-19 Pandemic.

Methods: This cross-sectional study was conducted on 215 nursing students. Participants were selected through stratified random sampling from nursing students who practice in hospitals. The data collection instruments were a demographic questionnaire, short-form NEO Personality Inventory, and Perceived Stress Scale. Data analysis was performed through an independent sample t-test, Pearson correlation analysis, and one-way analysis of variance.

Results: The average value of perceived stress was 43.74±10.25 out of 56, which indicates a high level of stress. The neuroticism personality trait had a significant positive correlation with perceived stress, while the extraversion and agreeableness personality traits had a significant negative correlation with perceived stress.

Conclusion: Hospital management needs to use strategies to identify nursing students who are at risk of stress and increase their psychological readiness to attend clinical environments in the Era Covid-19 Pandemic

Keywords: Students Nursing; Personality Inventory; Stress Psychological; Neuroticism, Covid-19

Introduction

The COVID-19 pandemic has brought unprecedented disruption to the world. Immediately after the outbreak, no effective intervention can stop the spread of the virus except the implementation of lockdowns [**1**]. Clinical education is very stressful for nursing students [**2**]. In clinical environments, nursing students experience varying degrees of stress due to stressors such as lack of professional knowledge and skills, theory-practice gaps, inability to communicate effectively with patients, fear of making mistakes, feelings of incompetence, and patient observation. suffering and death [**3**]. Stress has a negative effect on nursing student learning and can be associated with academic failure and unhealthy behavior [**4**]. Whereas the strategy of developing the capacity of nurses in health services can be realized by; education and training based on spiritual aspects and technological aspects in developing nurse capacity [**5**]. The orientation guidance method used has a positive influence in guiding new nurses to achieve the desired level of ability so that the quality of nursing services can be maintained and improved [**6**]. Personality traits are strong predictors of the ability to cope with stress [**7**]. There are five main personality traits, namely, neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness [**8**].

Based on phenomena occurring in the clinical environment, various aspects of students' personalities and identifying the relationship of their personality traits to their perceived stress can provide valuable information about their behavior and help health authorities create a more appropriate clinical learning environment. On this ground, the purpose of this study was to investigate the relationship between the personality traits of nursing students and the stress they feel in the clinical environment.

Method

This cross-sectional study was conducted in October 2021. The population of this study was nursing students in the third to eighth semesters. They were selected through stratified random sampling. Initially, the sample size was calculated to be 223. Then, the number of students to be sampled from each school year was determined based on the number of students in that year. Finally, a list of student names and a table of random numbers were used to select eligible students. Inclusion criteria were a full-time study in nursing, no history of self-reported mental disorders or drug abuse, no history of significant life events in the past 6 months, and having passed at least one clinical education course in a hospital. Incomplete answers to the research instrument are the only exclusion criteria. Data were collected using a demographic questionnaire, the NEO Personality Inventory short form, and the Cohen's Perceived Stress Scale. The NEO Personality Inventory has 60 items on five major personality traits, namely, neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Items are scored on a five-point Likert scale from zero ("strongly disagree") to 4 ("strongly agree"). The data collection instrument was uploaded on the internet and a link was sent to the participant's cellphone and asked to complete the instrument online. The collected data were analyzed using SPSS software. Descriptive statistical measures were used for data description and independent sample t-test, Pearson correlation analysis, and one-way analysis of variance were used for data analysis. The Kolmogorov–Smirnov test was also used to test for normality.

Results

Findings show that in total, 223 students answered the learning instrument. Eight students were excluded due to incomplete instrument answers, history of anxiety, or history of drug abuse, and data obtained from 215 participants were analyzed. On average, participants were 20.73 years old. Most of the participants were female (58.6%), single (85.1%), had a mean score of 16-18 (61.9%), and had a moderate to high interest in nursing (65.2%). The personality traits with the highest and lowest scores were agreeableness (mean 31.85±9.17) and extraversion (mean 23.38±9.03) [Table 1]. The participants' average perceived stress score was 43.74 ± 10.25, indicating a high level of stress.

The results of the stress perception score had a significant positive correlation with the neuroticism personality character score ($r = 0.502$; $P < 0.001$) and a significant negative correlation with extraversion ($r = – 0.309$; $P = 0.001$) and agreeableness ($r = – 0.294$; $P = 0.001$). personality traits [Table 1]. Female students had significantly higher stress levels than male students (33.53±7.86 vs 27.26±5.33, $P <0.001$). Third, fourth, and fifth-semester students had significantly higher stress than seventh and eighth-semester students (respectively: 33.38±8.32, 32.07±5.67, 33.41±6.96 vs. 30.55±5.32, 25.89±6.60). $P < 0.001$), and students with an average score of more than 18 had higher stress levels than students with an average score of less than 16 (34.33±7.16 vs 27.24±6.53, $P = 0.002$). Also, female students obtained significantly higher neuroticism scores than their male counterparts (31.14±8.77 vs 26.56±6.11, $P < 0.05$).

Discussion

The findings showed that the most and least common personality traits were agreeableness and extraversion, respectively. A previous study in Iran also reported the same findings [**9**]. However, other studies report other personality traits as the most common traits among nursing students [**10**]. That there is a relationship between nursing student behavior about clinical practice and anxiety in fourth-semester students. This contradiction is due to the effect of sociocultural factors on personality traits [**11**].

The research findings indicate the level of perceived stress among nursing students.

The results of the stress perception score had a significant positive correlation with the neuroticism personality character. A study also reported that nursing students experience high levels of stress at work [**12**]. However, one study reported moderate stress among nursing students [**13**]. That a study said that there was a significant relationship between the hospital environment and nursing student anxiety [**14**]. This inconsistency could be due to the differences between these studies in terms of their settings and the personal and social characteristics of their participants. In providing care to patients, students often face difficult situations, and often create stress due to direct contact with the patient's illness, pain, suffering, disability, and death [**15**].

We also found higher levels of perceived stress among students with neurotic personalities. Previous research has also shown that students with the neurotic personality trait experience more stress in the academic environment. Individuals with the neurotic personality trait usually have negative feelings at work and have negative attitudes towards their work. In contrast, our findings suggest lower stress levels among students with extraversion and agreeable personality traits. A study on nursing students also showed that students with extraversion and sociability personalities could cope better with stressful conditions [**16**]. Spiritual intelligence can affect the competence of nursing students in providing spiritual care to patients. Therefore, to promote students' spiritual intelligence, appropriate plans to promote the level of critical thinking and spiritual self-awareness are recommended [**17**].The explanation for this finding is that individuals with extraversion and agreeable personality traits typically have stronger social interactions.

Another finding of this study was that perceived stress levels were significantly higher among female students and junior students. A previous study also reported higher stress levels among female students. However, contrary to our findings, the junior students in the study had lower stress levels [**18**]. Senior students have greater clinical experience and skills and therefore they are expected to experience lower levels of stress in a clinical setting. We also found higher stress levels among students with higher average scores. Similarly, a study showed that students with better academic performance had more stress in the academic environment [**19**]. Other research shows that there is a very close relationship between motivation and learning achievement [**20**]. Increased spiritual intelligence is needed in the student's academic process to cope with stressors so that the student's stress response becomes positive [**21**]. The learning system often makes nursing students complain due to the hectic assignments and class schedules [**22**]. Another study said that schools should pay attention to students' mental health by providing psychological support to reduce student anxiety [**23**]. The mentoring program appeared to be a promising way to smooth the transition for newly graduated nurses. The experienced supervising nurses were key to the success of this complex program, supporting the new nurses at the bedside and being available to respond to their questions and reflections [**24**]. Clinical workflows change over time, leading to mismatches in nurse care coordination, social practice, and technology use

This study has several limitations. For example, answering multiple items from a study instrument item may have been associated with boredom for participants. In addition, the psychological status and social problems of the participants at the time of the study may have influenced their responses to the research instrument. The small sample size may also reduce the generalizability of the findings. Further study with a larger sample of students is recommended. However, the results of this study can provide solutions and suggestions for teaching hospital management to be able to pay attention to nursing students in carrying out the clinical practice.

Conclusion

This study presents actual evidence that nursing students experience high levels of stress in clinical settings, and their stress levels have a significant relationship with their personality traits. To minimize problems that develop, Hospital Management is advised to conduct a screening program, before starting clinical courses to identify those at risk of stress and provide them with education on stress management and providing pre-clinical

education to nursing students in a simulated clinical environment can help them better manage their stress in the actual clinical setting.

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Table 1: Scores of personality traits and their relationships with the score of perceived stress

Personality traits	Mean ± SD	Range	Correlation with perceived stress	
			r	***P*-value**
Neuroticism	29.31±8.11	0–48	0.502	0.001
Extraversion	23.38±9.03	0–48	0.309	0.001
Openness to experience	27.54±6.87	0–48	0.145	0.121
Agreeableness	31.85±9.17	0–48	0.294	0.001
Conscientiousness	26.95±8.14	0–48	0.063	0.506