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Level of perceived stress and coping styles through positive mental health among nursing students in Hail, Saudi Arabia

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ABSTRACT

This study aims to determine the level of stress and the coping style through positive mental health status among student nurses. Further, it aimed to look into the relationship between the level of stress and positive mental health. The study was conducted at the University of Hail, College of Nursing using the descriptive cross-sectional approach. Data was gathered in three months from November to January 2020 through a self-administered questionnaire. There were 175 student nurses who participated in the study as a result of simple random sampling. Descriptive statistics were used to describe the demographic characteristics of the nursing students, perceived stress, and positive mental health. T-test was used to determine differences in age, gender, marital status, and academic program while one-way ANOVA was used at an academic level. Pearson's product moment of correlation was used to establish a relationship between perceived stress and positive mental health. Results revealed a moderate level of stress (Mean=24; SD=5.83) and a restrained Positive mental health status (Mean=103 SD=11.78) among the student nurses. Gender (p=.017) showed significance in terms of positive mental health status. There is no significant relationship (p=0.987) between Positive Mental Health and Perceived Stress among the nursing students in Hail, Saudi Arabia. Saudi nursing students experienced moderate to high levels of stress and a moderate level of positive mental health. Gender is significant in positive mental health. As no correlation was deemed between perceived stress and positive mental health, enhancement of coping strategies is recommended to train student nurses to handle stress and promote positive mental health.

1. Introduction

Nursing is mentally challenging. As nurses are essential in the provision of quality care and protection of health among patients, their mental health must be of optimum condition (Du et al., 2020). In order to utilize critical thinking and improve the quality of nursing service, nurses must have a positive psychological attitude and a healthy work environment (Duan et al., 2019). The World Health Organization (WHO) has emphasized the importance of mental health as an integral element in the promotion of health (WHO, 2007). Pacheco et al. (2017) said that better physical health emanates from having high psychological well-being, which results in a logical perception of others and alleviates burnout and unprofessional behavior.

Stress among nurses can have a negative impact on their mental health, which can lead to several conditions such as burnout, depression, and lack of compassion and empathy (Khamisa et al., 2015). Stress is defined as an alteration in the homeostasis of a person due to various factors that may affect the physical, mental, emotional, and behavioral aspects of a person (Albaqawi, 2018; Chipas et al., 2012). The presence of stress in a nursing environment poses a health hazard resulting in poor clinical judgment and compromised patient safety (Hiler et al., 2018). Problems in adequate staffing, lack of recognition from management, complex patient acuity, and lack of autonomy are among the identified nursing stressors (Mealer, 2016; Mohammed et al., 2016; Rushton et al., 2015). Of interest, nursing students have a fair share of stress (Evans and Kelly, 2004). Stress in nursing begins at the grassroots wherein a student juggles the rigorous academic curriculum with clinical learning and personal obligations (He et

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al., 2018). Among the identified stressors of nursing students are financial difficulties, absence of free time, sleep deprivation, and family responsibilities (Chernomas and Shapiro, 2013). This generates psychological complications such as anxiety, conflict, loss of confidence, and feelings of incompetence among nursing students (Poronsky, 2013).

Widely, stress and mental health among nursing students are prevalent in literature. For example, the study by Devakani et al. (2019) reported that psychological distress among nursing students in India was high during the first year and greatly reduced in the final year. Thus, results were suggestive of more support and consideration that must be given to students entering the nursing program. In the United States, nursing students were found to experience higher stress levels and exhibited more stress-related issues such as anxiety, migraines, and infections (Barlett et al., 2016). Zhang et al. (2018) found a positive association of perceived stress with the quality of sleep and symptoms of anxiety and depression in a public university in the US. Meanwhile, in Hong Kong, lifestyle factors such as exercise, lack of time for leisure and quiet time, and sleep problems contribute to poor mental health among nursing students (Cheung et al., 2016). Cilar et al. (2019) studied the mental well-being of nursing students in Slovenia and Ireland. Results revealed a higher state of mental well-being in Slovenia as compared to Ireland due to enhanced student supportive services of the university.

To the best knowledge of the researchers, literature is sparse in Arab countries regarding stress and mental health concerning student nurses. Thus, this current study would be of significance. In Iran, nursing students were found to have mental health disorder characteristics such as social dysfunction, anxiety and sleep disorders, somatic symptoms, and depression (Mohebbi et al., 2019). Alyousef (2019) studied the psychosocial stress factors that influence mental health among nursing students in Saudi Arabia. Results revealed strategies to alleviate academic and personal stress were to encourage student-peer relationships and improve psychosocial well-being. Indeed, optimum mental health is an essential aspect of the nursing profession and nursing students must be able to find proactive means of handling the stress that is imbued with the study of nursing. Nursing educators may benefit from this study through the identification of stressors innately affecting the state of mental health of the student nurses and the formation of enhancement activities focused on stress management and coping.

This study generally aims to determine the perceived stress and the level of positive mental health among nursing students. Specifically, it seeks to elicit differences between the demographic variables that may have an effect on the perceived stress and positive mental health among the respondents. Further, it looks into the relationship between perceived stress and the positive mental health of nursing students.

2. Subjects and methods

2.1. Design

This study utilized a quantitative-correlational design to determine the perceived stress and the level of positive mental health among nursing students.

2.2. Participants/setting

The study participants were the student nurses of the University of Hail, College of Nursing, Hail, Saudi Arabia. The student nurses are with those didactics and ongoing hospital duty or exposure. Excluded from the study sample were the students without clinical rotations and those who are unwilling to participate. With the use of the RAOSOFT sample calculator (https://www.calculator.net) at a 95% confidence level, 175 out of the 318 student nurses needed to participate. The researchers employed simple random sampling apportioning a number to each of the candidates and used the random generator in choosing the participants.

2.3. Instruments

The student nurses accomplished a demographic data sheet to obtain the age, gender, marital status, academic program, and academic level of the respondents.

This study utilized the Perceived Stress Scale (PSS), widely used to measure psychological stress as developed by Cohen et al. (1983). The PSS measures the appraisal degree of individuals faced with life stress and how these individuals evaluate their life experiences during the previous month (Cohen et al., 1983). The PSS version used has 10 items (Lee, 2012) and items were rated using a 5-point Likert scale with corresponding verbal interpretations:

(0) Never
(1) Almost never
(2) Sometimes
(3) Fairly often
(4) Very often

Different studies (Chaaya et al., 2010; Wang et al., 2011; Mitchell et al., 2008; Leung et al., 2010; Cohen, 1988) where the PSS-10 was used, obtained a reliability test of>.70. However, Cronbach's Alpha of the PSS-10 in this study was .656. According to Cohen et al. (1983), the level of stress was classified as low stress (0-13); moderate stress (14-26); high stress (27-40).

The Positive Mental Health Questionnaire (PMHQ) by Lluch Canut (2000) was used. It has six factors that comprise positive mental health

(Roldán-Merino et al. 2017): Personal Satisfaction (F1), Prosocial Attitude (F2), Self-control (F3), Autonomy (F4), Problem-Solving and Self-actualization (F5) and Interpersonal Relationship Skills (F6). The PMHQ is composed of 39 items with the variables of the six factors unevenly distributed throughout the questionnaire. Items were rated using a scale with corresponding verbal interpretations: always or almost always, quite often, sometimes, and never or rarely. Scores can range from 39 (lowest) to 156 (highest) in total. Subsequently, the positive mental health factors may achieve a score range of F1 (8-32), F2 (5-20), F3 (5-20), F4 (5-20), F5 (9-36), and F6 (7-28), respectively. The Cronbach's alpha of the PMHQ in this study was 0.764. Content validity was conducted with an SCVI/UA score of 0.821.

3. Data collection

Data was gathered in three months from November to January 2020 through a self-administered questionnaire. Adequate information was provided prior to data collection, such as the aim of the study, their expected participation, the time required for participation, and their right to refuse participation or discontinue their participation for any reason without any consequences to their part.

3.1. Statistical analysis

Data analyses were performed using the SPSS version 25 (2013). Descriptive statistics were used to describe the demographic characteristics of the nursing students, perceived stress, and positive mental health. Test of difference was used to determine differences between the demographic variables with the perceived stress and positive mental health of the nursing students. Pearson's product moment of correlation was used to establish a relationship between perceived stress and positive mental health. All statistical analyses were performed at a .05 level of significance.

4. Results

The majority of the student nurse participants (N=175) were below 25 years old (74%) and belong to the male gender (n=105; 60%). Most of them were single (n=131; 75%) and were enrolled in the regular academic program of the university (n=133; 76%). Meanwhile, a bulk of the students were in their 6th level (n=90; 52%) while the rest were in their 7th level (n=65; 37%) and 5th level (n=20; 11%), respectively (Table 1).

Overall, the student nurse respondents were moderately stressed (Mean=24; SD=5.83) and had higher positive mental health (103) (Table 2).

Table 3 presents the differences between groups according to the demographic profile in relation to the responses in the Positive Mental Health Questionnaire and Perceived Stress Scale. Gender (t=-2.201; p=.017) was found to be significant in positive mental health but not in perceived stress (t=-1.742; p>.549). Conversely, the age (PMH [t=-.601; p>.986]; PSS [t=2.539; p>.806]), marital status (PMH [t=-1.312; p>.318]; PSS [t=1.964; p>.100]), academic program (PMH [t=-.290; p>.940]; PSS [t=2.274; p>.945]) and academic level (PMH [F=.029; p>.194] & [F=.109; p>.654]; PSS [F=.458; p>.900] & [F=2.425; p>.712]) variables did not show significant differences.

Table 1: Demographic profile of the respondents

Characteristics (N=175)	n (%)
Age	
25 below	130(74)
25 and above	45(26)
Gender	
Male	105(60)
Female	70(40)
Marital Status	
Single	131(75)
Married	44(25)
Academic Program	
Regular	133(76)
Bridging	42(24)
Academic Level	
5th Level (Second year)	20(11)
6th Level (Third Year)	90(52)
7th Level (Fourth Year)	65(37)

Table 2: Perceived stress and positive mental health of the respondents

Variables	Mean/SD	SD
Level stress of nursing students	24	5.83
Positive mental health scores	103	11.78

Low stress (0-13); moderate stress (14-26); high stress (27-40); Positive mental health scores: Min score 39; Max score 156

Table 4 shows no significant relationship (p=0.987) between Positive Mental Health and Perceived Stress among nursing students.

5. Discussion

Results revealed that Saudi nursing students generally experienced moderate stress levels which may confirm that studying nursing, especially with clinical training, can be quite taxing. This result was corroborated by Hamaideh et al. (2017) who studied the perceived stress and coping behaviors of nursing students in clinical training in Saudi Arabia. His findings showed moderate stress levels among the nursing students caused by assignments and workload, teachers and nursing staff, and the complex clinical environment. Moreover, the findings of the study showed that female nursing students have a higher perception of stress as compared to their male counterparts. This is similar to the result of Albaqawi's (2018) study, where it was confirmed that the female gender has heightened stress perceptions among nursing students.

Meanwhile, in terms of mental health, overall findings showed that there is a modest level of positive mental health (103±11.78) among the student nurses in Hail, Saudi Arabia. This result was

lower as compared to the study of Calvet et al. (2020) which explored the positive mental health (121.79±16.492) of 252 college students in Peru. This may imply that as a result of stress from clinical duty and academic workload and without adequate debriefing from nurse educators, student nurses' psychological state may decline. In this connection, the current state of mental health of Saudi nursing students in relevance to their stress level may affect their knowledge and performance (Lluch-Canut et al., 2013). This result contributes to finding ways to revisit the important role of nurse educators to train nursing students on how to positively tackle stress, overcome its pernicious effects and enhance performance.

Table 3: Differences in the demographic profiles with positive mental health and perceived stress

Variables	Positive mental health	t/F	p-value	Perceived stress	t/ F	p-value
Age						
25 below	102.61±11.63	-.601	.986	24.18±5.70	2.539	.806
25 and above	103.90±12.39			21.54±5.87		
Gender						
Male	101.31±10.69	-2.201	.017**	22.97±6.04	-1.742	.549
Female	105.27±12.97			24.53±5.41		
Marital status						
Single	102.22±11.45	-1.312	.318	24.09±5.39	1.964	.100
Married	104.91±12.63			22.11±6.83		
Academic program						
Regular	102.75±11.68	-.290	.940	24.15±5.68	2.274	.954
Bridging	103.36±12.22			21.83±5.99		
Academic level						
5th level	103.05±10.18	.029	.194	25.00±5.56	.458	.900
6th level	102.97±12.01			24.37±5.60		
7th level	102.75±12.08	.109	.654	22.09±5.98	2.425	.712

**: Sig. p<.05, N=175

Table 4: Relationship between mental health score and perceived stress score

	N	Mean	SD	r	p-value
Total positive mental health score	175	102.90	11.78	-0.001	0.987
Total perceived stress score	175	23.59	5.83		

*: Sig. p<.05

It is interesting to note that gender was found to be significant for positive mental health but not for perceived stress. These findings suggest that females have a more positive outlook in relation to their mental health as compared to their male counterparts despite having similar stress levels. In contrast to this result, Diaz-Godiño et al. (2019) posited that female nursing students were more likely to be identified to experience depression, unhealthy lifestyle changes, and anxiety when stressed. This was concurred by Al-Gamal et al. (2018) who affirmed that the level of stress among female nursing students results in diminished thought processes, especially with those weak coping mechanisms. Meanwhile, Stott (2004) agreed with the findings of this current study as male nursing students were found to have higher attrition rates than females which may be reflective of their state of mental health. This study would serve as a springboard to future studies regarding gender differences in the nursing profession. Nurse educators need to promote the enhancement of coping strategies that is gender-sensitive to promote positive mental health among male nursing students as well.

Conversely, no significant correlation was seen between perceived stress and positive mental health among the student nurses in this study. Nevertheless, Bartlett et al. (2016) said that nursing students generally experienced higher levels of stress and exhibited mental issues as compared to other college students. This study implores more studies to be done that are focused on the discovery of factors that may influence the perceived stress and positive mental health of nursing students in Saudi Arabia.

In the nursing profession, optimum mental health and the nurse's ability to manage stress are essential as it is reflective of quality patient care. This study highlights the need for stress management activities and coping strategies enhancements, not only for professional nurses but also for student nurses.

6. Conclusion

Saudi nursing students experienced moderate to high levels of stress and a moderate level of positive mental health. Gender has been identified to have significance in the Positive mental health among the respondents. Thus, the identification of gender-specific stressors is important. As no correlation was deemed between perceived stress and positive mental health, enhancement of coping strategies is recommended to train student nurses to handle stress and promote positive mental health. Mental health must be given emphasis among nursing students as it implicates their physical health and clinical performance.

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Compliance with ethical standards

Ethical consideration

This study was approved by the Institutional Review Board of the University of Ha'il, where standard procedures for data collection and storage are employed for the protection of respondents' information according to the guidelines of the Standing Committee for Research Ethics on Living Creatures. These involved (a) voluntariness to participate in the study, (b) withdrawal at any time for any reason, (c) anonymity of the respondents, and (d) data security.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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