

Factors associated with stress among nursing students (Najran University - Saudi Arabia)

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Abstract: Challenges of nursing college can be very stressful for students. Busy schedules, critical thinking examinations, and clinical experiences at hospitals, students often feel overwhelmed by the many requirements of nursing curricula. All of these elements combined with outside responsibilities such as family, children, and job have the potential to create intense stress in students' lives. The aim of this study was to explore the level of stress among the nursing students beside determining the stress sources and thus the consequences of stress. It was retrospective, cross-sectional, descriptive study design that conducted in nursing college at Najran university during the period from March – November, 2015. By adopting convenient sampling technique, 50 subjects were selected. A self reported questionnaire was utilized for collecting data. The results concluded that the students in the third year (level 5+level 6) show the highest stress level than the other levels (42.5%) respectively. The most common type of stressors perceived by students was stress from lack of professional knowledge and skills (mean=2.34, SD=0.63), followed by stress from assignments and workload (mean = 2.21 & SD 0.61), while the least perceived stressor was stress from peers and daily life (mean = 1.86 & SD 0.60). The results revealed that the student's academic year was directly associated with the student's stress level ($F = 7.31$; $df = 2, 482$, $p < .05$). The most common coping strategy utilized by participants was transferring stress to other leisure activities (32%). It was concluded that nursing students faced different types of stressors that might inhibit positive learning experiences. Stress management workshops are recommended to train student's different ways to deal and cope with expected stressors, Beside that It is important for the university to maintain well balanced academic environment conducive for better learning, with the focus on the students' personal needs. Additionally, counseling services is crucial for them.

Key words: Nursing students, stress, coping strategies, stressors

I. Introduction

Stress is a non-specific response of the body to any demand. On the other hand, stressor is an event or any stimulus that cause an individual to experience stress.¹ Robotham defined stress as a whole set of physiological and psychological phenomena, including the objective event or stressor, the person's perception of the stressor, the conditioning factors or contextual stimuli, the various intervening processes or residual stimuli, and the manifestations of response to the stressor.²

Stress in nursing education is acknowledged as one of the most important issues in the modern world. The challenges of nursing colleges can be very stressful for students. With busy schedules, critical thinking examinations, and clinical experiences at hospitals, students often feel overwhelmed by the many requirements of nursing curricula. All of these elements combined with outside responsibilities such as family, children, and jobs have the potential to create intense stress in students' lives.³

During nursing education and training, nursing students are frequently exposed to various stressors which may directly or indirectly impede their learning and performance. The nature of clinical education presents challenges that may cause students to experience stress. Moreover, the practical components of the program which is important in preparing students to develop into professional nurse role by its nature have made the program even more stressful than other programs.⁴

Without doubt, clinical practice is one of the crucial components in nursing education. However, students may face many challenges or threats in dynamic and complex clinical environments, such as how to use high-tech medical equipments, how to maintain good relationships with clinical staff and instructors, how to manage sudden changes in a patient's condition and how to deal with the demands of patients' relatives. These clinical experiences may lead students to perceive stress. Prolonged experience of stress may have negative impacts on students' clinical learning and on their health. With these definitions in mind, Lazarus and Folkman's theoretical framework. as illustrated in figure1 is appropriate for use in this study because it can well describe the nature of nursing students' stress in clinical practice.⁵

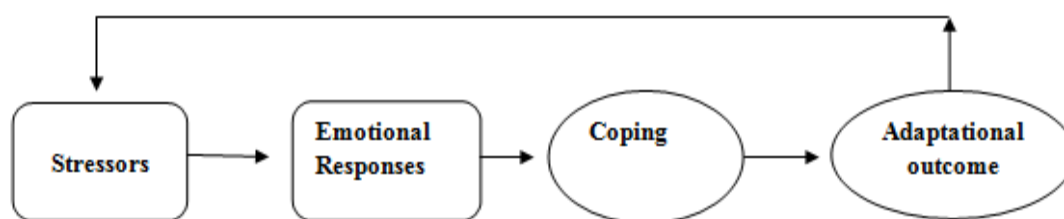


Figure (1): Lazarus and Folkman's theoretical framework

Nursing students in general, may share similar concerns and stressors which may possibly be internal or external. However, cultural beliefs and situational factors could also affect their levels of stress.⁶

Stressors are sources of stress or events that produce stress. According to

Lazarus and Folkman, a stressor is perceived as stressful when the situation is appraised by the person exceeding his/her ability to cope with and endangering his/her well-being.⁵

Coping is the process through which the individual manages the demands of the person-environment relationship that are appraised as stressful, and the emotions they generate. While stressors are being appraised, stress emotions appear and disease may follow. However, coping, defense and adaptation act as mediators to blunt the perceived threat and to smooth away stress emotions.⁷

Many different things can cause stress, from physical (such as fear of something dangerous) to emotional (such as worry over your family or job.). Identifying what may be causing stress is often the first step in learning how to better deal with stress.⁸

II. Significance of the study

This study provides baseline information about nursing students' perceived stress level, stressors and thus the suitable coping strategies they choose to employ. Accordingly, Effective coping strategies may help students to perform markedly better in regards to their studies and also can aid in relieving students' stress.

III. Sampling and Methodology

It was cross-sectional, facility-based, descriptive study undertaken in Najran university, college of nursing during the period from May to October, 2015 to assess the students' level of stress, sources of stress as well as identifying the coping strategies used by students. The target population for this study was the undergraduate students enrolled in various academic years (from level 4 up to level 8). By adopting convenient sampling technique 40 students were recruited to participate in the current study.

The study utilized a self-reported questionnaire, which is composed of 4 parts that including demographic data, perceived stressors, signs and symptoms encountered by the participants, beside the coping strategies used by students. Each of these items includes sub-items that had been studied.

A pilot study was carried on 5 nursing students.

IV. Statistical methods

Data were analyzed using statistical package for social sciences version 20 (SPSS, Chicago, Illinois, USA). Descriptive statistics were calculated for every measured variable, in order to evaluate the studied sample. Probabilities of $p < 0.05$ were considered statistically significant.

V. Ethical consideration

Authorization to carry out the study was obtained from Najran university, college of nursing. Moreover, a verbal informed consent and confidentiality was assured for all participants.

VI. Results

50 subjects were recruited for this study with response rate of 100%. As shown in table1, 20% were from Year II (level 4), 50% from Year III (Level 5 & 6) and 30% from Year IV (level 7 & 8). Their mean age was 21.3 ± 1.2 , with a range of 19-25. Moreover 25% of the selected sample were married.

Table 1: The demographic composition of the studied sample

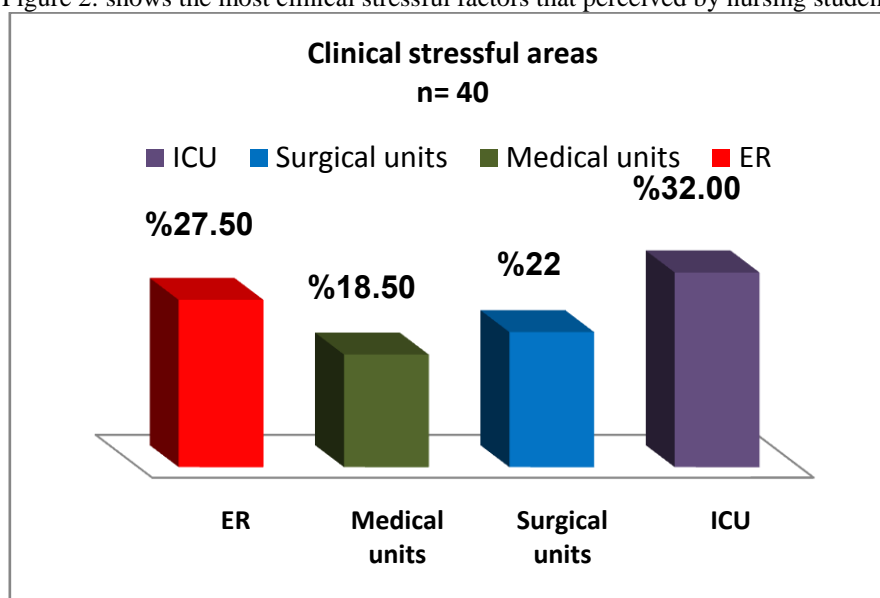
Year of study	Frequency	%
2 nd year (Level 4)	8	20%
3 rd year (Level 5+6)	20	50%
4 th year (Level 7+8)	12	30%
Total	40	100%

	Mean (SD)	Range
Age	21.3 (1.2)	19 - 25
Marital status	10 (married)	25%

(n=40)

The most stressful clinical settings perceived by nursing students were displayed in figure 2. The four most stressful clinical settings were: (1) Intensive care unit (ICU) at a rate of (32%), followed by emergency room (ER) (27.5%), and the third stressful area was the surgical units (22.0%), while the least stressful area was the medical units (18.5 %).

Figure 2: shows the most clinical stressful factors that perceived by nursing students



The level of stress and types of stressors perceived by nursing students are tabulated in table 2. On the whole, the mean of stress perceived by the participants was 1.56 (SD = 0.62). Of the participants, 21 (52.5%) had stress above the mean. Moreover, students perceived a moderate level of stress during clinical practice (mean=2.10, SD=0.44). The most top type of stressor perceived by students was the lack of professional knowledge and skills (mean=2.34, SD=0.63). Students felt stressed when they were unfamiliar with medical terminology, or with patients' histories, diagnoses and treatments. The second and third most common stressors encountered by students were stress from assignments and workload (mean=2.21, SD=0.61) and stress from taking care of patients' (mean=2.20, SD=0.50). Students also worried about receiving poor marks and about their ability to provide nursing care and make judgment in their clinical practice. The difference in level of perceived stress induced by six stressors was found to be significant ($\chi^2=167.93$, $df=5$, $p<0.001$).

Table 2: Stressors perceived by nursing students; (n=40)

no	Stressors	Rank	Mean	SD
	Overall perceived stress		2.10	0.44
1	Stress from lack of professional knowledge and skills	1	2.34	0.63
	• Unfamiliar with medical history and terms		2.40	0.78
	• Unfamiliar with professional nursing skills		2.27	0.82
	• Unfamiliar with patients' diagnoses and treatments		2.36	0.73
2	Stress from assignments and workload	2	2.21	0.61
	• Worry about poor grades		2.71	0.93
	• Pressure from the nature and quality of clinical practice		2.36	0.82
	• Feelings that performance does not meet teachers' expectations		2.37	0.90
	• Feelings that dull and inflexible clinical practice affect family/social life		1.65	0.99
	• Feelings that the demands of clinical practice exceed physical and emotional endurance		1.98	0.85
3	Stress from taking care of patients	3	2.20	0.50
	• Lack of experience and ability in providing nursing care and in making judgments		2.80	0.83
	• Not knowing how to help patients with physio-psycho-social problems		2.24	0.73
	• Unable to reach expectations		2.26	0.80

	<ul style="list-style-type: none"> Unable to provide appropriate responses to doctors, teachers and patients' questions Worry about not being trusted or accepted by patients or their families Unable to provide patients with good nursing care Not knowing how to communicate with patients Difficulties in changing from the role of a student to that of a nurse 	2.34 1.91 2.03 1.83 2.18	0.76 0.77 0.71 0.76 0.92	
4	Stress from clinical environment	4	2.08	0.66
	<ul style="list-style-type: none"> Feelings of stress in the environment where clinical practice takes place Unfamiliarity with ward facilities. Feelings of stress from rapid changes in a patient's condition 	1.96 2.09 2.20	0.85 0.79 0.84	
5	Stress from teachers and nursing staff	5	1.91	0.50
	<ul style="list-style-type: none"> Seeing a discrepancy between theory and practice Not knowing how to discuss a patient's illness with teachers or medical and nursing personnel Feelings of stress when a teacher's instruction is different from expectations Medical personnel lacking empathy & willingness to help Feelings that teachers do not evaluate students fairly Lack of care and guidance from teachers 	2.47 1.64 2.09 1.63 1.94 1.67	0.69 0.79 0.87 0.93 0.87 0.86	
6	Stress from peers and daily life	6	1.86	0.60
	<ul style="list-style-type: none"> Experience of competition from peers in school and clinical practice Feelings of pressure from teachers who evaluate students' performance by comparison Feelings that clinical practice affects involvement in extracurricular activities Inability to get along with group peers 	1.80 2.28 2.18 1.20	0.85 0.93 1.00 0.79	

The relationship between total sources of stress as perceived by students and their socio-demographic characteristics are illustrated in table 3. Results indicated statistically significant relations with student's academic level ($p=0.003$). As evident from this table, the highest stress was among the 3rd year (level5 + L6) students 42.5%, while the lowest was in the 2nd year 5.0%.

Table 3: Physio-psycho-social symptoms experiencing by students during clinical practice (N=40)

no	Stressors	Rank	Mean	SD
	Overall perceived stress		2.10	0.44
1	Emotional symptoms	1	1.70	0.77
	<ul style="list-style-type: none"> I tend to be worried and nervous I tend to be nervous and anxious lately I often feel depressed and miserable I feel afraid without any reason I feel I am going to have a nervous breakdown I feel more anxious lately I cannot calm down 		2.17 2.14 1.60 1.65 1.47 1.69 1.19	0.92 0.85 1.14 0.89 1.00 1.05 0.92
2	Social behavioral symptoms	2	1.45	0.78
	<ul style="list-style-type: none"> I am not optimistic about my future My life is not very colorful I cannot work as usual I have difficulty in making decisions I do not feel needed or valued I cannot think as clearly as before 		1.44 1.19 1.37 1.66 1.39 1.68	1.05 1.00 0.97 0.92 0.98 1.03
3	Physical symptoms	3	1.10	0.64
	<ul style="list-style-type: none"> I often feel giddy I experience nausea and vomiting I often have vertigo and feel dizzy I feel pressure in the chest My fingers and toes feel numb or painful I have stomach-ache and diarrhea I have difficulties in breathing for no reason I catch cold more often 		1.25 0.90 1.13 1.05 0.93 1.36 0.69 1.45	0.90 0.90 0.92 1.01 0.84 0.90 0.80 0.97

Coping strategies commonly used by nursing students and their effectiveness are presented in figure3. The most frequent coping strategy was transference to other activities for example, (Listening music, sleeping, visiting friends, watching TV or movies, or performing physical exercise) (32%), followed by staying optimistic (29%) for example (keeping an optimistic and positive attitude in dealing with everything in life or seeing things objectively or having the confidence to overcome difficulties or even sometimes crying, feeling moody,

sad and helpless) followed by adopting problem solving (20%). The most and least effective coping strategies cited by the participants was avoidance technique (19%).

Figure 3; shows the most used stress coping strategies (n=40)

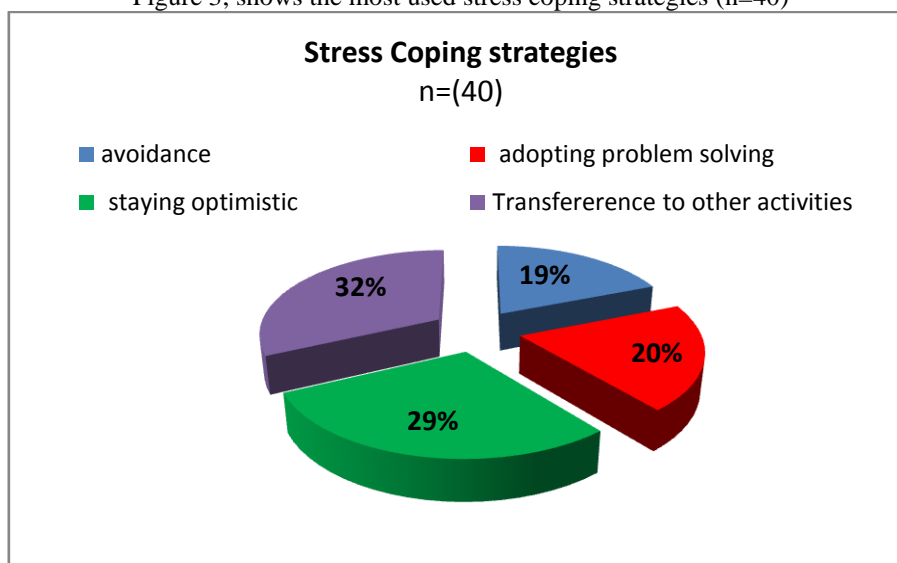


Table 4 reflects the association between sources of stress perceived by students and their socio-demographic characteristics. ANOVA-test was used to test mean differences of students in different academic years, and stress levels. The results revealed that students' academic year was directly associated with the students' stress level ($F = 8.34$; $df = 2, 594$; $p < .05$). Further analysis with Bonferroni post-hoc test showed that students in the second year (Level 4+ level5) had significantly more stress ($M = 1.67$; $p < .05$) than students in other years respectively.

Table 4: Relationship between total sources of stress as perceived by the studied subjects and their socio-demographic characteristics (n=40).

No.	Variable	Total stressors				p-value
		High		Low		
		No.	%	No.	%	
1	Academic year					
	2 nd year (L.4)	6	15%	2	5%	
	3 rd year (L. 5+L.6)	17	42.5%	3	7.5%	
	4 th year (L.7+L.8)	5	12.5%	7	17.5%	0.003*
2	Marital status					
	Yes	7	17.5%	3	7.5%	
	No	12	30%	18	45%	0.002*
3	Have chronic disease					
	Yes	1	2.5%	0	0%	
	No	0	0%	39	97.5%	0.000*
4	Have menstruation problems that affect study					
	Yes	22	55%	6	15%	
	No	10	25%	2	5%	0.67

(n=40); * Statistically significant at $p < 0.05$

V. Discussion

University students, often experience an undue amount of stress, which can have negative academic, emotional, or health outcomes. This can occur at different time periods during a semester or years in college, during the transition from undergraduate to professional or graduate programs, or upon graduation. Stress in university students has many sources, including academics, personal situations, environment, time, and economic circumstances.⁹

The current study assessed the nursing students' perceived stress, stress related factors as well as identified the coping strategies used by the students in Najran university.

The results of the current study concluded that more than fifty percent (52.5%) of the studied subjects have stress above the mean. This finding is in harmony with the findings of a previous study conducted by Shaban et al among Jordanian nursing students that indicated that 52% of nursing students experienced stress

level above the mean.¹⁰ On the other hand, this existing level of stress seems to be lower than what was reported in some countries like Iran and Turkey.^{11,12} On the other hand this obtained results are contradicted the results that reported by Papazisis et al who concluded that nursing students experienced mild level of stress.¹⁵

Our results revealed that the total stress score varies throughout the years. Senior students have less stress level than junior students. These results are in consistent with other studies that emphasize the fact that as students obtain more experience through their studies, they likely perceive less stress.^{13,9} Another stress factor that nursing students experience in the clinical environment is related to patients. In the literature, students state that they feel stressed out for fear that the relationship they build with a patient may harm them as reported by Chesser-Smyth.¹⁴ As reflected in the current study, students' academic level correlates significantly with stress level, this concluded fact is in accordance with what reported by Pagana in Pennsylvania.¹⁶

Regarding coping strategies, our study revealed that the most cited coping strategy that stated by the respondents was transferring the stress into other leisure activities such as listening music, sleeping or performing sports, this finding goes with what concluded by Jimenez that students tend to cope with stressors with problem solving skills and stress preventive strategies that necessary when faced with various stressors.¹⁷

The core finding of this study was the significant correlation between perceived level of stress and perceived physio-psycho-social health in terms of emotional symptoms that was ranked as the most perceived problem. This result is an affirmation of the theory of Lazarus and Folkman who assert that stress can affect people's physical, psychological and social health if adaptation outcomes cannot be achieved.⁵

VIII. Conclusion and recommendation

Based on the findings of this study, it could be inferred that nursing students were exposed to different stressors during their nursing education and training. The study results emphasize that nursing students agonize about lack of professional knowledge and skills followed by much assignments and workload as cited by students as the most first and second ranked stressors, therefore our recommendation aspects as follow:

- It is important for the university to maintain well balanced academic environment conducive for better learning, with the focus on the students' personal needs.
- Nursing college should do an effort to narrow the gap between Students' expectations and goals beside offering counseling services for students
- As a part of the students' orientation program for the new comers, students should be educated on the stresses of college life that they would encounter. This will help to prepare them psychologically to combat future stress.
- Stress management workshops are important to train student's different ways to deal with unexpected stressors.
- Faculty members should train students how to cope with stress by using stress management techniques which is either physical or mental.

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