Stress/ Stressors as Perceived by Baccalaureate Saudi Nursing Students

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Abstract: Aim The aim of the current study was to investigate perceived stress and stressors among baccalaureate Saudi nursing students Methods: A descriptive, closs sectional design was utilized. The study was conducted in King Saud Bin AbdulAziz University of Health Science, College of Nursing- Jeddah. A total of 100 nursing students were recruited for the study. A self-administered structured questionnaire was utilized to gather the relevant data regarding perceived stress and stressors among the students, Perceived stress scale (PSS) and the Inventory of College Students' Recent Life Experiences (ICSRLE) were used as data collection tools. Results: Results of the study revealed that (72.0%) students reported feeling nervous or stressed fairly often to very often in the previous month; (61.0%) students reported being angry because of things that were outside of their control, (50.0%) students reported being upset because of something that happened unexpectedly.. As for the stressors among college students in terms of recent life experiences, (57.0%) of the students reported a lot of responsibilities as the most common stressor they are experiencing and considering as very much part of their life, other stressors were also reported as very much part of students' life such as; lower grades than hoped for (43.0%), not enough sleep (43.0%), too many things required at the same time (42.0%). There was a significant correlation between the Perceived Stress Scale and Students Recent Life Experiences (p< .01; Spearman's rank correlation test = 0.47). Recommendations: Based on the study findings, there is a critical need of instructing the nursing students about how to manage their stress, a periodic meetings with the students to raise their awareness about the coping strategies with stress and stressors.

Key words: Stress Perception · Stressors · Nursing Students

INTRODUCTION

Stress has been identified as a 20th century disease and has been viewed as a complex and dynamic transaction between individuals and their environments [1]. Stressors can be broadly defined as situations or events that have the potential to affect health [2]. Recently stress during medical training is increasingly reported, studies have shown fairly high levels of distresses, such as symptoms of depression [1, 2]. The potential negative effects of emotional distress on medical students include impairment of functioning in class- room performance and clinical practice, stress induced disorders and deteriorating performance [3, 4]. Excessive stress may result in mental and physical problems and may diminish a student's sense of worth and might affect his/ her academic achievement [5, 6]. Studies have classified stressors into three main categories (a) academic pressure, (b) social issues and (c) financial problems [5].

Stress and the identification of potential stressors among nursing students have received much attention in the literature [6]. Nursing students have the same academic stressors as other college students, such as mid-term and final examinations, research papers and other assignments [7]. In addition; nursing students experience a clinical component, which is highly stressful. Students have a large amount of preparatory work before their clinical assignments. They often must travel long distances to clinical sites and use highly technical equipment [8, 9]. In addition, they must perform procedures that can cause serious harm to their patients, thus enhancing their fear of making mistakes.

Kirkland [10] examined stressors among 23 female African American baccalaureate nursing students in USA. Demographic data and information about stressors were collected using a questionnaire and structured interview. The findings revealed that the reported priority stressors are academic (37%), environmental (21%), financial (17%) and interpersonal (12%). The most frequently reported

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academic stressors were failure and uncertainty related to performance, expectations for written work and clinical practice.

Only one study conducted in Egypt to assess perceived stress among nursing students, results of the study indicated that stressors were reported by (97.3%) of students and the number of stressors reported by students ranged from 0 to 13, with a mean of 4.6 ±2.5. The reported rate for the occurrence of stressful events ranged from a low of (9%) for the death of a family member to a high of (82.6%) for "fear of future. The five most frequently reported stressors were fear of future, self reported anxiety and depression, increased class workload, accommodation problems and congested classrooms [11].

Most of the studies that assessed stress among nursing students were carried out in western population. However, there has been limited research on perceived stress among the Arab population. No study has investigated the perception of stress among Saudi baccalaureate nursing students. Saudi students may have more stressors than others, this might be related to cultural aspects, English language, extra- curricular activities, transportation and college's set up as it is isolated from university campus.

Aim of the Study: The current study was conducted to investigate the stress/ stressors as perceived by baccalaureate Saudi nursing students.

Research Questions:

- What is the degree of stress perceived by baccalaureate Saudi nursing students?
- What type of stressors is commonly experienced by the baccalaureate Saudi nursing students?
- What are the relationships between stress and stressors as perceived by the baccalaureate Saudi nursing students?

MATRIALS AND METHODS

Design: A descriptive, cross- sectional design was utilized for the study as it suited its descriptive nature as the cross-section design reports variables changing at one point in time.

Setting: The study was conducted at King Saud Bin AbdulAziz University for Health Sciences College of Nursing- Jeddah, Saudi Arabia. The college admitted two categories of students; secondary school graduates

(stream I) and university graduates with baccalaureate degree in science, mathematics and/or biology (stream II) or the accelerated program.

Participants: A Systematic random sample of 100 nursing students (that constitutes more than one third of the total number 298) who are enrolled in stream I and II were recruited for the study, inclusion into the study was entirely on a voluntary basis and students who agreed to participate in the study were reassured that all information obtained are confidential and secure.

Measurements: Two self-administered structured questionnaire were utilized to gather the relevant data regarding perceived stress and stressors among the students. Perceived stress scale (PSS) was developed in (1983) by Cohen *et al.* [12] as a global measure of perceived stress, (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable and overloaded respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. Moreover, the questions are of a general nature and hence are relatively free of content specific to any sub-population group. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way. It is a 10 items scale. According to Cohen and Williamson (1988) the predictive validity of the PSS was demonstrated by the high correlation (r = .52 to .76) to instruments measuring the same constructs, such as life event stress and physical symptoms [13].

The ICSRLE was developed in (1990) with a Canadian student population [14] The inventory includes 49 items, to which respondents indicate their extent of experience with each during the past month using responses of: (1) not at all part of my life, (2) only slightly part of my life, (3) distinctly part of my life, or (4) very much part of my life. Kohn *et al.* proposed a factorial structure with 7-factors using 37 of those items. In the original Canadian sample, the full scale alpha reliability was .88 for males (n=50) and .89 for females (n=156). The alpha coefficients for six of the seven subscales were between .68 - .80, the subscale labeled assorted annoyances was less consistent with an alpha of .47 [14].

Ethical Considerations: Students were informed about the nature of the study. Confidentiality and anonymity of the collected data were assured. A written consent was

obtained from the students who were willing to participate in the study. All students were informed that their participation is voluntary. Approval to conduct the study was obtained from the college's committee of research to maintain ethics of research.

Data Analysis: Data were coded and analyzed using SPSS version 18. Descriptive analyses were conducted to determine the frequency distributions of the study variables. Distribution of study variables were examined for normality, measures of central tendency and variability, Pearson's Product Moment correlation coefficients were calculated to assess the relationship among study variables.

RESULTS

Results of the study are presented in two major parts; the first part is descriptive statistics that include demographic characteristics of the students, perceived stress, students recent life experiences and the most common stressors that they experienced. The second part is inferential statistics that presents the relationships between the study variables; demographic characteristics of the students, perceived stress and student's recent life experiences.

Sample Characteristics: Socio-demographic characteristics of the sample are included in Table 1. Students were predominantly young, the age ranged from 19-30 years, mean age was 22.5 (SD 2.6), with no dependents, enrolled in stream I, level five and eight of the nursing program.

Table 1: Sample Characteristics

Variable	N	%	
Marital Status			
Single	83	83.0	
Married	17	17.0	
Dependents			
No	92	92.0	
Two	4	4.0	
Stream			
I	83	83.0	
II	17	17.0	
Level			
Four	21	21.0	
Five	35	35.0	
Eight	32	32.0	
Variable	M	SD	Range
Age (Years)	22.5	2.6	19-30

Descriptive Statistics of Students' Responses to the Perceived Stress Scale: The sample response frequencies for the PSS are presented in Table 2. Seventy-two students reported feeling nervous or stressed fairly often to very often in the previous month, (61.0%) students reported being angry because of things that were outside of their control, (50.0%) students reported being upset because of something that happened unexpectedly, (40.0%) students reported feeling unable to control the important things in life, (40.0%) students reported feeling difficulties were piling up so high that they could not overcome them, (31.0%) students reported inability to cope with all things that they had to do, while (23.0%) students reported being able to control irritations in their life, (31.0%) students reported feeling that they were on top of things, (27.0%) students reported feeling confident about their ability to handle personal problems, (21.0%) students reported feeling that things were going their way.

Descriptive Statistics of Students Recent Life Experiences: Table 3 presents stressors among college students in terms of recent life experiences. Fifty-seven of the students reported a lot of responsibilities as the most common stressor they are experiencing and considering as very much part of their life, other stressors were also reported as very much part of students' life such as; lower grades than hoped for (43.0%), not enough sleep (43.0%), too many things required at the same time (42.0%), no enough leisure time (39.0%), important decisions about future career (38.0%), long waits to get service (32.0%), struggling to meet academic standards (31.0%), not enough time to meet obligations (30.0%), finding courses too demanding (30.0%), important decisions about education(28.0%) and hard effort to get ahead (28.0%).

Other students reported different stressors as experienced and often considered as part of their life such as gossip concerning someone they care about (33.0%), heavy demands from extracurricular activities (31.0%), difficulties with transportation (30.0%), dissatisfaction with physical appearance (30.0%), being taken advantage of (30.0%), having my contributions overlooked (29.0%), being taken for granted (28.0%), struggling to meet the academic standards of others (28.0%), decisions about intimate relationship (28.0%), dissatisfaction with their mathematics ability (28.0%), disliking my studies (27.0%), being ignored (27.0%), conflicts with friends, spouse and family (25.0%) and interruptions of my school work (25.0%).

Table 2: Perceived stress as reported by the students

Statement	Never, No. (%)	Almost Never, No. (%)	Sometimes, No. (%)	Fairly Often, No. (%)	Very Often, No. (%)	Overall Response, Mean (SD)
In the last month, how often have you been upset because of something that happened unexpectedly?	4 (4.0)	10(10)	36 (36)	25 (25)	25 (25)	2.57 (1.09)
In the last month, how often have you felt that you were unable to control the important things in your life?	7 (7.0)	17 (17.0)	35 (35.0)	29 (29.0)	12 (12.0)	2.22 (1.08)
In the last month, how often have you felt nervous and "stressed"?	1(1.0)	5 (5.0)	22 (22.0)	38 (38.0)	34 (34.0)	2.99 (0.92)
In the last month, how often have you felt confident about your ability to handle your personal problems?	4 (4.0)	24 (24.0)	45 (45.0)	22(22.0)	5 (5.0)	2.00 (0.91)
In the last month, how often have you felt that things were going your way?	7 (7.0)	22 (22.0)	50 (50.0)	18(18.0)	3 (3.0)	2.12 (0.89)
In the last month, how often have you found that you could not cope with all the things that you had to do?	4 (4.0)	13 (13.0)	52 (52.0)	20 (20.0)	11(11.0)	2.12 (0.94)
In the last month, how often have you been able to control irritations in your life?	8 (8.0)	15 (15.0)	54 (54.0)	16 (16.0)	7 (7.0)	2.01 (0.95)
In the last month, how often have you felt that you were on top of things?	7 (7.0)	24 (24.0)	49 (49.0)	19 (19.0)	1 (1.0)	2.17 (0.85)
In the last month, how often have you been angered Because of things that were outside of your control?	2 (2.0)	10 (10.0)	27 (27.0)	43 (43.0)	18 (18.0)	2.65 (0.95)
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	4 (4.0)	11 (11.0)	45 (45.0)	25 (25.0)	15 (15.0)	2.36 (1.00)

Table 3: Descriptive Statistics of Students Recent Life Experiences

Students Recent Life Experiences	Very much part of my life N	Distinctly part of my life N	%
Conflicts with friends/spouse's FAMILY	----	25	25.0
Too many things all at once	42	----	42.0
Being taken for granted	----	28	28.0
Having your contributions overlooked	----	29	29.0
Struggling to meet your own academic standards	31	----	31.0
Being taken advantage of	----	30	30.0
Not enough leisure time	39	----	39.0
Struggling to meet the academic standards of others	----	28	28.0
A lot of responsibilities	57	----	57.0
Decisions about intimate relationship	----	28	28.0
Not enough time to meet your obligations	30	----	30.0
Dissatisfaction with your mathematics ability	----	28	28.0
Important decisions about your future career	38	----	38.0
Important decisions about your education	28	----	28.0
Lower grades than you hoped for	43	----	43.0
Not enough sleep	43	----	43.0
Heavy demands from extracurricular activities	----	31	31.0
Finding courses too demanding	30	----	30.0
Hard effort to get ahead	28	----	28.0
Disliking your studies	----	27	27.0
Difficulties with transportation	----	30	30.0
Interruptions of your school work	----	25	25.0
Long waits to get service	32	----	32.0
Being ignored	----	27	27.0
Dissatisfaction with your physical appearance	----	30	30.0
Gossip concerning someone you care about	----	33	33.0

Table 4: Categories of Students Recent Life Experiences

Students Recent Life Experiences	Very much part of my life	Distinctly part of my life	Not at all part of my life
Academic			
✓Too many things all at once	42		7
✓Struggling to meet your own academic standards	31		13
✓Struggling to meet the academic standards of others		28	21
✓A lot of responsibilities	57		6
✓Not enough time to meet your obligations	30		7
✓Dissatisfaction with your mathematics ability		28	22
✓Important decisions about your future career	38		11
✓Important decisions about your education	28		20
✓Lower grades than you hoped for	43		9
✓Heavy demands from extracurricular activities		31	20
✓Finding courses too demanding	30		10
✓Hard effort to get ahead		36	14
✓Disliking your studies	9	27	33
✓Dissatisfaction with your reading ability			40
Interpersonal			
✓ Conflicts with friends/spouse's FAMILY			
✓ Being taken for granted		23	23
✓ Having your contributions overlooked		28	26
✓ Being taken advantage of		29	17
✓ Being ignored		30	14
✓ Dissatisfaction with your physical appearance		27	29
✓ Gossip concerning someone you care about		30	25
✓ Decisions about intimate relationship		33	27
✓ Conflict with professors	9	28	24
Environmental			
✓ Not enough leisure time	9		55
✓ Not enough sleep	39		10
✓ Difficulties with transportation	43		20
✓ Interruptions of your school work		30	32
✓ Long waits to get service		25	26
✓ Financial burdens	32		14
	5		41

Description of Major Study Variables: Descriptive results for the Perceived Stress and Students' Life Experiences are included in Table 4. Students reported moderate to high levels of perceived stress, the mean Perceived Stress of students was 23.3 (SD 4.7). Students also reported high levels of different stressors in terms of recent life experiences, the mean Students Recent Life Experiences was 114.2 (SD 21.3). Descriptive analyses were also conducted to determine the frequency distributions of the study variables. Distribution of study variables were examined for normality, measures of central tendency and variability. Perceived stress and students recent life experiences as well as age were normally distributed.

Categories of Students Recent Life Experiences: Student's recent life experiences are divided into three main categories; academic, interpersonal and environmental based on the literature review of other studies that used the same scale to assess student's recent life experiences. The academic stressors had the maximum contribution in causing stress (52%) followed by environmental stressors (28%) while interpersonal stressors had the least contribution in causing stress (20%). Table 5 shows academic, interpersonal and environmental stressors among college students in terms of recent life experiences.

Total of (57%) of the students reported a lot of responsibilities as the most common academic stressor they are experiencing and considering as very much part of their life, while (40%) reported dissatisfaction with their reading ability as the least common stressor they are experiencing and considering as not at all part of their life.

Also 33% of the students reported gossip concerning someone they care about as the most common

Table 5: Descriptive Statistics of the Study Variables

Variable	M	SD	Range	Possible Range
Dependent Variable				
Perceived Stress	23.3	4.7	12-32	0-40
Students' Life Experiences	114.2	21.3	53-170	49-196
Independent Variable				
Age	22.5	2.6	19-30	---------

Table 6: Pearson-Product-Moment Correlation Coefficients among Study Variables

Variables	1	2	3	4	5	6	7
1) Perceived Stress							
2) Students Life Experiences	.47**						
3) Age	.01	.10					
4) Marital Status	.02	.13					
5) Dependents	.04	.01					
6) Stream	-.04	.13					
7) Level	.00	-.02					

*p<.05, **p<.01

interpersonal stressor they are experiencing and often considering as part of their life, while (55.0%) reported conflict with professors as the least common stressor they are experiencing and considering as not at all part of their life.

There were 43% of the students reported not enough sleep as the most common environmental stressor they are experiencing and considering as very much part of their life, while (41.0%) reported financial burdens as the least common stressor they are experiencing and considering as not at all part of their life.

Relationships among Study Variables: Pearson's Product Moment correlation coefficients were calculated to assess the relationships among the study variables. As shown in Table 6, there was a significant correlation between the perceived stress and students recent life experiences (p< .01; r = 0.47). The strength of this correlation is at a moderate level. There were no significant association between perceived stress / recent students life experiences, sub items of both scales and other independent variables, also age, marital status, number of dependents, level and stream. The relationships between study variables that were not found to be associated were not as expected.

Stream and Marital Status Differences among the Study Variables: Perceived stress did not differ by stream or marital status. Student's recent life experiences did not differ by stream or marital status. The non-significant relationships between the study variables were not as expected and may be related to homogeneity of the study sample.

Figure 1 shows that feeling nervous and stressed is the most often self reported perceived stress among students (72.0%).

Figure 2 represents stressors among college students in terms of recent life experiences. These stressors were experienced and considered as very much part of their life. Figure 3 represents stressors among college students in terms of recent life experiences. These stressors were experienced and considered as distinctly part of their life.
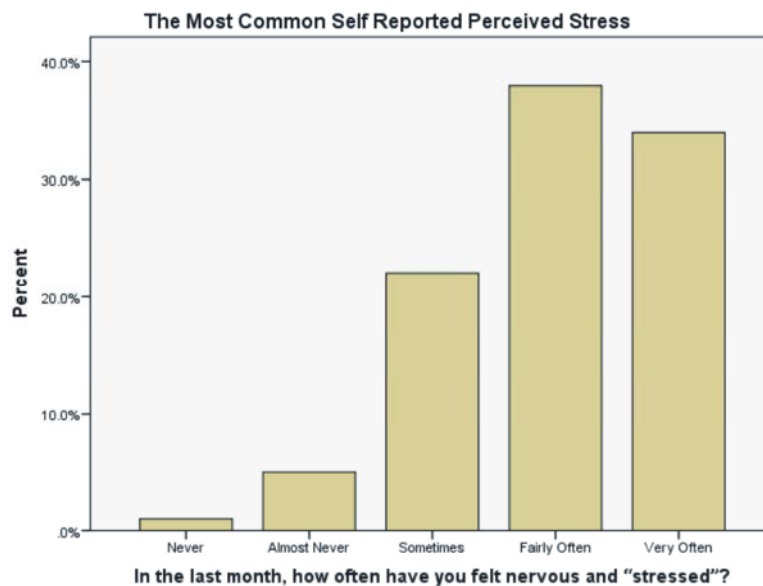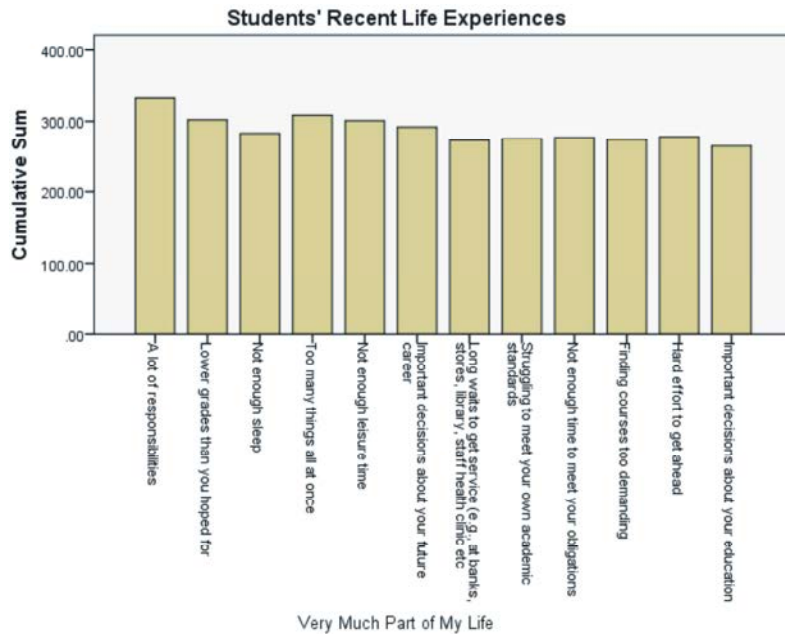

Fig. 1:

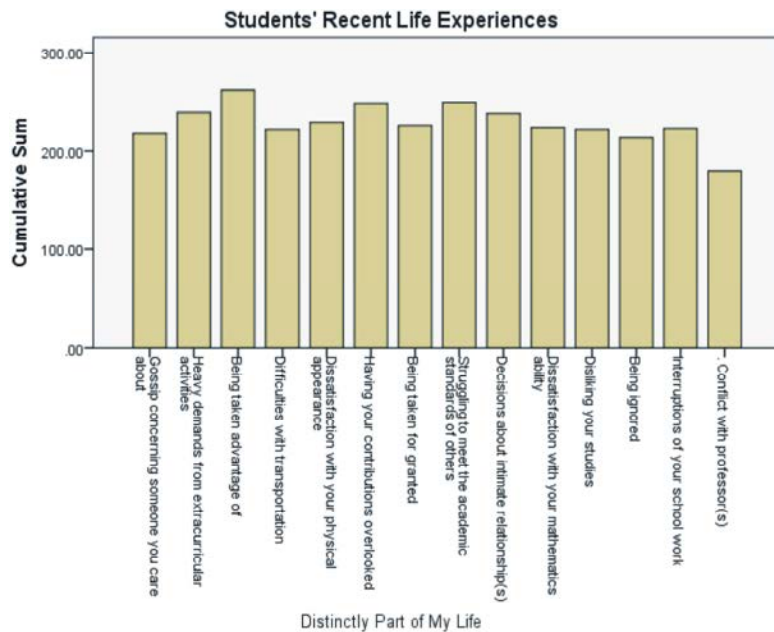**Students' Recent Life Experiences**

Fig. 2:

Students' Recent Life Experiences

Fig. 3:

DISCUSSION

The aim of the current study was to investigate perceived stress and stressors among baccalaureate Saudi nursing students.

As regards the perceived stress among baccalaureate Saudi nursing students in terms of recent life experiences, results of the study revealed that the overall mean of perceived stress as measured by PSS was 23.3 (SD = 4.7) which was moderate to high. This finding is in agreement with Moshin [15] in their study of perceived stress, sources and severity of stress among medical undergraduates in a Pakistani Medical School, which carried out on 161 medical students, as the overall mean of perceived stress as measured by PSS was 30.84 (SD = 7.01) and was significantly higher than the current research studied group. This can be interpreted in terms

of psychosocial variables such as marital status or cohabitation status, confidence and other general self-esteem. Apart from this, end-of-the-year first year medical students have shown to be worse off psychosocial aspects than they were when they entered. The amount and severity of stress experienced by medical students may vary according to the settings of the medical school, the curricula and evaluation (examination) system etc.

Similar finding was reported by Bhandari [16] in his study of stress and health related quality of life of Nepalese students studying in South Korea, which carried out on 130 Nepalese students, reported that the overall mean of perceived stress as measured by PSS was moderate to high, 26.5 (SD = 8.00). Findings of the current study are in line with reported literature from USA, Petal *et al.* and Stopper *et al.* [17, 18] who they reported moderate to high levels of stress among nursing students in their first course of the BSN program.

Therefore, it was valuable to utilize the perceived stress scale to assess the perceived stress among Saudi nursing students since this instrument has been documented for its reliability and validity [12, 13]. The advantage of PSS is that it can be applied to a wide range of settings, to different subject types and includes items measuring reactions to stressful situations as well as measures of stress [12]. An important limitation of other reviewed stress scales for health professions students is that it focuses only on academic stressors and lack of inclusion of personal issues or reactions to stressful situations (psychosocial issues) and poor applicability to broad settings.

As regards stressors among baccalaureate Saudi nursing students in terms of recent life experiences, the academic factors had the maximum contribution in causing stress (52%) followed by environmental factors (28%) while interpersonal factors had the least contribution in causing stress (20%). For Academic stressors (57.0%) of the students reported a lot of responsibilities as the most common stressor they are experiencing and considering as very much part of their life; followed by the following academic associated stressors as lower grades than hoped for (43.0%) and too many things required at the same time (42.0%). Environmental factors were the second common sources of stress as (43.0%) of the students reported not enough sleep, no enough leisure time (39.0%) and long waits to get service (32.0%) as the most common stressor they are experiencing and considering as very much part of their life. While none of the interpersonal factors were experienced and considered as very much part of their life.

Therefore, the interpersonal factors occupied the third common sources of stress among the studied group as (31.0%.) of the students considered gossip concerning someone they care about, heavy demands from extracurricular activities (31.0%), difficulties with transportation (30.0%), dissatisfaction with my physical appearance (30.0%), being taken advantage of (30.0%) are distinctly part of their life.

Current research result is in contrary to the finding of a study conducted on 37 first year Indian nursing students which revealed that the environmental factors had the maximum contribution in causing stress (40 %) followed by interpersonal factors (30 %) and academic factors had the least contribution in causing stress (19 %) [19].

Current research results go inconsistent with Moshin. [15] research findings in which they reported that academic stressors were reportedly more common in terms of frequency of occurrence and severity. On the other hand, Seyed *et al.* [20] in their study entitled experienced stressors and coping strategies among Iranian nursing students that was carried out on 440 undergraduate nursing students enrolled in years 1-4 of an educational program at the Faculty of Nursing and Midwifery affiliated with Iran Medical Sciences University. They found that interpersonal and environmental sources of stress were the most common stressors experienced and reported among their study subjects.

These contradictory findings between the current study and the other previously mentioned study could be because of their studied group who came from townships outside the capital city and studied four years in that city. Therefore they were placed in unfamiliar surroundings, with crowded streets and other stressors endemic to the capital city. Thus, for these students, living in dormitories may cause more stress than for students who live in capital city. In addition, this data was collected during the Fall Semester, when students are at the beginning of the courses, have the responsibility to do homework, have to start attending new clinical units for training. During their college years, students experienced constant challenges and demands for adjustment and change. Along with academic pressures, students must take responsibility for them, must seek acceptance from their peers in a world of mixed values and begin more intimate relationships. students of the current study didn't exposed to any of those factors as they are from a big city as Jeddah, living

with their families, data was collected during the same semester (fall), while the students were approaching the end of the semester, they were single with no dependents and with no economic problem.

The third part of the discussion is devoted to discuss the study results related to the relationships among the study variables; demographic characteristics of the students, perceived stress and students' recent life experiences. A significant correlation was existed between the Perceived Stress Scale and Students Recent Life Experiences ($p< .01$; $r = 0.47$). The strength of this correlation is at a moderate level. Current research findings were contradicting with that reported by Moshin. [15] which revealed that the stressed cases were associated with female gender, psychosocial and academic related stressors calculated by logistic regression analyses. Plausible explanations for such contradictory reports could be because of that our research findings are interpreted in light of our studied group as it was homogeneous in terms of gender, psychosocial and academic related stressors.

Limitations of the Study: The study sample that was collected from only one nursing college makes it difficult to generalize the study findings to all Saudi nursing students in Saudi Arabia.

CONCLUSION

A moderate to high level of perceived stress was reported by the Saudi nursing students. The main stressors were related to the academic and environmental domains. The lack of associations between stressed cases and study variables (age, marital status, number of dependents and Stream needs to be further tested by prospective studies.

Recommendations: In the same vein with what was recommended by Petal *et al*.[17] in their study of self-reported life stressors among students in their first nursing course, overmentioned results recommended that nursing faculties must develop programs to assist students to learn to cope with their stressors in a positive manner. It is vital that nursing faculties identify students at risk early in the nursing curriculum and guide the students to appropriate resources. Teaching stress management and self-care skills to nursing students may prove to be beneficial. Establishing a student support system throughout nursing school is necessary to equip nursing students with effective coping skills. Periodic meetings with the students should be conducted to raise

their awareness about the coping strategies with stress and stressors, presence of psychologist are essential for the students.

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