Sources of Stress as Perceived by Nursing Students at King Saud University

MOFIDA YOUNIS AL-BARRAK, D.N.Sc.; MONA TALAT EL-NADY, D.N.Sc. and
ELHAM ABDELKADER FAYAD, D.N.Sc.

The Department of Psychiatric Mental Health Nursing, College of Nursing, King Saud University

Abstract

Nursing students suffer higher levels of stress during their college years than college students in other disciplines. Nursing students and persons employed in the nursing profession have been identified as a population with an elevated stress level. Stressors for student nurses included adjusting to a rigorous program of theory, long hours of study and pressures of student clinical practice requiring emotional and personal maturity. So the aim of the present study was to identify sources of stress as perceived by undergraduate nursing students at King Saud University. A descriptive, correlation design was utilized in this study. The study was conducted at Female College of Nursing, King Saud University at Al-Riyadh City. The total proposed subjects included in this study were 300 students covering all levels of the nursing college, using convenience data. The tools included two parts: Part 1 included socio-demographic data for students such as age, marital status, and health related data, part 2 was the Student Stress Survey Sheet (SSSS) which used to study the major sources of stressors among college students; it included items addressed academic, intrapersonal, interpersonal, and environmental sources of stress. The present study results concluded that there were a variety of stressors placed on the studied subjects. The major sources of stress as perceived by King Saud University College of Nursing students were the academic followed by intrapersonal, then environmental and the last was interpersonal. The results of the current study recommended 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. The university should be affording adequate resources such as books, computers to do assignments; also nursing college should do an effort to narrow the gap between students' expectations, goals, and values to be integrated with that of the university.

Key Words: Identify – Stress – Stressors – Undergraduate Nursing Students.

Introduction

THE issue of stress among college or university students has been the subject of much research for

---

Correspondence to: Dr. Mofida Younis Al-Barrak,
The Department of Psychiatric Mental Health Nursing,
College of Nursing, King Saud University.

many years. Researchers have found that the perception of high stress levels in students can lead to poor academic performance, depression, attrition and serious health problems [1,2]. Many scholars in the field of behavioral science have carried out extensive research on stress and its outcomes on individuals then concluded that the topic needed more attention, especially in nursing students who face many stresses [3,4].

Beck, et al. [5] stated that nursing students suffer higher levels of stress during their college years than college students in other disciplines. Nursing students and persons employed in the nursing profession have been identified as a population with an elevated stress level. Stressors for student nurses included adjusting to a rigorous program of theory, long hours of study and pressures of student clinical practice requiring emotional and personal maturity. The practicum portion of nursing education was identified by nursing students as more stressful than didactic courses [6,7].

Sources of stress among nursing students can be viewed from four domains namely; academic, intrapersonal, interpersonal, and environment. As regard academic stressors which refer to stress associated with studying, including study load, performance, and conflict with lecturers or tutors. Such as: Midterms, final examinations, research papers and other assignments. In addition, nursing students experience a clinical component, which is highly stressful [8].

Nwadiani and Ofoegbu [9] said that 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. In addition, they must perform procedures that can cause serious harm to their

patients, thus enhancing their fear of making mistakes. Ross, et al. [10] concluded that academic stress among college students has been a topic of interest for many years. College students experience high stress at predictable times each semester due to academic commitments, financial pressures, and lack of time management skills. When stress is perceived negatively or becomes excessive, it can affect both health and academic performance [6,10].

Role conflict is a common part of the college experience. College students must learn to balance the competing demands of academics, developing new social contacts and being responsible for their own daily needs (e.g., nutrition and clean clothing). In addition, the academic workload requires that students face a series of peak periods such as midterms and finals; there is a relatively constant underlying pressure to complete an upcoming assignment [11].

In relation to intrapersonal stressors which include stress from physical health, financial situation, and mental health issues (e.g. depression, anxiety, Poor diet, living on caffeine, anxiety, worrying about money [5,12]. These stressors can include positive or negative events. Examples of positive events are marriage, graduation, starting a business, or the birth of a baby. In other hand negative changes include events like losing a job, divorce, or death in the family etc. Interpersonal stressors include stress that results from relationships with roommates, problems with friend's also romantic partners, and family members. Marital disagreements, dysfunctional relationships, or caring for a chronically-ill family member or a child with special needs can all increase stress levels [12,13].

Many authors concluded that peers may also influence the perception of and reaction to stress. College norms that define certain types of behavior as "appropriate" under certain conditions, e.g., staying up all night to study for an exam, may be stress inducing and may lead to less healthy practices. Nursing students are now older and are more culturally diverse. They are more likely to be married and have children. Many are employed. These changes have major implications for nursing education programs, as well as colleges and universities in general [14].

Environmental stressors refer to physical surroundings in the college which can set off the stress response including new and unfamiliar situations or conflict between people live in campus. Examples of environmental stressors an unsafe neigh-borhood, pollution, noise, change in sleeping habits, vacations, breaks, and change in eating habits, and new responsibilities. Furthermore, stress may result from being separated from home for the first time, the transition from a personal to an impersonal academic environment, and the structure of the academic experience at the college level [15,13]. The environment in which college students live is quite different. The pressure to earn good grades and to earn a degree is very high [16]. Earning high grades is not the only source of stress for college students. Other potential sources of stress include excessive homework, unclear assignments, and uncomfortable classrooms [17]. Although it is normal for students to experience stress, especially as they adjust to college life at a highly competitive institution. However, if stress is severe and/or prolonged, it can reduce academic performance and interfere with a student's ability to participate in and contribute to campus life [1].

Significance:

College students, especially nursing are particularly prone to stress due to the transitional nature of college life. For example, many college students move away from home for the first time, which can necessitate leaving all previously learned support systems such as parents, siblings and high school friends. Students may need to develop entirely new social contacts and are expected to take responsibility for their own needs. They may have difficulty adjusting to more rigorous academic expectations and the need to learn to deal with individuals of differing cultures and beliefs [1]. At King Saud University, College of Nursing, no research studies were conducted in this respect, so an in depth research is needed to clarify the magnitude of the problem and to emphasize whether these stressors are mostly related to daily hassles, major live events or academic and teaching style problems. It is concluded that stress in academic institutions can have both positive and negative consequences if not well managed.

It is important to investigate the stress that undergraduate students experience because of being nursing student can make it even more difficult to handle stress as an undergraduate. High levels of stress are believed to affect students' health and academic functions. If the stress is not dealt with effectively, feelings of loneliness, nervousness, sleeplessness and worrying may result. It is important to look at the different factors of stress to help them cope effectively [18,19]. So the aim of the present study was to identify sources of stress as perceived by undergraduate nursing students at

King Saud University, will help to identify the major area of stress and dealing accordingly.

Subjects and Methods

Research design:

A descriptive, correlation design was utilized in this study.

Setting:

The study was conducted at Female College of Nursing, King Saud University at Al-Riyadh City. The college of nursing is composed of two floors at college of community service. It includes four organizational departments namely: Community and Mental Health Nursing Department, Maternity and Pediatric Nursing Department, Medical Surgical Nursing Department and Department of nursing administration.

Subjects:

The college has eight academic levels; total number of students enrolled at all levels is 430 at the time of data collection for this research. Total proposed subjects were 298 students covering all levels of the nursing college, using convenience data collected from 32 students from level one, 66 selected from level two, 35 students from level three, 30 students from level four, while 43 students shared from level five, 34 students participated from level six, 41 from level seven, and 37 students from level eight.

Ethical consideration:

Ethical rules of research guaranteed for each participant to regret from sharing in the study at any stage. Student was assured that the data is confidential and used only for research purposes.

Tools for the data collection:

A structured interview questionnaire was developed by the researchers based on literature review to collect needed information about the study subjects. The stress factors items were scored as Likert scale ranged from 0 to 5. For each domain of stressor factors, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. The stressor domain was considered to be high if the percent score was 60% or more, and low if less than 60%. The tools included two parts presented as following:

Part 1: Socio demographic data for students included: Age, marital status, and health related data.

Part 2: After reviewing related literature, the Student Stress Survey Sheet (SSSS) was used to study the major sources of stress among college students; it included items of the survey sheet addressed to academic, intrapersonal, interpersonal, and environmental sources of stress [6,10,13].

Procedure:

Permission was obtained through an official letter to the director of nursing college at king Saud University to carry out the study, after explanation of the aim and methods of the study and process for data collection. Oral consent was taken from each student. The purpose of the study was explained before starting the interview to gain student confidence, cooperation and to alleviate her fear and anxiety. Data was collected during 1430 on duration of three months (Rabi' II to Rajab), around 10 questionnaire sheets per day. Every sheet took an average time for 25-30 minutes from the students during their studying day, from 8am-3pm.

Pilot study:

Pilot study was carried out on 10% of nursing students who attended the classes to test the clarity and relevance of the tool. According to the results of pilot study, necessary modifications in the sheet were done. Based on the pilot; the meaning of some questions was vague for the students, so the researchers omitted it, also some of questions were difficult in language modified to be easy for the students.

Jury members:

A jury of (13) faculty members: Two professors, four associate professor and seven assistant professors were chosen to establish content validity.

Statistical analysis:

Data entry and statistical analysis were done using SPSS 14.0 statistical software package. Quality control was done at the stages of coding and data entry. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Qualitative categorical variables were compared using chi-square test. Statistical significance was considered at p-value<0.05.

Results

The results of this study described the socio-demographic characteristics of the studied subjects and indicated that age ranged from 18-35 years

old, with mean ± standard deviation 20.6±1.8 years. Regarding age more than two-fifth 42.6% of the subjects were at the age group 20-21 years old. The majority of students 72.5% had public pre-college education, and were single 82.5%, while about one-tenth 10.4% were married. The birth order of students was mostly second to fourth 41.9%. Concerning students' health status and medical history, this table showed that 16.1% had a history of chronic disease. The most commonly medical problems reported were allergies, bronchial asthma, sickle cell anemia, hypertension, and migraine, 29.2, 18.8, 14.6, 10.4, and 10.4 percent, respectively. Meanwhile, none of them had diabetes. It was noticed that about two-thirds of the students 63.4% reported problems with menstruation that affect their study Table (1).

Concerning stressors reported by students, Table (2) demonstrated that the most frequent academic sources of stress as perceived by students were increased workload 64.9%, and anticipation of graduation 54.7%. At the other extreme, the least reported factors were those of missing too many classes and serious argument with instructors, 13.3% and 8.9%, respectively.

Regarding intrapersonal sources of stress, Table (3) demonstrated that the highest sources perceived by students were related to changes in sleeping habits 56.5%, eating habits 49.7%, in addition to new responsibilities 46.9%. On the other hand, the least intrapersonal factors reported as sources of stress were feeling helpless for not being able to improve patient's condition 12.7%, and inability to answer question of patients or their families 10.6%.

Table (1): Socio-demographic and health characteristics of studied subjects (n=300).

Socio-demographic characteristics	Frequency	Percent
Age (years):		
<20	89	29.9
20-	127	42.6
22+	82	27.5
Range	18-35	
Mean±SD	20.6±1.8	
Pre-college education:		
Public	198	72.5
Private	75	27.5
Marital status:		
Single	245	82.2
Engaged	21	7.0
Married	31	10.4
Divorced	1	0.3
Birth order:		
1	68	22.8
2-4	125	41.9
5+	105	35.2
Have chronic disease:		
No	250	83.9
Yes	48	16.1
Types of chronic diseases (n=48): @		
Allergies	14	29.2
Bronchial asthma	9	18.8
Sickle cell anemia	7	14.6
Hypertension	5	10.4
Migraine	5	10.4
Heart disease	3	6.3
Back problems	3	6.3
Kidney disease	1	2.1
Liver disease	1	2.1
Diabetes	0	0.0
Have impairment/disability:		
No	189	63.4
Yes	63	21.1
Have problems with menstruation that affect study	189	63.4

@ Responses are not mutually exclusive.

Table (2): Academic sources of stress as perceived by the studied subjects (n=300).

Academic stressors	Never/rare		Sometimes		Often/very often	
	No.	%	No.	%	No.	%
Increased study workload	0	0.0	102	35.1	189	64.9
Anticipation of graduation	1	0.3	130	45.0	158	54.7
Lower grade than anticipated	0	0.0	151	51.5	142	48.5
Change of Major (Career)	0	0.0	174	59.8	117	40.2
Vast differences between lectures at school and actual practice	2	0.7	181	62.0	109	37.3
Fear of having to read too much information and English books	0	0.0	212	71.9	83	28.1
Trouble dealing with particular or complicated conditions	3	1.0	217	73.8	74	25.2
Unfairly given more work and difficult case studies than other classmates	2	0.7	221	75.7	69	23.6
Teaching contents are far from what I expected	5	1.7	230	79.0	56	19.2
Do not know how to do a case report	7	2.4	243	83.2	42	14.4
Missing too many classes	0	0.0	254	86.7	39	13.3
Serious argument with instructor	4	1.4	261	89.7	26	8.9

Table (3): Intrapersonal sources of stress as perceived by the studied subjects (n=300).

Intrapersonal stressors	Never/rare		Sometimes		Often/very often	
	No.	%	No.	%	No.	%
Change in sleeping habits	0	0.0	128	43.5	166	56.5
Change in eating habits	0	0.0	148	50.3	146	49.7
New responsibilities	0	0.0	154	53.1	136	46.9
Responsibility violation (abuse)	0	0.0	200	68.3	93	31.7
Financial difficulties	0	0.0	201	68.6	92	31.4
Decline in personal health	0	0.0	204	70.1	87	29.9
Embarrassment of speaking in public	0	0.0	207	71.4	83	28.6
Fear of contagious diseases at the hospital	16	5.5	211	72.5	64	22.0
Conflict with customs/beliefs	0	0.0	234	79.3	61	20.7
Major family event (death/illness)	0	0.0	235	80.2	58	19.8
Being a student, not trusted by patients or their families	19	6.5	218	74.7	55	18.8
Major personal event (engagement/ marriage/divorce/delivery)	2	0.7	238	81.5	52	17.8
Unable to handle patients' psychological, financial or other situations	19	6.5	222	76.3	50	17.2
Feeling helpless for not being able to improve a patient's condition	17	5.8	238	81.5	37	12.7
Can't answer questions of patients or their families	20	6.8	242	82.6	31	10.6

As regard interpersonal sources of stress as perceived by students, results indicated that all of them reported change in social activities and working with people not known to them, fight with family members, and with new colleagues were often or sometimes sources of interpersonal stress. At the other end, trouble with instructors was the least factor "often" perceived by students 8.8%. Additionally, Roommate conflict 86.2% sometimes experience interpersonal stress, while 17.5% not knowing how to communicate with other medical staff about patients' condition and it was the factor with the highest percentage of "never/rare" response Table (4).

Table (5) described the environmental sources of stress as perceived by students. It indicated almost all the factors were mentioned by all students as occurring "sometimes, often, or very often." The highest environmental factor was college discipline 43.6%. On the other hand, only three factors were mentioned to never or rarely be sources of stress; these were negative attitude from hospital staff, lack of awareness of hospital resources, and lack of hospital resources, 5.5%, 5.6%, and 5.6%, respectively.

The relationship between total sources of stress as perceived by students and their socio-demographic characteristics are illustrated in this table. Results indicated statistically significant relations with student's academic level (p=0.003), and age (p=0.002). As evident from this table, the highest stress was among sixth level students 70.0%, while the lowest was in the first 20.0% and second 22.0% levels. Also, stress was lowest among students younger than 20 years age 18.9%. Meanwhile, none of the other students' characteristics had statistically significant relations with total stressors Table (6).

Table (4): Interpersonal sources of stress as perceived by the studied subjects (n=300).

Interpersonal stressors	Never/rare		Sometimes		Often/very often	
	No.	%	No.	%	No.	%
Change in social activities	0	0.0	153	52.0	141	48.0
Work with people you don't know	0	0.0	207	70.9	85	29.1
Fear of my clinical performance being of lower grade than other classmates	10	3.4	222	76.3	59	20.3
Nurse's job was not being respected by patients and other hospital staff	16	5.5	220	75.3	56	19.2
Not knowing how to communicate to other medical staff about patients' condition	19	6.5	222	76.0	51	17.5
Fight with family member	0	0.0	245	83.3	49	16.7
Roommate conflict	3	1.0	250	86.2	37	12.8
Lack of interpersonal skills to communicate with patients and their families	16	5.5	238	81.8	37	12.7
Fight with new colleagues	0	0.0	263	90.7	27	9.3
Trouble with instructors	6	2.1	253	89.1	25	8.8

@ Responses are not mutually exclusive

Table (5): Environmental sources of stress as perceived by the studied subjects (n=300).

Environmental stressors	Never/rare		Sometimes		Often/very often	
	No.	%	No.	%	No.	%
College discipline	0	0.0	164	56.4	127	43.6
Non-flexible and long working hours that affect normal life	0	0.0	178	60.5	116	39.5
Change in living conditions	0	0.0	201	69.3	89	30.7
Computer problems	0	0.0	210	71.4	84	28.6
Transportation problems	0	0.0	214	73.3	78	26.7
Negative attitude from hospital staff	16	5.5	200	69.0	74	25.5
Placed in unfamiliar situation	0	0.0	227	77.7	65	22.3
Lack of awareness about hospital resources	16	5.6	217	75.6	54	18.8
Waiting long time between lectures	0	0.0	246	84.0	47	16.0
Lack of hospital resources	16	5.6	230	79.9	42	14.6

Table (6): Relationship between total sources of stress as perceived by the studied subjects and their socio-demographic characteristics (n=300).

Variables	Total stressors				X^2 Test	p-value
	High.		Low			
	No.	%	No.	%		
Academic level:						
1st	6	20.0	24	80.0		
2nd	11	22.0	39	78.0		
3rd	8	38.1	13	61.9		
4th	8	28.6	20	71.4	21.67	0.003*
5th	11	55.0	9	45.0		
6th	14	70.0	6	30.0		
7th	12	36.4	21	63.6		
8th	12	37.5	20	62.5		
Age (years):						
<20	14	18.9	60	81.1		
20-	41	41.8	57	58.2	12.41	0.002*
22+	27	43.5	35	56.5		
Marital status:						
Single	67	34.2	129	65.8		
Engaged	5	33.3	10	66.7	0.80	0.67
Married/divorced	10	43.5	13	56.5		
Have chronic disease:						
No	65	33.2	131	66.8		
Yes	17	44.7	21	55.3	1.87	0.17
Have menstruation problems that affect study:						
No	35	39.3	54	60.7		
Yes	47	32.4	98	67.6	1.16	0.28
Have impairment/disability:						
No	69	36.7	119	63.3		
Yes	13	28.3	33	71.7	1.16	0.28

* Statistically significant at $p<0.05$

The relationship between academic sources of stress as perceived by students and their socio-demographic characteristics are presented in this table. It pointed to statistically significant relations with student's academic level ($p=0.009$), and age ($p=0.04$). It was noticed that the highest stress was among fifth and sixth-level students, 80.0% and 90.0%, respectively. Meanwhile, the lowest was in the first levels 43.3%. Regarding age, stress was highest among students in the age group 20-21 years 64.3%. No statistically significant relations were revealed between any of the other characteristics and academic stressors Table (7).

Table (8) displayed the relationship between intrapersonal sources of stress as perceived by

students and their socio-demographic characteristics. It showed statistically significant relations with student's academic level ($p=0.03$), age ($p=0.03$), and chronic diseases ($p=0.006$). It was noticed that the highest stress was among third, fifth, and sixth-level students 66.7%, 60.0%, and 60.0%, respectively, while the lowest was in the first and second levels 33.3% and 32.0, respectively. Moreover, stress was lowest among students younger than 20 years age 32.4%. As for the presence of chronic diseases, about two thirds of students with chronic diseases 65.8% had high stress, compared to 41.3% of those with no chronic diseases. The other students' characteristics had no statistically significant relations with intrapersonal stressors.

Table (9) described the relation between interpersonal sources of stress as perceived by students and their socio-demographic characteristics. It indicated statistically significant relationship with student's academic level ($p=0.001$), and age ($p=0.001$). It was evident that the highest stress was among fifht level students 70.0%, while the lowest was in the first and second levels 10.0%. Also, stress was lowest among students younger than 20 years age 9.5%. Meanwhile, neither marital status nor birth order had statistically significant relations with interpersonal stressors.

The relationship between environmental sources of stress as perceived by students and their socio-demographic characteristics, no statistically significant relationship was found with any of the students' socio-demographic characteristics and environmental sources Table (10).

Table (7): Relationship between academic sources of stress as perceived by the studied subjects and their socio-demographic characteristics (n=300).

Variables	Academic stressors				X^2 Test	p-value
	High.		Low			
	No.	%	No.	%		
Academic level:						
1st	13	43.3	17	56.7		
2nd	23	46.0	27	54.0		
3rd	12	57.1	9	42.9		
4th	15	53.6	13	46.4	18.80	0.009*
5th	16	80.0	4	20.0		
6th	18	90.0	2	10.0		
7th	17	51.5	16	48.5		
8th	16	50.0	16	50.0		
Age (years):						
<20	33	44.6	41	55.4		
20-	63	64.3	35	35.7	6.64	0.04*
22+	34	54.8	28	45.2		
Marital status:						
Single	110	56.1	86	43.9		
Engaged	6	40.0	9	60.0	1.76	0.42
Married/divorced	14	60.9	9	39.1		
Have chronic disease:						
No	105	53.6	91	46.4		
Yes	25	65.8	13	34.2	1.92	0.17
Have menstruation problems that affect study:						
No	47	52.8	42	47.2		
Yes	83	57.2	62	42.8	0.44	0.51
Have impairment/disability:						
No	104	55.3	84	44.7		
Yes	26	56.5	20	43.5	0.02	0.88

* Statistically significant at $p<0.05$

Table (8): Relationship between intrapersonal sources of stress as perceived by the studied subjects and their socio-demographic characteristics (n=300).

Variables	Intrapersonal stressors				X^2 Test	p-value
	High.		Low			
	No.	%	No.	%		
Academic level:						
1st	10	33.3	20	66.7		
2nd	16	32.0	34	68.0		
3rd	14	66.7	7	33.3		
4th	11	39.3	17	60.7		
5th	12	60.0	8	40.0	15.86	0.03*
6th	12	60.0	8	40.0		
7th	19	57.6	14	42.4		
8th	12	37.5	20	62.5		
Age (years):						
<20	24	32.4	50	67.6		
20-	50	51.0	48	49.0	7.24	0.03*
22+	32	51.6	30	48.4		
Marital status:						
Single	87	44.4	109	55.6		
Engaged	8	53.3	7	46.7	0.52	0.77
Married/divorced	11	47.8	12	52.2		
Birth order:						
1	24	46.2	28	53.8		
2-4	44	44.9	54	55.1	0.02	0.99
5+	38	45.2	46	54.8		
Have chronic disease:						
No	81	41.3	115	58.7		
Yes	25	65.8	13	34.2	7.69	0.006*
Have menstruation problems that affect study:						
No	41	46.1	48	53.9		
Yes	65	44.8	80	55.2	0.03	0.85
Have impairment/disability:						
No	84	44.7	104	55.3		
Yes	22	47.8	24	52.2	0.15	0.70

* Statistically significant at $p<0.05$

Table (9): Relationship between interpersonal sources of stress as perceived by the studied subjects and their socio-demographic characteristics (n=300).

Variables	Interpersonal stressors				X^2 Test	p-value
	High.		Low			
	No.	%	No.	%		
Academic level:						
1st	3	10.0	27	90.0		
2nd	5	10.0	45	90.0		
3rd	7	33.3	14	66.7		
4th	7	25.0	21	75.0		
5th	6	30.0	14	70.0	31.97	<0.001*
6th	14	70.0	6	30.0		
7th	9	27.3	24	72.7		
8th	10	31.3	22	68.8		
Age (years):						
<20	7	9.5	67	90.5		
20-	35	35.7	63	64.3	16.00	<0.001*
22+	19	30.6	43	69.4		
Marital status:						
Single	50	25.5	146	74.5		
Engaged	4	26.7	11	73.3	0.26	0.88
Married/divorced	7	30.4	16	69.6		
Birth order:						
1	18	34.6	34	65.4		
2-4	20	20.4	78	79.6	3.68	0.16
5+	23	27.4	61	72.6		

* Statistically significant at $p<0.05$

Table (10): Relationship between environmental sources of stress as perceived by the studied subjects and their socio-demographic characteristics (n=300).

Variables	Environmental stressors				X^2 Test	p-value
	High.		Low			
	No.	%	No.	%		
Academic level:						
1st	10	33.3	20	66.7		
2nd	22	44.0	28	56.0		
3rd	6	28.6	15	71.4		
4th	10	35.7	18	64.3	8.30	0.31
5th	13	65.0	7	35.0		
6th	10	50.0	10	50.0		
7th	12	36.4	21	63.6		
8th	13	40.6	19	59.4		
Age (years):						
<20	27	36.5	47	63.5		
20-	43	43.9	55	56.1	0.98	0.61
22+	26	41.9	36	58.1		
Marital status:						
Single	77	39.3	119	60.7		
Engaged	7	46.7	8	53.3	1.62	0.44
Married/divorced	12	52.2	11	47.8		
Birth order:						
1	23	44.2	29	55.8		
2-4	41	41.8	57	58.2	0.55	0.76
5+	32	38.1	52	61.9		

* Statistically significant at $p<0.05$

Discussion

University students, however, often experience an undue amount of stress, which can have negative academic, emotional, or health outcomes [5]. 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 [20]. Therefore the aim of this study was to identify sources of stress as perceived by undergraduate nursing students at College of Nursing, King Saud University.

This study included students with mean age 20.6±1.8 years, 82.5% were single. Studies on major sources of stress among academic baccalaureate students proved that the same characteristics are congruent with this present study [16]. Stress may be perceived negative or positive, intense or not intense in relation to several factors that calculate the effect of stress outcome and impact of stress on the individual in various situations that he is confronted with through life experience. Among this factors that influence stress perception are: Previous personal experience, intensity of stress, maturation and duration of stress experience.

According to the current study findings, more than half of students 54.7% said that anticipation of graduation was very often an academic source of stress. Result of this study proved that 37.3% of students mentioned that there are vast difference between lectures in school and actual practice and 89.7% of study subjects perceived that serious argument with an instructor sometimes is an academic source of stress. More than three quarters 79% mention that sometimes teaching content is far from there expectation. Integration of theory to practice, insure the theoretical relation behind clinical action and clear communication challenge during clinical training of students are big issues and dilemma to be resolved for academic education.

Evan and Kelly [21] concluded that nursing students have the same academic stressors as other college students, such as midterm and final examinations, research papers and other assignments. In addition, nursing students experience a clinical component, which is highly stressful. Students have a large amount of preparatory work before their clinical assignments.

It was noticed in this study that the highest sources of stress among King Saud University College of nursing students was presented by the fifth and sixth-level students, 80.0% and 90.0%,

respectively. Meanwhile, the lowest was in the first levels 43.3%, as regard age, stress was highest among students in the age group 20-21 years 64.3%. Beck and Srivastava [22] investigated the perception of level and sources of stress in nursing students in the various years of the baccalaureate nursing program which conducted at School of Nursing concluded that the second, third and fourth year nursing students reported that clinical experience was the most stressful part of the nursing program.

However Beck et al. [5] in their study about sources of stress reported that a highest level of stress was in second year of nursing students in a medical college. Larson [23] concluded that stress among nursing students is concerned with the recent move to third level education in nursing education programmers. Also Singh and Upadhyay [24] members in the Indian Academy of Applied Psychology demonstrated that first year students experienced higher degree of academic stress in comparison of third year students.

Intrapersonal sources of stressors as perceived by nursing students at King Saud University the highest stressors perceived by students were related to changes in sleeping habits 56.5%, eating habits 49.7%, in addition to new responsibilities 46.9%. On the other hand, the least intrapersonal factors reported as sources of stress were feeling helpless for not being able to improve patient's condition 12.7%, and inability to answer question of patients or their families 10.6%. These pervious results for intrapersonal categories come among students' mostly were live in dormitories 26.5% this may cause more stress than for students who live inside Riyadh. In addition the vast difference between school and university was another source of stress, which leads them to residence in college campus or renting special home other than their own home often, they experience ambivalent feelings resulting from the need for parental/familial support and the drive for independence.

Rocha-Singh, [25] concluded from his study on graduated Pre-Diploma Science students of University Technology MARA (UITM)" is a Malaysian public university" stated that the top five intrapersonal stressors were, in order: Change in sleeping habits 89%, vacations/breaks 82%, and change in eating habits 74%, new responsibilities 73%, and increased class workload 73%. Financial difficulties 71% and change in social activities 71% were also frequently reported stressors.

The five least frequently reported stressors were; death of a friend 6%, severe injury 5%,

transferred schools 3%, engagement/marriage 2%, and divorce between parents 1%. Quitting one's job 8% was also infrequently reported stressor. Another interesting result was that, in a college setting, events such as missing too many classes 21 % and arguing with an instructor 11 % only comprised 15% of the total responses.

Seyedfatemi [13] went in the same line with this study and concluded that the most common intrapersonal sources of stress were "new responsibilities" 72.1% and change in sleeping habits" were significantly greater stressors in first year students than in students of other years. Another study that examined sources of stress among nursing student this study agreed that the stress factors such, not getting enough sleep or sleeping too much, social activities, finance, course loads and problems with boyfriends/girlfriends (partners) pose major problems to the students even to the end of the semester which affect their academic performance [26]. On the contrary Ross, et al. [10] concluded that daily hassles were responsible for 77.3% of the intrapersonal stressors.

The relationship between total factors perceived by students as sources of stress and their socio demographic characteristics in this research indicated statistical significant relations with student academic level and age, the highest stress was among students at level sixth and lowers was among students more than 20 years old. These results went in the same line with [27] who concluded that there is consistent evidence to suggest that certain demographic characteristics may be indicators of a greater or lesser susceptibility to stress as age, gender, and relationship status.

The relationship between intrapersonal factors perceived by students as sources of stress and their socio-demographic characteristics among nursing college King Saud University in this present study. Results revealed that stress was lowest among students younger than 20 years age 32.4% this could be interpreted by that majority of age group in the current study was in the age group 20-22 years and above. It was noticed that the highest stress was among third, fifth, and sixth-level students 66.7%, 60.0%, and 60.0% respectively, while the lowest was in the first and second levels 33.3% and 32.0 respectively.

From researchers' point of view this may be due to at this level the students begin clinical training and this intrapersonal stress may lead to negative impact on students' academic and interpersonal stress. This opinion went in the same line

with [28] who asked college students about their most stressful daily hassles. They observed that the most irritating daily hassles were usually school-related stressors such as constant pressure of studying, too little time, writing term papers, taking tests, plans, and boring instructors.

Al-Omar [29] agreed with this study, he studied the knowledge, attitudes, and intention among the Saudi high school students towards the nursing profession and identify students' perception of causes preventing them to become nurses. He concluded that the major stressors were in order; long working-hours 59.3%. Community does not appreciate nursing profession 58.9%, night shifts 56.2%, requires working with opposite sex 53.9%, majority of people down grade, nurses 52.6%, Ignoredjob by decision makers 48.3%, unpleasant environment to work 38.9%. People do not respect nursing profession 42.2%, afraid of getting diseases 39.6%, hating the sight of blood 37.2%, High workload compared to other jobs 41.2%. These results coincide with the current study, may be because of the study done in the same culture for example as in the study results 79.3% were mentioned that the conflict with customs/beliefs are sometimes stressful.

As regard interpersonal factors perceived by students as sources of stress, results indicated that the entire subjects reported change in social activities and working with people not known to them, fight with family member, and with new colleagues were often or sometimes sources of interpersonal stress. On the other end, trouble with instructors was the least factor "often" perceived by students 8.8%. Additionally, Roommate conflict 86.2% Sometimes experience interpersonal stress, while 17.5% not knowing how to communicate to other medical staff about patients' condition was the factor with the highest percentage of "never/rare" response. This result may be due to female students in this culture spend more time in their residential environment and share more involvement with their roommates, or family members so they are more susceptible to interpersonal stresses related to miss communication.

Ahern [30] agreed with the results of current study and stated that social circumstances and low complexity activities in which stress was experienced. While Frazier, and Schauben [31] added other stressors to be among the major sources of stress and play a role enhancing or hindering academic achievement with the results of current study and concluded that the five most frequently named stressors were test pressure, financial problems,

being rejected by someone, relationship breakups, and failing a test, had experienced the death of a significant other (e.g., parent, sibling, or friend). Higher amounts of stress were associated with more psychological symptoms and more disrupted beliefs.

Naidu, et al. [32] concluded that the problems encountered by dental students in the United States and abroad are the difficult interactions with faculty. Also the major stressors were fear of failing or poor performance as stressful events, continuous poor academic performance and expectation from family or friends.

Giacobbi, et al. [33] assessed stress and coping during the transition to university for first-year female athletes and revealed that the major sources of stress were high performance expectations, interpersonal relationships, and being away from home. From the researchers point of view all results agreed that putting more expectation on students leads to more stress especially in Arab countries that put more stress on their students and obligate them to obtain high scores regardless their capabilities. So this pressure to achieve good grades can result in a battle for self-esteem of students.

Being in different environment can cause a great deal with stress, hence environmental factors may be perceived by students as major sources of stress. The results of this study indicated that the highest environmental factor was college discipline 43.6% very often. On the other hand, only three factors were mentioned to never or rarely be sources of stress; these were negative attitude from hospital staff, lack of awareness of hospital resources, and lack of hospital resources, 5.5%, 5.6%, and 5.6%, respectively. This means that student experience on lab are helpful for orienting the student about hospital situation resources and facilities, hence lab experience on the college may be very beneficial in relation to those two aspect.

Daily hassles accounted for 88.2% of the environmental stressors. Daily hassles were responsible for 77.3% of the intrapersonal stressors, and 67.2% of the academic sources of stress. Overall, 81.1% of the identified stress sources could be classified as daily hassles.

Studies on the lived experience of new graduate baccalaureate-prepared registered nurse and found that the majority of the participants expected the graduate program mention that learning environment to be challenging, friendly and supportive. They are therefore placed in unfamiliar surroundings, with crowded streets and other stressors

endemic to a capital city. Thus when students doing their clinical learning in hospital, higher stress level was reported than just studying in college or inside the university [34].

Sayedfatimi [13] concluded that among environmental sources of stress, most students reported that "being placed in unfamiliar situations" 64.2% and "waiting in long lines" 60.4% were the most frequent stressors. The binomial test showed that "being placed in unfamiliar situations" was a significant stressor in all 4 years, whereas "waiting in long lines" and "change in living environment" were significantly greater in first year students than in students of other years.

A study on college nursing students proved that Nigerian nursing students have high levels of stress, with the most common stressors including excessive schoolwork, financial problems, inadequate recreational facilities, and overcrowded accommodations. These findings indicated a need for counseling and other support services among nursing students [35].

Schaufeli, et al. [36]. Emphasized that environmental role as sources of stress, focused on different conditions in the job environment and have found that role stressors, such as long hours, are associated with burnout and high levels of turnover. Another study for environment as sources of stress concluded that the major stress factors in male house officers were lack of resources, work overload and lack of communication and comfort with supervisors and colleagues. Lack of resources was the factor observed in all the departments. Female house officers do not experience much stress compare to males as they have support from their supervisors and colleagues [37].

Hamill [38] found that nursing students often have difficulty adjusting to the academic environment of higher education, as well as difficulty adjusting to the environment of a nursing unit. The most likely explanation is that causes of burnout are found in both the individual and the environment.

College stress cannot be prevented, but educators and administrators can do better job to guide students on how to pre-departure preparation and stress management strategies. Conclusively, stress may be exacerbated among health allied science students with their start application performance on actual clinical setup especially at hospital. Therefore simulation labs are conducted for students and should be designed accurately to resemble the actual clinical situation and should be equipped

with advanced technology that help student to handle simulators as if it is a real patient, this may decreased the shock of the direct exposure to actual clinical setup and actual patient and show decrease the level of stress on advanced academic year that the student need to be in actual clinical setup [39].

The present study results concluded that their where a variety of stressors placed on the studied subjects. The major sources of stress as perceived by King Saud University College of Nursing students were the academic followed by intrapersonal, then environmental and the last sources of stress for these students was interpersonal.

The results of the current study emphasized the following aspects as recommendations:

- It is important for the university to maintain well balanced academic environment conducive for better learning, with the focus on the students' personal needs. The university should be affording adequate resources such as books, computers to do assignments.

- Nursing college should do an effort to narrow the gap between Students' expectations, goals, and values to be integrated with that of the university.

- Stress management workshops are important to train student's different ways to deal with unexpected stressors.

- Faculty members should train students to cope with stress by using stress management techniques which is either physical or mental.

References

1- REES C. and REDFERN D.: Recognizing the perceived causes of Stress-training and development perspective. Industrial and Commercial Training Journal, 4 (32): 120-7, 2000.

2- LEE H. A.: Study on stress and coping method of nursing students. Journal of Korean Academy of Psychiatric and Mental Health Nursing, 12: 586-93, 2003.

3- TULLY A.: Stress, sources of stress and ways of coping among psychiatric nursing students. Journal of Psychiatric and Mental Health Nursing, 11: 43-7, 2004.

4- AWINO J. and AGOLLA J.: A quest for sustainable quality assurance measurement for universities. Case of study of the University of Botswana. Educational Research and Review Journal, 2 (4): 63-70, 2009.

5- BECK D.L., HACKET, M.B., SRIVASTAVA R., MCKIM E. and ROCKWELL B.: Perceived level and sources of stress in university professional schools. J. Nurs Educ., (36) 4: 180-6, 1997.

6- MISRA R., and MCKEAN M.: College students' academic stress and its relation to their anxiety, time management,

and leisure satisfaction. American Journal of Health Studies, 1 (16): 41-51, 2000.

7- PRATER L. and MCEWEN M.: Perceptions of student nurses. Journal of Holistic Nursing, 1 (24): 63-9, 2006.

8- ROBIN L.: A Comparison of perceived stress levels and coping styles of junior and senior students in nursing and social work programs. Doctorate of Education Dissertation College of Graduate Studies, Marshall University, 2002.

9- NWADIANI M. and OFOEGBU F.: Perceived Level of Stress among First-times in Nigerian Universities. College Student Journal, 1 (35): 1, 2001.

10- ROSS S., NIEBLING B. and HECKERT T.: Sources of stress among college students. College Student Journal, (33): 312-7, 1999.

11- BAYKAL U., SOKMEN S., KORKMAZ S. and AKGUN E.: Determining student satisfaction in a nursing college. Nurse Educ Today, 4 (25): 255-6, 2005.

12- NICHOLL H. and TIMMINS F.: Program-related stressors among part-time undergraduate nursing students. Journal of Advanced Nursing, 1 (50): 93-100, 2005.

13- SEYED FATEMI N., TAFRESHI M. and HAGANI H.: Experienced stressors and coping strategies among Iranian nursing students. BMC Nursing, 11 (6): 1-10, 2007.

14- YOKOZUKA N.: Stress at college: Effects on health habits, health status and self-esteem. College Student Journal, 4 (3): 217-22, 2000.

15- OLPIN M.: Perceived stress levels and sources of stress among college students: Methods, frequency, and effectiveness of International Section A: Humanities and Social Sciences, (57): 4279-88, 1997.

16- NELSON N., DELL' OLIVER C., KOCH C. and BUCK-LER R.: Stress, coping, and success among graduate students in clinical psychology. Psychological Reports, 3 (88): 759-67, 2001.

17- TOPPER E.: Stress in the library workplace. New Library World, 108 (11/12): 561-4, 2007.

18- TIMMINS F. and KALISZER M.: Aspects of nurse education programmers that frequently cause stress to nursing students - fact-finding sample survey. Nurse Education Today, 3 (22): 203-11, 2002.

19- DYSON R. and RENK K.: Freshmen adaptation to university life: Depressive symptoms, stress, and coping. Journal of Clinical Psychology, 10 (62): 1231-44, 2006.

20- HEINS M., FAHEY S.N. and LEIDEN L.: Perceived stress in medical, law, and graduate students. J. Med. Educ., 3 (59): 169-79, 1984.

21- EVANS W. and KELLY B.: Pre-registration diploma student nurse stress and coping measures. Nurse Education Today, 6 (24): 473-82, 2004.

22- BECK D. and SRIVASTAVA R.: Perceived level and sources of stress in baccalaureate nursing students. Journal of Nursing Education, (30): 127-33, 1991.

23- LARSON E.: Stress in the lives of college women: Lots to do and not much time. Journal of Adolescent Research, 6 (21): 579-606, 2006.

24- SINGH A. and UPADHYAY A.: Age and sex differences in academic stress among college students. Social Science International, 1 (24): 78-88, 2008.

25- ROCHA-SINGH I.: Perceived stress among graduate students: Development and validation of the Graduate Stress Inventory. Educational and Psychological Measurement, 3 (54): 714-27, 1994.

26- GOLDSTEIN M.: Sources of stress and interpersonal support among first-year dental students. J. Dent. Educ., 1 (53): 718-21, 1989.

27- CHEUNARROM C. and BENJAKUL P.: Student adjustment problems in two dental schools in Thailand. J. Dent. Educ., 5 (64): 365-9, 2000.

28- JENKINS R. and ELLTOTT P.: Stressors, burnout and social support: Nurses in acute mental health settings. Journal of Advanced Nursing, 6 (48): 622-31, 2004.

29- AL-OMAR B.A.: Knowledge, attitudes and intention of high school students towards the nursing profession in Riyadh city, Saudi Arabia. Saudi Med. J., 2 (25): 150-5, 2004.

30- AHERN N.R.: Risky behaviors of adolescent college students. Journal of Psychosocial Nursing and Mental Health Services, 4 (47): 21- 55, 2009.

31- FRAZIER P., and SCHAUBEN L.: Stressful life events and psychological adjustment among female college students. Measurement and Evaluation in Counseling and Development, 1 (27): 280-92, 1994.

32- NAIDU R.S., ADAMS J.S., SIMEON D. and PERSAD S.: Sources of stress and psychological disturbance among dental students in the West Indies. J. Dent. Educ. 1 (66): 1021-3021, 2002.

33- GIACOBBI P., LYNN T., WETHERINGTON J., JENKINS J., BODENDORF M. and LANGLEY B.: Stress and coping during the transition to university for first-year female athletes. The Sport Psychologist, 1 (18): 1-20, 2004.

34- HARPER J. R.: The lived experience of new graduate baccalaureate-prepared registered nurses working in an acute care hospital setting. Doctor of Philosophy, Louisiana State University and agricultural and Mechanical College, 2005.

35- OMIGBODUN O., ONIBOKUN A., YUSUF B., ODUKOGBE A. and OMIGBODUN A.: Stressors and counseling needs of undergraduate nursing students in Ibadan, Nigeria. Journal of Nursing Education, 9 (43): 412-5, 2004.

36- SCHAUFELI W., BAKKER B., HOOGDUIN K., SCHAAP C. and KLADLER A.: On the clinical validity of the Maslach Burnout Inventory and the burnout measure. Psychology and Health, 5 (16): 565-82, 2001.

37- KAZMI R., SHEHLA A. and KHAN D.: Occupational stress and its effect on job performance a case study of medical house officers of district Abbottabad. J. Ayub Med. Coll Abbottabad, 3 (20): 135-9, 2008.

38- HAMILL C.: The phenomena of stress as perceived by Project 2000 student nurses: A case study. Journal of Advanced Nursing, 3 (21): 528-36, 1995.

39- SMITH T. and RENK K.: Predictors of academic-related stress in college students: An examination of coping, social support, parenting, and anxiety. NASPA Journal, 3 (44): 78-90, 2007.