

## Academic-Related Stress and Responses of Nursing College Students in Baghdad University

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### Abstract

**Objectives:** The study aims to identify the levels of stress for nursing students within academic and clinical setting; to determine the level of physiological, psychological, and social responses of the students; to find out the significance association of academic stress and physio-psycho-social responses with some demographic characteristics of nursing students.

**Methodology:** A cross-sectional descriptive study which is carried on October 1<sup>st</sup>, 2014 to June 1<sup>st</sup>, 2015. The study conducted on the undergraduate nursing students who are studying at College of Nursing in Baghdad University. The purposive sample of 150 male and female undergraduate nursing students was selected from the four scholastic stages. The Nursing Students Perceived Stress Scale and the Physio-Psycho-Social Scale were adopted and modified for achieve the objectives of the study, the first one is used to measure the level of stress and the second is used to measure the students' responses to stress. The data have been collected through the utilization of the self administrative report as a mean of data collection. Data were analyzed through the application of descriptive and inferential statistical methods by using statistical package for social science (SPSS) version 20.0.

**Results:** The results reveal that more than half of the students were male (56.7%), with sufficient income (47.3%), 73.3% of them depending on others for money expenditure. Most of them were residents in a students' homes of the university (77.3%). 61.3% of them were at second year, the morning study (80%), studying for 2 -4 hours per day (53.3%) and have enough sleeping hours/day (3-6 hours, 90.7%). The nursing students have moderate to severe level of stress from lack of professional knowledge and skills (98.7%), from assignment and workload (54%), from clinical environment (100%), and from taking care of patients (70.7%). The nursing students show low level of emotional, social behavioral, and physical responses to stress (76.7%), (78%), and (96.7%). The results indicate that there is no significant association of perceived stress with demographic variables among nursing students except studying hours which is significantly associated with nursing students' stress. And there is significant association of students' responses with their demographic variables except residence and sleeping hours, which are not significant.

**Conclusions:** The study concluded that nursing college students experiencing moderate to severe level of stress in the clinical environment. And show low level of physio-psycho-social responses. Studying hours per day are significantly associated with perceived stress of the nursing students. The physio-psycho-social responses of the students are influenced by most of their characteristics.

**Recommendations:** The study recommended the necessary of learning of more stress management strategies by nursing college students through educational and counseling programs. And clinical teachers should understand the students' different patterns of coping strategies and utilize this understanding in promoting the clinical teaching environment.

**Keywords:** Academic Stress, Nursing Student, Responses.

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### I. Introduction

Stress is described as one of the more common disease in the 20<sup>th</sup> century <sup>(1)</sup>. It refers to an active transaction between the individual and his environment <sup>(2)</sup>. Stress can be defined in different definitions. According to Hussien and Hussien (2006), stress is defined as "the situation by which the individual suffers from physical and psychological hyper tension resulted from factors that can't be handled and exceeds human ability to cope with" <sup>(3)</sup>.

Stressors can be defined as the event that cause the stress or the potential that affect the health <sup>(4)</sup>. According to some psychologist, stressors are classified into three main categories which are: Sudden trauma, chronic stressors and daily living hassles. Based on these categories, a trend has been identified in studying stress. The first one is stimulus-based which view stress as a stimulus that threatens the individual life, therefore, stress is an independent variable initiated from the internal environment of an individual. Second, is response-based which view stress as a response to the external environment, so, stress is treated as a dependent variable which affects physiological, emotional and cognitive body functions. Third trend is the transaction-based which is a combination of the two previous trends <sup>(5)</sup>.

Nursing students as an academic are prone to many different types of stressors which may be arises from psychological, social, emotional, financial, and family problem <sup>(6)</sup>. According to various studies, nursing students experiencing high level of stress than other students <sup>(7)</sup>, in which many stressors have been experienced by them such as examinations, papers and daily assignments <sup>(8)</sup>, and also the clinical and practical areas which is viewed as highly stressful <sup>(9)</sup>.

Stress and its consequences has become an interesting subject for researcher in academic institution.. Numerous studies in the field of behavioral science have conducted on stress and concluded that stress is an important phenomenon and need to be more focused <sup>(1)</sup>.

The nursing students could experience the positive and negative consequences of stress, which have effects on thinking and learning <sup>(10)</sup>. The students with high levels of stress are known to have difficulties in their education, which may cause a various physical and mental health problems <sup>(11)</sup>. But then low stress levels were described to be motivators for the students <sup>(12)</sup>.

The coping strategies that are used by the students to cope with stress may be altered and influenced in their clinical practices. Efficient coping strategies assist students to perform well in their studying period; and also, the coping strategies will help the students in relieving their stress. Many coping strategies were observed to be effective and useful which are: problem solving, keeping positive attitude, and optimism <sup>(13),(14)</sup>.

It is important to explore the stress in an academic institution considering that stress is one of the serious issues that affect student's life in the university, its effects could be reflected in student social, academics, and mental health. According to Linn and Zeppa study (1984), found that stress can lead to academic decline, poor relationships with peers and family members and overall dissatisfaction with life <sup>(5)</sup>. Therefore, the researcher is interesting in the assessing the academic stress and health responses of nursing college students in Baghdad university, and such study will provide the information related to stress and health responses which may help the student in determining the level of stress to avoid stress and promote their health.

## **II. Objectives Of The Study**

The study aims at:

- (1) Identifying the levels of stress for nursing students within academic setting.
- (2) Determining the level of physiological, psychological, and social responses of the students toward stress.
- (3) Finding out the significance association of academic stress with some demographic characteristics of nursing students
- (4) Finding out whether students' responses are significantly associated with their variables under the study.

## **III. Methodology**

A cross-sectional descriptive study carried on October 1<sup>st</sup>, 2014 to June 1<sup>st</sup>, 2015. An assessment approach is applied in order to achieve the earlier stated objectives for the present study. The current study has been conducted on the undergraduate nursing students who are studying at College of Nursing in Baghdad University. The sample of the study included 150 male and female undergraduate nursing students from the four scholastic stages. The sample was selected purposively (non- probability sampling). In order meet the students formally, the permission has been granted from the deanship/ College of Nursing / Baghdad, this permission facilitated the recruiting the students for the participation in the present study.

The instrument of the study was adopted <sup>(15)</sup> and modified by the researcher. The modifications were employed after considering the congestion of peer experts for more clear and adequate copy of the instrument to be appropriate for this study. The instrument consisted of three parts: the first part is includes the covering letter to obtain the student's agreement to participate in the study in addition to demographic and academic variables of nursing students; the Second part is includes the Nursing Students Perceived Stress Scale (NSPSS) which are consisted of 29 item distributed on six subscales which are: stress from lack of professional knowledge and skills (item 1-3), stress from assignment and workload (item 4-8), stress from taking care of patients (item 9-16), stress from clinical environment (item 17- 19), stress from teachers and nursing staff (item 20- 25), and stress from peer and daily life (item 26- 29). The third part of the instrument is includes the physio-psycho-social scale which used for measuring students responses to stress, it is consisted of 20 items distributed on three subscale: emotional responses (item 1-6), social behavioral responses (item 7-12), and physical responses (item 13-20). The items of both scales were rated to five levels of likert scale and scored the follows: never (1), almost never (2), sometimes (3), fairly often (4) and very often (5).

The level of stress for NSPSS was estimated by calculating the cut of point for the total score of the scale as follow: low =29 -67.5, moderate = 67.6 -96.5, and high = 97- 145. For subscale, the levels of stress were estimated as follow: first subscale (low = 3-6, moderate = 7-11, high = 12-15); second subscale (low = 5-11, moderate = 12-18, high = 19-25); third subscale (low = 8-18, moderate = 19-29, high = 30-40); fourth subscale (low = 3-6, moderate = 7-11, high = 12-15); fifth subscale (low = 6-13, moderate = 14-22, high = 23-30); sixth subscale (low = 4-9, moderate = 10-15, high = 16-20).

The level of physio-psycho-social responses was estimated by calculating the cut of point for the total score of the scale as follow: low = 20-46.5, moderate = 47-73.5, high= 74-100. For subscale, the levels of stress were estimated as follow: emotional and social and behavioral subscale (low = 6-13, moderate = 14-22, high = 23-30); physical subscale (low = 8-18, moderate = 19-29, high = 30-40).

The data have been collected through the utilization of the self administrative report as a mean of data collection. The questionnaire was distributed for the students after being willing to answer the questionnaire and participate in the study. Filling the questionnaire takes approximately 20 – 30 minutes.

Statistical analyses were conducted by using statistical package for social science (SPSS) version 20.0. Data were analyzed through the application of descriptive and inferential statistical approaches which were performed through the computation of the following: frequencies, percentages, mean of score, standard deviation, cut off points and chi-square.

#### IV. Results

**Table 1. Nursing Students' Demographic Variables**

No.	Variable	F	%	
1	<b>Gender:</b>	Male	85	56.7
		Female	65	43.3
		<b>Total</b>	<b>150</b>	<b>100</b>
2	<b>Income:</b>	Sufficient	71	47.3
		Barely sufficient	52	34.7
		Insufficient	27	18
		<b>Total</b>	<b>150</b>	<b>100</b>
3	<b>Expenditure:</b>	Self-dependence	40	26.7
		Other-dependence	110	73.3
		<b>Total</b>	<b>150</b>	<b>100</b>
4	<b>Residence:</b>	Students' homes	116	77.3
		Other	34	22.7
		<b>Total</b>	<b>150</b>	<b>100</b>
5	<b>Scholastic stage:</b>	First	22	14.7
		Second	92	61.3
		Third	26	17.3
		Fourth	10	6.7
		<b>Total</b>	<b>150</b>	<b>100</b>
6	<b>Study type:</b>	Morning	120	80
		Evening	30	20
		<b>Total</b>	<b>150</b>	<b>100</b>
7	<b>Studying hours/day</b>	> 2 hours	30	20
		2 – 4 hours	80	53.3
		5 ≤ hours	40	26.7
		<b>Total</b>	<b>150</b>	<b>100</b>
8	<b>Sleeping hours/day:</b>	> 3 hours	0	0
		3 – 6 hours	136	90.7
		7 ≤ hours	14	9.3
		<b>Total</b>	<b>150</b>	<b>100</b>

No.: Number, F: Frequency, %: Percentage

The findings of this table reveal that more than half of the students were male (56.7%), 47.3% of them have sufficient income, while 73.3% of them depending on others for money expenditure. Most of the students were residents in a student' homes of the university (77.3%). The academic variable of the students in this table show also that 61.3% of them were at second year, the morning study (80%), studying for 2 -4 hours per day (53.3%) and have enough sleeping hours/day (3-6 hours, 90.7%).

**Table 2. Nursing Students' Stress Level Distributed According to Perceived Stress Subscales.**

Perceived Stress Subscale	Levels	F	%	M.S	SD
<b>I. Stress from lack of professional knowledge and skills</b>	Low	2	1.3	1.99	0.115
	Moderate	148	98.7		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		
<b>II. Stress from assignment and workload</b>	Low	0	0	2.46	0.500
	Moderate	81	54		
	High	69	46		
	<b>Total</b>	<b>150</b>	<b>100</b>		
<b>III. Stress from taking care of patients</b>	Low	42	28	2.43	0.900
	Moderate	2	1.3		
	High	106	70.7		
	<b>Total</b>	<b>150</b>	<b>100</b>		

IV. Stress from clinical environment	Low	0	0	2.00	0.001
	Moderate	150	100		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		
V. Stress from teacher and staff	Low	114	76	1.23	0.425
	Moderate	36	24		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		
VI. Stress from peers and day life	Low	77	51.3	1.49	0.501
	Moderate	73	48.7		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		
Total	Low	2	1.3	1.99	0.115
	Moderate	148	98.7		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		

F: Frequency, %: Percentage, M.S: Mean of score, SD: Standard deviation

This table shows the level of stress for each subscale for Perceived Stress Scale. The nursing students have moderate level of stress for the total score. The results of subscale reveal that nursing student have moderate level of stress from lack of professional knowledge and skills (98.7%), from assignment and workload (54%), and from clinical environment (100%). While they perceived high stress level from taking care of patients (70.7%) and they showing low level of stress from teacher and staff (76%), and from peers and daily life (51.3%).

**Table 3. Level of Nursing Students' Responses Distributed According to Physio-Psycho-Social Scale**

Physio-Psycho-Social Scale	Levels	F	%	M.S	SD
I. Emotional responses	Low	115	76.7	1.23	0.424
	Moderate	35	23.3		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		
II. Social behavioral responses	Low	117	78	1.22	0.410
	Moderate	33	22		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		
III. Physical responses	Low	145	96.7	1.09	0.833
	Moderate	5	3.3		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		
Total	Low	117	78	1.22	0.416
	Moderate	33	22		
	High	0	0		
	<b>Total</b>	<b>150</b>	<b>100</b>		

F: Frequency, %: Percentage, M.S: Mean of score, SD: Standard deviation

The findings of this table indicate that nursing student showing low level of emotional, social behavioral, and physical responses to stress (76.7%), (78%), and (96.7%).

**Table 4. The Association of Nursing Students' Perceived Stress with Their Demographic Variables**

Students' Variable	Perceived Stress	Chi-square	d.f	P-Value $\square$ 0.05	Significance
Gender		5.850	1	0.108	N.S
Income		3.820	2	0.148	N.S
Expenditure		0.788	1	0.375	N.S
Residence		0.572	1	0.450	N.S
Scholastic stage		1.208	3	0.751	N.S
Study type		0.528	1	0.467	N.S
Studying hours		8.108	2	0.017	S
Sleeping hours		0.242	1	0.623	N.S

d.f: Degree of freedom, P-Value: Probability value, N.S: Not Significant, S: Significant

The analysis of this table indicates that there is no significant association of perceived stress with demographic variables among nursing students except studying hours which is significantly associated with nursing students' perceived stress at p-value= 0.005.

**Table 5. The Association of Nursing Students' Responses to Stress with Their Demographic Variables**

Students' Variable	Responses	Chi-square	d.f	P-Value $\square$ 0.05	Significance
Gender		17.449	1	0.001	S
Income		37.017	2	0.001	S
Expenditure		75.245	1	0.725	S
Residence		0.124	1	0.004	N.S
Scholastic stage		13.160	3	0.001	S
Study type		116.570	1	0.001	S
Studying hours		35.948	2	0.001	S
Sleeping hours		0.942	1	0.332	N.S

**d.f: Degree of freedom, P-Value: Probability value, N.S: Not Significant, S: Significant**

This findings indicate that there is significant association of students responses with their demographic variables except residence and sleeping hours, which are not significant associated with students' responses at p-value=0.005.

### V. Discussion

According to the descriptive analysis of findings in table (1), more than half of the students were male having sufficient income and depending on others for their money expenditure. Most of the students were residents in students' homes of the university. The socio-demographic regarding age variable indicates that male's students are interesting about engagement in nursing study, and also they are willing to be participated in this study. The economical statuses of the students reveal that they are depending on their families, which may be interpreted by they are don't work because they still students and also they resident in students' homes. A study presented supportive evidence for this result that found Khater et al. <sup>(16)</sup> who found similar findings.

The academic variable of the students in table (1) also show that more of them were from second academic year, the morning study, who were studying for 2 -4 hours per day and have enough sleeping hours/day. Such findings indicate that nursing student can manage their time in which they can get their enough time for studying and sleeping at the same time. Those finding were slightly different from the findings that are found by the study of Labrage <sup>(17)</sup> who found that nursing students studying 3- 4 hours and sleep for six hours a day.

It has been known out of the findings in the table (2) that nursing student experiencing moderate level of stress from the lack of professional knowledge and skills, assignment and workload, and from clinical environment. While they perceived high stress level from taking care of patients From the finding above it seems that the clinical area is considering an important source of stress for the students especially those who need more contact with the patients which requiring from the students to have more knowledge and skills in nursing professional necessary for providing nursing care. According to the syllabus of the nursing college, the students are obligated to fill the requirements of the courses which are represented by assignments, reports, quizzes, and clinical evaluations. All these requirements are stressors for the nursing students, therefore, the student experiencing stress in the clinical environment. On the other hand, the nursing students are showing low level of stress from teacher and staff, and from peers and daily life. These can be attributed to the patterns of teacher-student relationships which are tend to be educational and psychological in basis in which the students feel with low stresses. In addition, the relationships between nursing students and clinical nursing staff in the clinical environment which are based on cooperation. The relationships" pattern could be explained by the nature of social and cultural system. A studies presented supportive evidences for these results those found Khater et al. <sup>(16)</sup> and Labrage <sup>(17)</sup>.

The physio-psycho-social responses of the nursing students in table (3) revealed that they are showing low level of response. The low levels of responses are relayed on the health of the nursing students in which they have good adaptive behavior to any kind of stressors in the clinical and academic environment. Many studies revealed that nursing students using many types of adaptation and coping behavior for elimination and reducing stress <sup>(18)</sup>. In this study, the students may be show less using of coping behavior which may be reflected b their general health and ability of them to handle the daily stressors. A supportive evidence for this result has been presented by Labrage <sup>(17)</sup> that found related results.

The findings of the table (4) indicated that there is no significant association of NSPSS sub-domain with demographic variables among nursing students but it has been shown that academic variable regarding studying hours was significantly associated with nursing students' perceived stress. The findings above were come contradictory for the researcher's anticipation that is all variables could be significantly associated with the stress among the students. The significant association between studying hours and stress may be explained by nursing college syllabus' hours and the overload clinical assignments and reports that are requested from the students which make the nursing students more stressful. This result was different from the results of Nancy <sup>(19)</sup>

who found that nursing student showing high usage of coping behavior which represented major in using of "seeking diversion" and "seeking professional support".

Table 5 indicated that physio-psycho-social responses of the students are significantly associated with their gender, income, expenditure, scholastic stage, study type and studying hours. While are none significantly associated with their residence and sleeping hours. Regarding gender variable, the explanation for the significant association may be due to the psychological differences between males and females nursing students in which females has less adaptation behavior than males and they are mostly use emotional coping strategies rather than other. The association of monthly income with students' responses may be interpreted in the term of financial burdens of the study requirements on the students which may lead them to show more adaptive behavior because most of them were depend on the others in getting their expenditure which has also show significant association with the students' responses. The students of the second scholastic year are usually overloaded with the increasing hours of study due to the nature of the curriculum of nursing college. So, they need more hours for studying to complete their works, assignments, and reports. Therefore, the physio-psycho-social responses were significantly associated with these variables among students. A study presented supportive evidence for these results that found Khater and his colleagues<sup>(16)</sup> who found that the students of the second year of practice were using more coping and adaptation strategies than other scholastic years which are significantly associated with the students' variables. In the other side, there is no association between the physio-psycho-social responses of the students and their residence and sleeping hours. These could be explained that the students are highly adapted to live in the students' homes evidenced by the patterns of peer-relationships and social influence among them. And because they get their enough sleep help them for promoting health. So, they show little use of coping strategies which are reflected by none significant association between the physio-psycho-social responses of the students and their residence and sleeping hours. These findings were consistent with the results of Pulido-Martos and others<sup>(20)</sup> who found no association with the use of coping behavior among nursing students.

## VI. Conclusions

- (1) Nursing college students experiencing moderate to severe level of stress in the clinical environment.
- (2) Nursing college students facing different stressors in clinical teaching which are represented by lack of professional knowledge and skills, assignment and workload, and taking care of the patients.
- (3) Studying hours per day are significantly associated with perceived stress of the nursing students.
- (4) Nursing college students have a good health and showing low level of physio-psycho-social responses.
- (5) The physio-psycho-social responses of the students are influenced by students' gender, income, expenditure, scholastic stage, the study type and studying hours.

## Recommendations

- (1) Nursing college students should be learning more stress management strategies through educational and counseling programs.
- (2) Clinical teachers should understand the students' different patterns of coping strategies and utilize this understanding in promoting the clinical teaching environment.

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