

**Perception of Nursing Students towards Clinical Stressors in the Faculty of Applied Medical Sciences – Al Jouf University- Saudia Arabia**

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**Abstract:** Baccalaureate nursing students often experience high levels of stress during training that may result in psychological or emotional impairment during their professional life ultimately affecting the quality of patient care they provide. Clinical instructors provide the needed support and guidance for students to relieve stress and promote a positive clinical experience. The aim of this study was to investigate the perceived level of stress and sources of stress in undergraduate students enrolled in nursing practicum courses. This descriptive cross-sectional study was conducted with 50 nursing students' representative of third and fourth year (levels 5, 6 and 8) undergraduate students from Al Jouf University in KSA. This study revealed that about three –fourths of students had high level of stress compared to about one- quarter had moderate stress (72 % and 28%, respectively ). Three sources of stress were significant which are stress from taking care of patients, stress from peers and daily life, and stress from hospital staff. *P*- value were 0.03, 0.004, and 0.002, respectively. No significant relationships between students' absenteeism and stress, academic level and stress and mothers' education with stress. It is recommended from this study that nurse educators and curriculum planners should make a positive contribution towards minimizing the stress of student nurses and all personnel involved with teaching nursing students including clinicians need to be adequately prepared to deal with students and be aware of their own impact on students.

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### 1. Introduction

Stress is a perceived concept, meaning that it can be caused by anything that one feels unbalances the harmony in his or her life. Stress is defined in many ways. According to Neuman, a stressor is any relationship between the person and the environment that is appraised by the person as taxing. The relationship can result in either a beneficial or a harmful outcome (Wong *et al.*, 2002).

University students suffer from high levels of stress during their educational experiences. A significant amount of literature has documented stressors of the nursing profession such as fear of failure, lack of free time, and patient care responsibilities with initial stressors being introduced while enrolled in nursing school (Timmins & Kaliszer, 2002; Tully, 2004).

Clinical practice is an essential part of nursing education as it provides nursing students the opportunity to apply knowledge as well as developing their psychomotor skills. Nursing research supports that nursing students identify the practicum portion of class as being particularly stressful. (Chesser- Smyth, 2005; Merdiye & Rengin, 2008).

Different types of stress produce anxiety in individuals, which results in feelings of apprehension that can ultimately lead to negative physical, emotional, cognitive and behavioral symptoms (Boyd & Nihart, 1998). Daily stressors in life cannot be avoided, nor can major life changes. Stressful events that change one's life for an extended period can lead to health related problems. (Wong *et al.*, 2002).

Nursing students face not only academic stress but stress at work during their training period. One focus of interest in research on stress at work is the sources of stress, or stressors, which interact and contribute to the onset of stress in organizational settings (Spielberger & Reheiser, 2005).

Although nursing students experience a high level of stress during their training, there has been limited research on stress and its impact on student's health. (Son *et al.*, 2009; Suarez *et al.*, 2010 ;). Moreover, since nursing education in all areas of Saudi Arabia has now changed from diploma nursing and associate degree education to baccalaureate degree education, little is known about the stressors affecting baccalaureate students in clinical practice.

#### **Aim of the study:**

The purpose of this study is to investigate the perceived level of stress and sources of stress in undergraduate students enrolled in nursing practicum courses.

#### **Research design:**

A descriptive cross sectional research design is used for this study

#### **Setting:**

This study conducted in Faculty of Applied Medical Science-Nursing Department –Al-Jouf University where baccalaureate nursing students study.

#### **Sample:**

All undergraduate nursing students levels 5 , 7 and 8 who agreed to participate in the study from which clinical experience in hospitals had started. The

total number of students is 50 students. There were no students in level 6.

#### Tools of the study:

Questionnaire for data collection was developed by the researchers after reviewing relevant literature which include the following:

**Tool 1:** include two parts:

Part 1 include socio demographic data of students as Students age, academic level, number of clinical courses taught in the current semester.

Part 2 include open-ended questions about students feelings about studying nursing and their feeling toward nursing in general , the best and worst thing that may happen during clinical experience and students' opinions about methods of improvements of clinical nursing practice.

**Tool 2:** The Perceived Stress Scale (PSS). It consists of 42-items scale using a 4- Likert Scale which identifies perceptions of the sources of stress and perceived stressful situations in the nursing students environment, each item is scored according to the frequency which those situations are assessed as stressful from (0) never ,low (1), exactly (2) and (3) high. This scale was originally developed by Sheu *et al.*, 1997. This scale is adapted by the researchers to best describe the specific stressors of nursing students in the community under the study. The greater the frequency of work stressors experienced by the participant is indicated with a higher score (, Pin Ikahama & Happell, 2004; Lee *et al.*, 2007). This scale was sub-divided into factors which focused on different aspects that were considered potential stressors in nursing practice which were grouped into seven factors including stress related to patient care (8 items), stress related to assignments and workload (6 items), stress from lack of professional knowledge and skills (5 items), stress related to peers and daily life (4 items), stress from clinical environments (7 items), stress from hospital staff (4 items) and stress from teachers (8 items). The total score ranges between 0 and 126. students whose score was 0- < 63 were considered had low stress, 64- < 88 score were considered moderate stress, while those who scored 89- 126 had high stress.

The Perceived Stress Scale has demonstrated validity in the measurement of stress (Sheu *et al.*, 2002). They affirm that content validity looks at the adequacy of the coverage of areas being measured e.g stress and stressors. The content validity of the Perceived Stress Scale was established by Sheu *et al.* (2002). Five nurse colleagues assisted in measuring the face validity of the scale and were satisfied with its validity. The reliability of the Arabic version of the scale was estimated using Cronbach alpha test. Cronbach alpha coefficient of internal consistency was reported to be 0.86.

This tool provided an opportunity for respondents to expand on responses in the nursing stress scale and include stressors and suggestions relating to the clinical environment. It also yielded

information on stress and stressors as perceived by them and providing an opportunity for respondents to suggest ways to prevent or manage stress in clinical environment. It was worded clearly, simply and unambiguously and is not value laden or leaden (Parahoo, 1997). While the open- ended questions provided an opportunity for participants to expand and clarify the answers in Nursing Stress Scale, it also enriches the rigour of the study through a different data collection method.

## 2. Materials and Methods:

**1- A pilot study:** was carried out on 10% of students (5 students) to test the clarity and applicability of the sheet. The tool was relevant and applicable but some words have been modified.

### 2- Data collection:

An official permission was obtained from the Dean of the Faculty of Applied Medical Sciences to collect data from nursing students in the faculty. In order to conduct the study, a questionnaire was given to students in break time between lectures after taking their written consent to participate in the study. All students were reassured that information obtained will be confidential and used only for the purpose of the study. The questionnaire was derived from the student work place stressors schedule and from issued raised in qualitative interviews with multiple small groups of students.

### 3- Statistical analyses:

Personal computer (Pc) was used to store and analyze data and, to produce graphic presentation for some important results. Comparison of percentages: qualitative variables are expressed as percentages and compared among two groups using the chi square test. The same test is used for comparison of 2 or more groups. The Fischer's exact formula is used with small frequencies to avoid false significance (Munro, 1997). Comparison of means: the t-test is used for comparison of means. The output of t-value (probability of error) is obtained from the t-test. Correlation coefficient (r) was used to study the correlation between two quantitative variable (Munro, 1997).

**For each test level of significant (P) was considered as follows:**

|             |                           |
|-------------|---------------------------|
| $P > 0.05$  | → Insignificant           |
| $P < 0.05$  | → Significant             |
| $P < 0.01$  | → Highly significant      |
| $P < 0.001$ | → Very highly significant |

### 4- Limitations of the study

Decreased number of nursing students who study clinical courses, the refusal of some nursing students to fulfill the questionnaire sheet as they were preoccupied by many things and some nursing students took the questionnaire sheet and did not return it back to the researchers.

## 3. Results

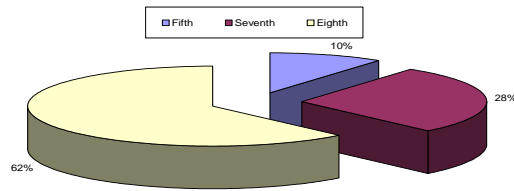


Figure (1): Academic level of studied students

Table (1): Sociodemographic characteristics of the studied sample

| Item                          | No         | %  |
|-------------------------------|------------|----|
| • Father's education:         |            |    |
| ○ Low education               | 30         | 60 |
| ○ High education              | 20         | 40 |
| • Mother's education:         |            |    |
| ○ Low education               | 35         | 70 |
| ○ High education              | 15         | 30 |
| • Mother's working condition: |            |    |
| ○ Working                     | 12         | 24 |
| ○ House wife                  | 38         | 76 |
| • Students' age               | Mean ± SD  |    |
|                               | 22.82±1.51 |    |

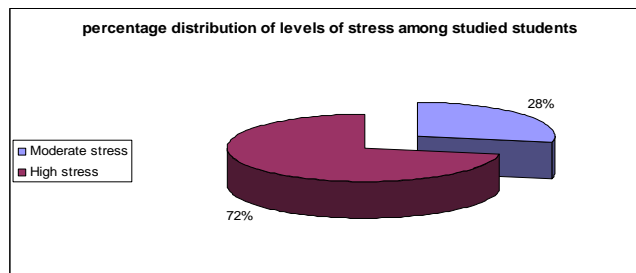


Figure 2 : Levels of stress in percentage distribution among student nurses

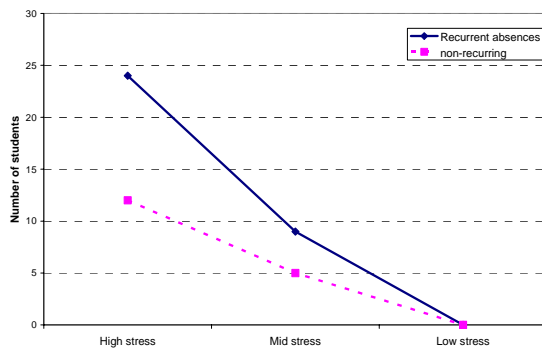
Table (2): Stressors perceived by nursing students:

| Stress factor  | High |    | Exactly |    | Low |    | Not present |    | X <sup>2</sup> | p- value |
|--|------|----|---------|----|-----|----|-------------|----|----------------|----------|
|  | No   | %  | No      | %  | No  | %  | No          | %  |                |          |
| • <b>Stress from taking care of patient:</b>   |      |    |         |    |     |    |             |    |                |          |
| ○ Confrontation with new diagnoses   | 17   | 34 | 20      | 40 | 5   | 10 | 8           | 16 | 9.91           | 0.02*    |
| ○ Do not know how to help patients with physical- psycho-social problems                         | 13   | 26 | 9       | 18 | 14  | 28 | 14          | 28 | 1.13           | 0.77     |
| ○ Unable to provide appropriate response to doctors  | 9    | 18 | 22      | 44 | 11  | 22 | 8           | 16 | 7.39           | 0.06     |
| ○ Unable to provide appropriate response to teachers' response                                   | 16   | 32 | 22      | 44 | 7   | 14 | 5           | 10 | 11.97          | 0.01**   |
| ○ Worry about not being trusted or accepted by patients or patients' family                      | 11   | 22 | 22      | 44 | 9   | 18 | 8           | 16 | 7.39           | 0.06     |
| ○ Unable to provide patients with good nursing care  | 13   | 26 | 21      | 42 | 7   | 14 | 9           | 18 | 7.04           | 0.07     |
| ○ Do not know how to communicate with patients   | 22   | 44 | 15      | 30 | 10  | 20 | 3           | 6  | 12.63          | 0.01**   |
| ○ Experience difficulties in changing from the role of a student to that of a nurse              | 16   | 32 | 15      | 30 | 8   | 16 | 11          | 22 | 2.67           | 0.45     |
|  |      |    |         |    |     |    |             |    | 26.80          | 0.03*    |
| • <b>Stress from assignments and workload:</b>   |      |    |         |    |     |    |             |    |                |          |
| ○ Worry about bad grades   | 10   | 20 | 8       | 16 | 14  | 28 | 18          | 36 | 3.73           | 0.29     |
| ○ Experience pressure from the nature and quality of clinical practice                           | 14   | 28 | 23      | 46 | 8   | 16 | 5           | 10 | 11.67          | 0.01**   |
| ○ Feel that one's performance doesn't meet teacher's expectation                                 | 18   | 36 | 19      | 38 | 10  | 20 | 3           | 6  | 11.46          | 0.01**   |
| ○ Feel that the requirements of clinical practice exceeds one's physical and emotional endurance | 11   | 22 | 24      | 48 | 9   | 18 | 6           | 12 | 11.14          | 0.01**   |

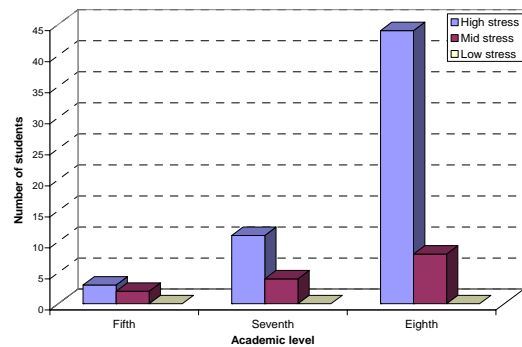
|   |    |    |    |    |    |    |    |    |       |          |
|---|----|----|----|----|----|----|----|----|-------|----------|
| ○ Feel that dull and inflexible clinical practice affects one's family and social life          | 9  | 18 | 10 | 20 | 12 | 24 | 19 | 38 | 3.71  | 0.29     |
| ○ Too much responsibilities or duties on students during clinical practice                      | 5  | 10 | 18 | 36 | 10 | 20 | 17 | 34 | 7.50  | 0.06     |
|   |    |    |    |    |    |    |    |    | 10.32 | 0.59     |
| <b>• Stress from lack of professional knowledge and skills:</b>                                 |    |    |    |    |    |    |    |    |       |          |
| ○ Unfamiliar with medical history and terms   | 15 | 30 | 17 | 34 | 11 | 22 | 7  | 14 | 3.86  | 0.28     |
| ○ Unfamiliar with professional nursing skills   | 11 | 22 | 12 | 24 | 5  | 10 | 22 | 44 | 9.27  | 0.03*    |
| ○ Unfamiliar with patients' diagnoses and treatment   | 13 | 26 | 24 | 48 | 6  | 12 | 7  | 14 | 29.82 | 0.0001** |
| ○ Do something wrong  | 22 | 44 | 18 | 36 | 3  | 6  | 7  | 14 | 15.73 | 0.001**  |
| ○ Lack of availability of certain equipments  | 9  | 18 | 21 | 42 | 11 | 22 | 9  | 18 | 5.88  | 0.12     |
|   |    |    |    |    |    |    |    |    | 17.68 | 0.089    |
| <b>• Stress from clinical environment:</b>  |    |    |    |    |    |    |    |    |       |          |
| ○ Feel stressed in the hospital environment where clinical practice takes place                 | 18 | 36 | 16 | 32 | 4  | 8  | 12 | 24 | 7.89  | 0.05*    |
| ○ Unfamiliar with the ward facilities   | 9  | 18 | 12 | 24 | 13 | 26 | 16 | 32 | 1.60  | 0.66     |
| ○ Feel stressed from the rapid change in patient's condition                                    | 8  | 16 | 19 | 38 | 13 | 26 | 10 | 20 | 4.28  | 0.23     |
| ○ Transportation between college and hospital   | 8  | 16 | 19 | 38 | 8  | 16 | 15 | 30 | 5.63  | 0.13     |
| ○ Availability of transportation at the time of clinical practice                               | 9  | 18 | 15 | 30 | 9  | 18 | 17 | 34 | 3.25  | 0.35     |
| ○ Worry about having infection from the patient   | 13 | 26 | 11 | 22 | 12 | 24 | 14 | 28 | 0.32  | 0.96     |
| ○ Worry about not oriented to the departments of the hospital before starting clinical practice | 12 | 24 | 13 | 26 | 16 | 32 | 9  | 18 | 1.60  | 0.66     |
|   |    |    |    |    |    |    |    |    | 22.00 | 0.079    |
| <b>• Stress from peers and daily life:</b>  |    |    |    |    |    |    |    |    |       |          |
| ○ Experience competition from peers in the faculty and clinical practice                        | 18 | 36 | 17 | 34 | 6  | 12 | 9  | 18 | 6.84  | 0.08     |
| ○ Feel pressure from teachers who evaluate students' performance by comparison                  | 15 | 30 | 22 | 44 | 9  | 18 | 4  | 8  | 11.58 | 0.01**   |
| ○ Feel that clinical practice affects one's involvement in extracurricular activities           | 18 | 36 | 16 | 32 | 6  | 12 | 10 | 20 | 5.96  | 0.11     |
| ○ Cannot get along with other peers in group  | 19 | 38 | 17 | 34 | 7  | 14 | 7  | 14 | 7.90  | 0.05*    |
|   |    |    |    |    |    |    |    |    | 26.12 | 0.004*** |
| <b>• Stress from hospital staff:</b>  |    |    |    |    |    |    |    |    |       |          |
| ○ Relationship with in charge nurse   | 12 | 24 | 22 | 44 | 7  | 14 | 9  | 18 | 7.98  | 0.05*    |
| ○ Relationship with health professionals  | 17 | 34 | 15 | 30 | 13 | 26 | 5  | 10 | 5.70  | 0.13     |
| ○ Conflicts with nurses   | 9  | 18 | 18 | 36 | 9  | 18 | 14 | 28 | 3.58  | 0.31     |
| ○ No interaction between nursing staff and students   | 16 | 32 | 22 | 44 | 7  | 14 | 5  | 10 | 11.97 | 0.01**   |
|   |    |    |    |    |    |    |    |    | 27.44 | 0.002*** |
| <b>• Stress from teachers"</b>  |    |    |    |    |    |    |    |    |       |          |
| ○ Experience discrepancy between theory and practice  | 14 | 28 | 11 | 22 | 7  | 14 | 18 | 36 | 4.19  | 0.24     |
| ○ Feel stressed that teacher's instruction is different from one's expectations                 | 16 | 32 | 16 | 32 | 7  | 14 | 11 | 22 | 3.76  | 0.29     |
| ○ Lack of care and guidance from teachers   | 12 | 24 | 13 | 26 | 18 | 36 | 7  | 14 | 3.93  | 0.27     |
| ○ Lack of orienting students about methods of evaluation and marks distribution                 | 16 | 32 | 12 | 24 | 11 | 22 | 11 | 22 | 1.05  | 0.79     |
| ○ Lack of orienting students about defects in performance                                       | 18 | 36 | 14 | 28 | 11 | 22 | 7  | 14 | 4.19  | 0.24     |
| ○ Lack of continuous evaluation on students' performance  | 15 | 30 | 14 | 28 | 11 | 22 | 10 | 20 | 1.09  | 0.78     |
| ○ Teacher's dependency on sheet for the practical part  | 9  | 18 | 20 | 40 | 10 | 20 | 11 | 22 | 4.61  | 0.20     |
| ○ Lack of role model in the teacher   | 10 | 20 | 17 | 34 | 13 | 26 | 10 | 20 | 2.06  | 0.56     |
|   |    |    |    |    |    |    |    |    | 19.36 | 0.25     |

Table (3): The most stressful clinical settings as rated by participants:

| Rank | Clinical settings      | No | %  |
|------|------------------------|----|----|
| 1    | Faculty lab            | 1  | 2  |
| 2    | Medical unit           | 1  | 2  |
| 3    | Surgical unit          | 2  | 4  |
| 4    | Operating theatre (OT) | 3  | 6  |
| 5    | Critical care unit     | 12 | 24 |
| 6    | Intensive care unit    | 11 | 22 |
| 7    | Pediatric ward         | 3  | 6  |
| 8    | Maternity ward         | 5  | 10 |
| 9    | Psychiatric hospital   | 9  | 18 |
| 10   | Dispensary             | 2  | 4  |
| 11   | Outpatient clinics     | 1  | 2  |



**Figure (3): Relation between students' absenteeism and stress**



**Figure (4): Relation between academic level and stress**

**Table (4): Perception of nursing students about clinical practice.**

| Item  | No | %  |
|---|----|----|
| • Students' feelings of studying nursing:                               |    |    |
| ○ Positive feeling  | 47 | 94 |
| ○ Negative feeling  | 3  | 6  |
| ○ No opinion or neutral   | 0  | 0  |
| • Students' feelings toward nursing:                                    |    |    |
| ○ Positive feeling  | 48 | 96 |
| ○ Negative feeling  | 1  | 2  |
| ○ No opinion or neutral   | 1  | 2  |
| • Students' opinion about clinical practice:                            |    |    |
| ○ Satisfactory  | 43 | 86 |
| ○ Unsatisfactory  | 7  | 14 |
| • Enjoyable clinical experience:  |    |    |
| ○ Yes   | 45 | 90 |
| ○ No  | 5  | 10 |
| • The worst thing to happen during clinical practice:                   |    |    |
| ○ Bad treatment with students   | 14 | 28 |
| ○ Mal- practicing of students   | 6  | 12 |
| ○ Lack of ideal practical learning with students                        | 14 | 28 |
| ○ Lack of time  | 4  | 8  |
| ○ Facing dying and death of patients                                    | 7  | 14 |
| ○ Problem confront the students during practical time                   | 3  | 6  |
| ○ Lack of facilities  | 2  | 4  |
| • The best thing to happen during clinical practice:                    |    |    |
| ○ Cooperation   | 5  | 10 |
| ○ Successful achievement of students                                    | 20 | 40 |
| ○ Encourage of students   | 2  | 4  |
| ○ Self learning   | 5  | 10 |
| ○ Applying all skills   | 8  | 16 |
| ○ Good orientation to different departments                             | 2  | 4  |
| ○ Helping medical team  | 3  | 6  |
| ○ Enjoy working with patients   | 5  | 10 |
| • Students' opinions to improve clinical practice and clinical training |    |    |
| ○ Good understanding of teachers to students                            | 9  | 18 |
| ○ Continuous supervision on students                                    | 3  | 6  |
| ○ Increase time for demonstrating skills                                | 13 | 26 |
| ○ Cooperation between student and teacher                               | 7  | 14 |
| ○ Make different places available for clinical training of students     | 5  | 10 |
| ○ Encourage students  | 8  | 16 |
| ○ Availability of facilities in the lab                                 | 5  | 10 |
| • Students' expectations about acquired clinical experience             |    |    |
| ○ Good  | 41 | 82 |
| ○ Bad   | 9  | 18 |

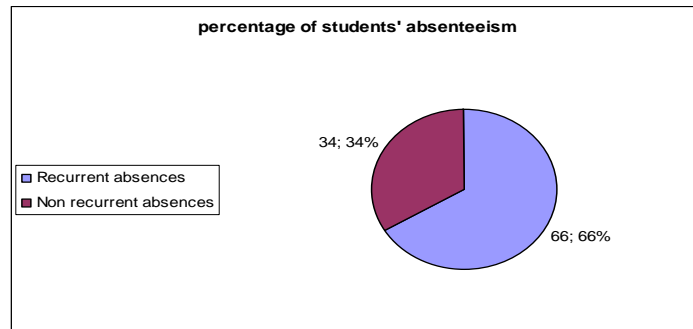


Figure 5: Percentage of students' absenteeism

Table (5): The most frequent causes of students' absenteeism

| Cause  | High |    | Exactly |    | Low |    | Not present |    | X <sup>2</sup> | p- value |
|--|------|----|---------|----|-----|----|-------------|----|----------------|----------|
|  | No   | %  | No      | %  | No  | %  | No          | %  |                |          |
| • Examination  | 11   | 22 | 24      | 48 | 9   | 18 | 6           | 12 | 11.14          | 0.011**  |
| • Stress from intense amount of work                       | 7    | 14 | 8       | 16 | 13  | 26 | 22          | 44 | 8.55           | 0.04*    |
| • Finding the academic work difficult                      | 10   | 20 | 4       | 8  | 16  | 32 | 20          | 40 | 9.73           | 0.02*    |
| • Being faced with study                                   | 8    | 16 | 14      | 28 | 10  | 20 | 18          | 36 | 3.73           | 0.29     |
| • Too much unnecessary work                                | 10   | 20 | 19      | 38 | 8   | 16 | 13          | 26 | 4.28           | 0.23     |
| • Dissatisfaction with students' performance               | 10   | 20 | 8       | 16 | 14  | 28 | 18          | 36 | 3.73           | 0.29     |
| • Possible disciplinary procedure                          | 12   | 24 | 18      | 36 | 8   | 16 | 12          | 24 | 3.21           | 0.36     |
| • Feeling of inferiority compared with others in the group | 18   | 36 | 17      | 34 | 6   | 12 | 9           | 18 | 6.84           | 0.08     |
| • A personality clash with a tutor                         | 22   | 44 | 15      | 30 | 6   | 12 | 7           | 14 | 10.54          | 0.01**   |
| • No situation in the educational place causes stress      | 20   | 40 | 10      | 20 | 7   | 14 | 13          | 26 | 5.77           | 0.12     |
| • Physical hard work                                       | 11   | 22 | 24      | 48 | 9   | 18 | 6           | 12 | 11.14          | 0.011**  |
| • Pressure of time when performing nursing duties          | 5    | 10 | 18      | 36 | 10  | 20 | 17          | 34 | 7.50           | 0.06     |
| • Disregard shown for the emotional needs of patients      | 13   | 26 | 8       | 16 | 14  | 28 | 14          | 28 | 1.70           | 0.64     |
| • Repugnant tasks  | 21   | 42 | 14      | 28 | 9   | 18 | 6           | 12 | 8.06           | 0.04*    |
| • Lack of teaching & interest in learners                  | 20   | 40 | 7       | 14 | 14  | 28 | 9           | 18 | 6.31           | 0.10     |

\* number of students were students with recurrent absences

Table (6): Educational stress variables

| Cause of absenteeism (n= 33)*                                | No | %  |
|--|----|----|
| Educational workload   | 12 | 24 |
| Lack of enough break time                                    | 3  | 6  |
| For studying   | 2  | 4  |
| Lack of instructors' concern about time of clinical practice | 2  | 4  |
| External conditions  | 8  | 16 |
| Hospital appointment for treatment                           | 2  | 4  |
| Mal treatment between student and instructor                 | 2  | 4  |
| Sleep late   | 2  | 4  |

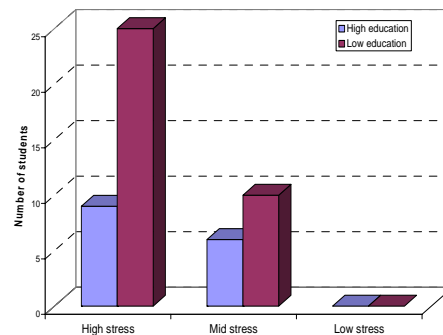


Figure (6): Relation between mothers' education and stress

Table 1 shows sociodemographic characteristics of studied sample. More than half of studied students their fathers' education was low (60 % Vs. 40%, respectively).

Regarding mothers' education about two- thirds of mothers of studied students had low education compared to only one third of them had high education (70% Vs. 30%, respectively). However, about three- fourths of mothers of

studied students were housewives. The mean age of students was 22 years.

Table 2 demonstrates stressors perceived by nursing students .

As regards stress from taking care of patients, it was found that significant stressors perceived by students were confrontation with new diagnoses, unable to provide

appropriate response to teachers' response and don't know how to communicate with patients. (*P*- values were < 0.02, < 0.01 and < 0.01, respectively).

A high percentage of students perceived assignments and workload as a stressor during clinical practice with approximately one- third of students perceived experience pressure from nature and quality of clinical practice as a high stressor and about one half of them found it exactly stressor (28% & 46%, respectively). The differences were highly statistically significant *P*- value < 0.01.

More than one- third of students had high and exact stress from feeling that one's performance doesn't meet teacher's expectation (36% & 38%, respectively) with highly statistically significant difference; *P* - value < 0.01.

Moreover about one- fourth of studied students and about one half of them found a significant high stress and exact stress, respectively from feeling that the requirements of clinical practice exceeds one's physical and emotional endurance (22% & 48%, respectively). *P* - value < 0.01.

As shown from table 2 that 3 out of 5 items of stress from lack of professional knowledge and skills with about one- fourth of students reported unfamiliarity with professional nursing skills as high and exactly stressor with a significant difference (*P* - value < 0.03) and a high percentage of students found high and exact stress from unfamiliarity with patients' diagnoses and treatment (26% & 48 %, respectively) with a very highly statistically significant differences (*P* - value < 0.0001). a highly statistically significant differences were found regarding doing something wrong with about one half of students with about one half of students perceived it as highly stressor and more than one- third of them perceived it exact stress (44% and 36%, respectively). *P* - value < 0.001).

As regards stress from clinical environment the only significant difference was related to feeling stress in the hospital environment where clinical practice takes place with more than one- third of students found it high and exact stressor (36% and 32%, respectively; *P* - value < 0.05).

This study also found that students felt stress from peers and daily life with 2 items were statistically significant; feel pressure from teachers who evaluate students' performance by comparison and cannot get along with other peers in group (*P* - value < 0.01 and <0.05, respectively).

Our students reported stress from hospital staff as a major stressor they face during their clinical practice with the 2 statistically significant stressors were relationship with in charge nurse and no interaction between nursing staff and students. (*P* - value < 0.05 and < 0.01, respectively). However, this study students in this study didn't perceive stress from teachers a significant.

**Table 3** presents the most stressful clinical settings as rated by participants. It is shown from this table that the most stressful clinical setting was critical care unit followed by intensive care unit (24% and 22%, respectively). While the least stressful clinical setting perceived by students were faculty lab, medical unit and outpatient clinics (2% ) for each setting.

**Table 4** demonstrates open ended questions as perceived by participants. As can be seen from this table that the overall outlook toward nursing is overwhelmingly

positive with 94 % and 96% approval rate to studying nursing and their feeling toward nursing in general, respectively. The majority of nursing students' opinion about clinical practice is satisfactory (86%). And the majority 90% of students, think clinical practice as enjoyable.

As with all newcomers to any profession, students have three factors they perceived as the worst that happen during clinical practice; bad treatment of students by fellow colleagues, lack of ideal practical training and facing dying and death of patients. (28%, 28% and 14%, respectively).

The majority of these students (40%) are looking for successful achievement of them in their profession and application of all skills (16%), which definitely shows enthusiasm and competitiveness.

Regarding students' opinions to improve clinical practice and clinical training were increase time for demonstrating skills followed by good understanding of teachers to students and encouragement of students (26%, 18% and 16%). Acquiring clinical skills were satisfying to 82% of participants.

**Table 5** illustrates the most frequent causes of students' absenteeism. As the data analysis showed 2 factors dominate absenteeism which are educational stressors and external conditions (24% and 16%, respectively).

**Table 6** presents educational stress variables. About three- fourths of students found examination a significant stressor (high and exact stress, 22% and 48%, respectively, *P* - value < 0.01). moreover this table shows a significant stressor from intense amount of work, finding the academic work difficult and physical hard work difficult and physical hard work with a *P* - value < 0.04, < 0.02 and < 0.01, respectively). Moreover, it was found that a significant educational stressors were a personality clash with a tutor and repugnant tasks. *P*- value < 0.01 and <0.04, respectively).

**Figure 1** shows academic level of studied students with more than half of students from eighth level followed by seventh and finally fifth level (62%, 28% and 10%, respectively).

**Figure 2** demonstrates percentage distribution of levels of stress among studied students with about three- fourths of them had high stress and about one- fourth of them had moderate stress. Low stress was not represented in the studied students.

**Figure 3** illustrates a relation between student absenteeism and stress. They appears to be no significant correlation between students' absenteeism and level of stress ( $r = 0.023$ ).

**Figure 4** demonstrates a relation between academic level and stress with the eighth level showed the higher stress followed by seventh level and fifth level.  $r = 0.053$ ).

**Figure 5** shows percentage of students' absenteeism with about two-thirds of students experienced recurrent absences.

**Figure 6** presents relation between mothers' education and stress. There is a relation with higher stress associated with lower low mothers' education but there is no statistically significant difference ( $r = 0.025$ ).

#### 4. Discussion:

The clinical area has been considered to be the heart of nursing education. Because it is here where the problem



solving abilities of students are developed and internalized. These skills could be fostered when higher level interaction techniques are used by faculty with students.

This study describes the stress experienced by under graduate nursing students during their clinical practice. It was found that the majority of students experienced high level of stress (72%) followed by moderate stress (28%) (as shown in figure 2) among the seven factors related to stress.

There were some similarities between the results of this study with other reported studies which confirmed that some of the factors are universal in nursing education. There is an evidence suggesting that stress during undergraduate training may result in psychological problems and emotional impairment during the nurses professional life & ultimately affect the quality of patient care (Evans & Kenly, 2004; Chan *et al.*, 2009)

The present study revealed that taking care of patient was one of the significant stressful aspect in clinical practice perceived by students. This result is in consistent with Chanq, 2007 who stated that among different stressors, students rates stress from taking care of patients as one of the top three stressors. Moreover, Sheu *et al.*, 2002 reported in his cross sectional study about stressors among nursing students that taking care of patients represents the most stressful to student.

Our study also found that lack of professional knowledge and skills a significant stressor as rated by the students.

This is in accordance with Sheu *et al.*, 2002 who stated that among the most common and significant stressors perceived by nursing students at the initial period of clinical training is lack of professional knowledge. There is also an agreement with Zupiria *et al.*, 2007 who stated that lack of competence is the highest stressor among nursing students followed by uncertainty and impotence. In addition, Basso *et al.*, 2008 found that lack of competence is a major stressor facing students. Also Chan *et al.*, 2009 reported that among sources of stress assessed in nursing students are lack of professional knowledge and skills.

This stress may be due to inadequate preparation for clinical practice. Students might not have read or prepared before their clinical practicum. In addition, students might be timetabled to attend lectures in the early part of the week, followed by clinical experience for the rest of the week. They might not have completed the whole course before embarking on clinical practice. Furthermore, students might be inexperienced in taking care of patients with multiple health problems and handling unexpected circumstances in a clinical setting. Students might be afraid of making mistakes and lack confidence in taking care of patients. These factors may explain why stress from 'lack of knowledge and skills' and 'taking care of patients' underlies the two stressors commonly experienced by students.

Stress from assignments and work load was also perceived by nursing students as a major stressor. This is consistent with previous studies ( Sheu *et al.*, 2002, Timmins & Kaliszzer, 2002, Jones & Johnstin., 2006; Chan, 2007; Zupiria *et al.*, 2007 and Prymachuk & Richards, 2007; Chan, *et al.*, 2009 Jimenez *et al.*, 2010).

This may be explained that students have less time to complete the theoretical courses, students time tables are packed with continuous assessments such as assignments, case studies and examinations throughout the year. Also nursing students have to work and practice in overcrowded and understaffed clinical settings.

Stress from peers and daily life was the fourth most common stressor perceived by students. This result agrees with Sheu *et al.*, 2002 who stated that stress from peers and daily life is among the most significant sources of stress assessed in nursing students. Moreover, Chan *et al.*, 2009 found that students suffer from stress from peer and daily life.

This study highlights that stress from hospital staff are among the most stressors perceived by nursing students. This result is in accordance with Timmins & kaliszzer, 2002 who reported that the second common stressor perceived by nursing students was relationships with tutors, relationships with clinical placement coordinators followed by relationships with staff on wards. Moreover, kim, 2003 reported that interpersonal relationships with health care providers is one of the most common and significant stressors to nursing students.

The least common stressor perceived by nursing students appeared to be stress from clinical environment. This is in agreement with Evans & Kelly, 2004 who reported that the first stressor perceived by nursing students is clinical stress. Moreover, Seyedfatemi *et al.*, 2007 found environment sources of stress among the most common stressors perceived by nursing students also, Burnard *et al.*, 2008 found that among sources of stress assessed in nursing students is clinical situations. Other studies analyzed the relationship between the experience of clinical practices and students' perceived levels of stress as Edwards *et al.*, 2010 and found that clinical situations is a source of stress to nursing students.

This study showed that the most stressful clinical setting rated by nursing students is critical care unit and intensive care unit ( 24% & 22% respectively) as shown in table 3. This may be explained as working in these previous clinical settings entails facing life and death situations, and responding accurately and fast to any rapid change in a patients' condition

This study shows that about two – thirds (66%) of students had recurrent absences as a shown in figure 3. The highest percent of students reported that the cause of their recurrent absences is educational workload followed by external conditions (24% and 16% respectively) as shown in table (5). This is in accordance with results obtained from table 6 which presents a significant differences in the items of stress from intense amount of work, finding the academic work difficult, and physical hard work (*p*- value; 0.04, 0.02 and 0.01, respectively). this predominant stress factors found in this study arising as result of academic activity support the findings of Lindop's (1999) studies and also Timmins & Kaliszzer (2002 ) Irish study findings (e.g examinations & the intense amount of academic work also support the finding.

This may be explained by the culture of the students in which there is no available general transportations to transport students. Every student come with one of her



family member. So, if he is not available, it will be difficult for the students to come to the university.

It is evident from this study that physical hard works a significant educational stress variable. Nursing students reported that assignments and clinical workload definitely exceeded their physical and emotional capacity (Chan *et al.*, 2009) which is similar to our results (*p*-value 0.01)

In relation to the personality clash with a tutor Nursing students described negative interaction with instructors as the most frequent source of stress in a study by Kleehammer *et al.* (1990) which is in agreement with our results (*p*-value 0.01). Also Students mentioned that it was very distressing to be often told off by teachers in front of others. (Mahat, 1996).

Kim (2003) reported that students rated being observed by instructors and being late as anxiety-producing clinical situations. Also, poor relationships with clinical staff were a leading stressor reported by Irish diploma student nurses (Evans & Kelly, 2004).

Several studies have examined the levels of stress among nursing students in clinical practice. Results show that the level of stress varies according to students' seniority, and in particular specialties they are allocated to during their clinical placement.

This study revealed that the higher the academic level of nursing students, the higher the stress level they are experienced but the difference is not statistically significant as shown in figure 4. this result is in agreement with that of Oermann, 1998 who found that stress experienced by nursing students in clinical practice increased as they progressed through the program. However, inconsistent results were found when comparing nursing students' levels of stress against their seniority. Kleehammer *et al.*, (1990) found that junior nursing students showed a higher anxiety score than senior students.

Senior nursing students are expected to take up more responsibilities during clinical practice. Also, clinical educators and staff have higher expectations of senior students than of their juniors in terms of their competence in providing quality care (Oermann, 1998). An increased workload and higher expectations may lead senior students to perceive a higher level of stress.

However, there are no consistent studies that can show junior or senior students have higher levels of stress in clinical practice when the two groups are compared.

## 5. Conclusion

It is clear from the results of this study that student nurses are exposed to a variety of stressors from educational and clinical perspectives which is not unique when compared to the literature as stress from taking care of patients as confrontation with new diagnoses, unable to provide appropriate response to teachers' responses, and don't know how to communicate with patients.

Stress from lack of professional knowledge and skills, stress from assignments and workload, stress from peers and daily life and finally stress from hospital staff.

Educational stressors perceived by nursing students in this study were examinations, stress from intense amount of work and finding the academic work difficult, a personality clash with a tutor, physical hard work and repugnant tasks.

The most stressful clinical settings perceived by nursing students were critical and intensive care units. Absenteeism appears to be a problem in high percentage of nursing students. They revealed the cause of their absenteeism to educational workload and external conditions.

No significant relationships between students' absenteeism and stress, academic level and stress and mothers' education with stress.

## Recommendations:

This study recommends that:

- Nurse educators and curriculum planners should make a positive contribution towards minimizing the stress of student nurses.
- All nursing clinicians and teachers should adequately prepare students before clinical practice and orient them to the hospital environments, staff and policies of the clinical training places.
- All personnel involved with teaching nursing students including clinicians need to be adequately prepared to deal with students and be aware of their own impact on students (Timmins and Kalisz, 2002).
- Ensure the effectiveness of a range of support services for students throughout programmes which offer appropriate academic assistance and guidance.
- The nursing curriculum should be proactive in equipping students nurses with effective coping skills, which can be called upon in their future nursing careers.
- Implement teaching strategies whereby student nurses can be empowered to promote a positive intrapersonal and interpersonal skills and retain personal identity and self awareness skills.
- A further research is needed to assess the coping strategies used by student nurses and assess its effectiveness in reducing these stressors.

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