

# Sources of Nursing Students' Stress and Coping Behaviors during their Clinical Training

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**ABSTRACT**— Clinical practice is an important aspect of nursing education, where nursing students can learn and develop their psychomotor skills. The practical parts of nursing training programs were more stressful than the academic parts. The purpose to identify the sources of stress during clinical training and to determine the relationship between these stress sources and coping behaviors among nursing students at Arab American University Palestine (AAUP). A cross-sectional study, convenience sample with 131 participants from nursing students. The perceived stress level was low to medium with a mean of 47.2 (SD = 20.5). The most common type of stressors perceived was stress from assignment and workload (M= 1.71). The CBI participants' coping behavior was moderate (M = 35.34). The most common coping behavior utilized by the participants was transference (M= 2.00), while the avoidance was least frequently utilized (M = 1.72). Also, the study confirmed that avoidance, being optimistic, problem-solving, and transference as coping strategies are positively correlated to the stressors. Students perceived low to moderate levels of stress. Students commonly used transference behavior with least the avoidance from the stressful situation to other things to cope with their stress, and they found these methods to be effective.

**KEY WORDS:** *coping behavior, perceived stress, nurses' students*

## 1. INTRODUCTION

Clinical practice is an important aspect of nursing education, where nursing students can learn and develop their psychomotor skills [18, 11]. The practical parts of nursing training programs were more stressful than the academic parts where 57% of nursing students experienced stress in the clinical field [4]. Reasons for stress in clinical practices vary among nursing students. High stress levels can affect not only academic performance, but also all aspects of student health, including the development of heart disease, hypertension and immune deficiency disorders [14]. In addition, stress during student training can lead to psychological or emotional defect in the professional life of the nurses and consequently affect the outcome of patient care [9]. Chan et al. (2009) determined the most common reason for stress is lack of knowledge and skills. Another cause for nursing students' increased clinical stress is practicing in special units. Children's services, intensive care units, emergency services, and operation rooms where the nursing students are required to practice in their second and third years are more stressful clinical practice areas due to the heavy workload and the assignment of too much responsibility to the students [10, 19].

Studies that based on stressors associated with clinical experience indicated to fear of the unknown [13], clinical activities [26], patients' care [21], and lack of professional knowledge or nursing skills [16]. While students cannot avoid stressors, their ability to cope is important in achieving academic and social success [1]. The effects of stress on health depend on the adequacy of coping behaviors. Coping behaviors play a vital role in processes of stress adjustment that focus on the stressors associated with initial clinical experience [1]. However, stress is considered normal in mild level as it increases excitement and motivation [12].

Coping strategies can manage students stress. Numerous studies identified the problem-solving approach as the most commonly utilized coping strategy among nursing students while the avoidance approach was their least utilized coping strategy [1, 16, 21].

In Palestine, students in clinical practice also encounter a variety of patients with different illnesses and these experiences can be highly challenging. Lack of studies in this area, consequently, in-depth research is needed to clarify the extent of the problem and to emphasis whether these stressors are mostly related to day-to-day difficulties, major live events, or academic and teaching style problems. Therefore, the purposes of this study were to identify the sources of stress during clinical training and to determine the relationship between these stress sources and coping behaviors among nursing students.

## **2. Methods**

### ***2.1 Research design and sample***

A cross sectional design was used for this study and was conducted in spring semester 2018/2019. A convenience sample of 131 nursing students who were currently enrolled in the nursing program was recruited from faculty of nursing at Arab American University/ Palestine. The inclusion criterion for participation in the study was nursing student, enrolled in spring 2019.

### ***2.2 Instruments***

The study utilized a self-reported questionnaire in three parts: **First part Demographic data:** Demographic data collected included age, gender, past nursing experience in health care settings, academic year, fathers' and mothers' education, and training area. **The second part was the Perceived Stress Scale (PSS)** developed by Sheu et al. (1997) to examine nursing students' stress level and types of stressors. It consists of 29 items using a 5- point Likert-type scale grouped into six factors including stress related to patient care (8 items), stress related to teachers and nursing staff (6 items), stress related to assignments and workload (5 items), stress related to peers and daily life (4 items), stress related to lack of professional knowledge and skills (3 items), and stress related to the clinical environment (3 items). The total score ranges between 0 and 116, with a lower score indicating a lower degree of stress. Cronbach's alpha of .89 and the one-week test retest reliability of .60 ( $p < .01$ ) demonstrates the reliability of this instrument [23]. **The third part was the Coping Behavior Inventory (CBI)** developed by Sheu et al. (2002) was used to identify nursing students' coping strategies. The CBI consists of 19 items and uses a 5-point Likert-type scale divided into four behaviors including avoidance behavior (efforts to avoid a stressful situation) 6 items; problem-solving behavior (efforts to manage or change the stress arising out of a stressful situation) 6 items; optimistic coping behavior (efforts to keep a positive attitude toward the stressful situation) 4 items and transference behavior (efforts to transfer one's attention from the stressful situation to other things) 3 items. A higher score of each factor indicates more frequent use and greater effectiveness of a certain type of coping behaviors. Cronbach's alpha of .76 and the one-week test retest reliability of .57, .57, .59, and .55 for the four factors, respectively ( $p < .001$ ) demonstrates the reliability of the instrument [22].

### ***2.3 Ethical consideration***

Data was collected anonymously and the participation was voluntary. Students who agreed to participate in the study were asked to assign the informed consent and to complete the questionnaire.

### ***2.4 Data collection***

The researchers presented the purpose of the study to the students. The students were informed that they had the freedom to withdraw from the study at any time. The students who agreed to participate were asked to complete the instrument and a demographic information sheet.

### 3. Results

#### 3.1 Participants' characteristics

One hundred and thirty-one nursing students participated in the study. Aged mean was 21.7 (SD=1.5). The majority of the students 120 (91.6%) aged between 20-24 years old. Of all the respondents, 70 (53.4%) were female and 58(44.3%) in third year. However, 69 students (52.7%) had past nursing care experience as shown in (Table 1).

**Table 1.** Demographic Characteristics of the Participants (N=131)

Variable		N (%)
Age	<20	6 (4.6%)
	20-<24	120 (91.6%)
	>25	5 (3.8%)
Gender	Male	61 (46.6)
	Female	70 (53.4)
Academic year	Second year	43(32.8)
	Third year	58 (44.3)
	Fourth year	30 (22.9)
Past experience in nursing care	yes	69 (52.7)
	no	62 (47.3)
		M (SD)
Age		21.7 (1.5)
Perceived stress scale		47.2 (20.5)

#### 3.2 Stress and type of stressors perceived by nursing students at the period of the clinical experience

The degree of stress perceived by the participants ranged from 8 to 103; with a mean of 47.2 (SD = 20.5). Of the participants, 69 (52.7 %) had stress levels above the mean. The mean of the items related stress was 1.6/item. The most common type of stressors perceived was stress from assignment and work load (M= 1.71), followed by stress from the clinical environment (M = 1.664) and stress from peers and daily life (M = 1.662) (Table 2). The major stress event students' feel stressed from the rapid change in patient's condition (M = 1.82), followed by Lack of experience and ability in providing care and in making judgments. (M = 1.79), and feel that dull and inflexible clinical practice affects one's family and social life. (M = 1.76).

**Table 2.** Stressors perceived by physical therapist students at the period of clinical training (N=131)

Stress factor	Factor ranking	Item ranking	Mean	SD
Perceived stress scale			47.2	20.5
<b>I. Stress from taking care of patients</b>	<b>6</b>		<b>1.5744</b>	<b>.84677</b>
1. Lack of experience and ability in providing care and in making judgments.		2	1.7939	1.12809
2. Do not know how to help patients with physio-psycho-social		26	1.4427	1.19074

problems.				
3. Unable to reach one's expectations		13	1.6565	1.14872
4. Unable to provide appropriate responses to doctors', teachers', and patients' questions.		21	1.5649	1.24715
5. Worry about not being trusted or accepted by patients or patients' family.		7	1.7328	1.22678
6. Unable to provide patients with good care.		27	1.4198	1.18292
7. Do not know how to communicate with patients.			1.3206	1.32007
8. Experience difficulties in changing from the role of a student to that of profession.		12	1.6641	1.21282
<b>II. Stress from assignments and workload.</b>	<b>1</b>		<b>1.7145</b>	<b>.91988</b>
1. Worry about bad grades.		8	1.7328	1.23304
2. Experience pressure from the nature and quality of clinical practice.		5	1.7405	1.16082
3. Feel that one's performance does not meet teachers' expectations.		18	1.5954	1.14877
4. Feel that the requirements of clinical practice exceed one's physical and emotional endurance.		5	1.7405	1.21268
5. Feel that dull and inflexible clinical practice affects one's family and social life.		3	1.7634	1.20787
<b>111. Stress from Lack of Professional Knowledge and skills</b>	<b>4</b>		<b>1.6031</b>	<b>.94924</b>
1. Unfamiliar with medical history and terms.		19	1.5802	1.17640
2. Unfamiliar with professional physical therapy skills.		9	1.6947	1.23968
3. Unfamiliar with patients' diagnoses and treatments.		23	1.5344	1.11836
<b>IV Stress from the environment.</b>	<b>2</b>		<b>1.6641</b>	<b>.91005</b>
1. Feel stressed in the hospital environment where clinical practice takes place.		20	1.5725	1.20276
2. Unfamiliar with the ward facilities.		17	1.6031	1.12783
3. Feel stressed from the rapid change in patient's condition		1	1.8168	1.14892
<b>V. Stress from peers and daily life</b>	<b>3</b>		<b>1.6622</b>	<b>.88030</b>
1. Experience competition from peers in school and clinical practice.		14	1.6412	1.16400
2. Feel pressure from teachers who evaluate students' performance by comparison.		5	1.7252	1.14390
3. Feel that clinical practice affects one's involvement in extracurricular activities.		4	1.7481	1.16582
4. Cannot get along with other peers in the group.		23	1.5344	1.18515
<b>VI. Stress from teachers and nursing staff</b>	<b>5</b>		<b>1.5980</b>	<b>.89726</b>
1. Experience discrepancy between theory and practice.		10	1.6794	1.17844
2. Do not know how to discuss patients' illness with teachers or medical and physical therapy personnel.		22	1.5420	1.26649
3. Feel stressed that teacher's instruction is different from one's expectations		25	1.4580	1.21059
4. Medical personnel lack empathy and are not willing to help.		15	1.6260	1.16577
5. Feel that teachers do not give fair evaluation on students.		16	1.6107	1.20622
6. Lack of care and guidance from teachers		11	1.6718	1.21175

### **3.3 Coping behaviors adopted by physical therapist students in the initial period of clinical experience**

According to the CBI participants' coping behavior ranged between 0 and 66; (M = 35.34); while the mean for each item was 1.88. The most common coping behavior utilized by the participants was transference (M= 2.00), followed by staying optimistic (M = 1.92), and problem solving (M = 1.89). Avoidance was

least frequently utilized ( $M = 1.72$ ) (Table 3). The most common coping behaviors were attributing to relax via TV, movies, a shower, or physical exercises ( $M= 2.06$ ); save time for sleep and maintain good health to face stress ( $M= 2.05$ ); have confidence in overcoming difficulties ( $M= 2.05$ ).

**Table 3.** Coping behavior students utilized (N=131)

Stress factor	Factor ranking	Item ranking	Mean	SD
<b>Coping behavior inventory</b>			35.3435	13.82683
<b>I. Avoidance</b>	<b>4</b>		<b>1.7201</b>	<b>.90753</b>
1. To avoid difficulties during clinical practice.		16	1.6718	1.23065
2. To avoid teachers.		18	1.5878	1.23332
3. To quarrel with others and lose temper.		17	1.6641	1.12736
4. To expect miracles so one does not have to face difficulties.		13	1.7939	1.20075
5. To expect others to solve the problem.		1	1.8321	1.13783
6. To attribute to fate.		14	1.7710	1.20617
<b>II. Problem Solving.</b>	<b>3</b>		<b>1.89</b>	<b>.87964</b>
1. To adopt different strategies to solve problems.		11	1.8779	1.13695
2. To set up objectives to solve problems.		6	1.9313	1.11763
3. To make plans, list priorities, and solve stressful events.		8	1.9008	1.20802
4. To find the meaning of stressful incidents.		10	1.8855	1.16778
5. To employ past experience to solve problems.		6	1.9313	1.19093
6. To have confidence in performing as well as senior schoolmates.		12	1.8092	1.19044
<b>III Stay Optimistic</b>	<b>2</b>		<b>1.9237</b>	<b>.98786</b>
1. To keep an optimistic and positive attitude in dealing with everything in life.		4	1.9924	1.17340
2. To see things objectively.		5	1.9466	1.29682
3. To have confidence in overcoming difficulties.		2	2.0458	1.21442
4. To cry, to feel moody, sad, and helpless.		15	1.7099	1.33295
<b>IV Transference</b>	<b>1</b>		<b>2.00</b>	<b>1.00724</b>
1. To feast and take a long sleep.		9	1.8855	1.19384
2. To save time for sleep and maintain good health to face stress.		2	2.0458	1.20807
3. To relax via TV, movies, a shower, or physical exercises.		1	2.0611	1.37983

### 3.4 Relationship between stressors and coping behavior

The results showed that avoidance, being optimistic, problem solving, and transference as coping strategies are positively correlated to the stressors related to patients' care, assignments and workload, lack of Professional Knowledge and skills, environment, peers and daily life, and teachers and nursing staff (See Table 4).

**Table 4.** Relationship between stressors and coping behavior (N=131)

Stress factor	Avoidance	Problem Solving.	Stay Optimistic	Transference
Stress from taking care of patients	.514 .001*	.411 .001*	.377 .001*	.243 .005*
Stress from assignments and workload.	.396 .001*	.418 .001*	.455 .001*	.289 .001*
Stress from Lack of Professional	.491	.396	.333	.444

Knowledge and skills	.001*	.001*	.001*	.001*
Stress from the environment.	.484 .001*	.548 .001*	.353 .001*	.364 .001*
Stress from peers and daily life	.591 .001*	.432 .001*	.477 .001*	.413 .001*
Stress from teachers and nursing staff	.574 .001*	.492 .001*	.426 .001*	.364 .001*

Note. \*  $P < 0.05$ .

#### 4. Discussion

The level of stress among nursing students was low to moderate during the clinical period of clinical practice. Hong Kong nursing students have a moderate level of stress [13, 15] and according to Mohamed and Ahmed (2012) the majority of students complain of high level of stress. The six ranking factors related to stress (PSS), students scored all of them as having stress levels below 2.0. Therefore, although students' experience of clinical practice involved various sources of stress, students would regard them as challenges because they were confident of their coping ability. As a result, the stress level was not high. This is in keeping with the findings of previous nursing studies [10, 24].

The results of this study showed that the nursing students were not satisfied with their clinical components, which included too many assignments and clinical environment as well as Lack of Professional Knowledge and skills. Following our findings, it is suggested that teaching modalities and the workload of assessment need to be reviewed. For example, assignments can be designed to evaluate students' knowledge, attitudes, and skills in both theoretical and clinical courses.

Clinical environment is not always welcoming or desirable to students [8] and the results seem to reflect this. Students are often pushed into unfamiliar surroundings, not knowing the staff or the ward routine. The staff may have high expectations of them, even though they are 'just a student' in the period of their clinical practice. The clinical instructor may also expect them to perform at a certain level. This implies that educators should explain thoroughly the objectives and contents of clinical practice, so that students can have appropriate expectation about the clinical practice in order to avoid unnecessary stress and help the students to cooperate positively with staff [2, 10].

An interesting finding in the current study is that the transference as the most frequently used and the most perceived effective coping strategies. This may have explained that students do not know or know little about other kinds of coping strategies [6] the most approachable and convenient [6] or nursing student tends to use emotion-oriented coping because of their background. In Chinese culture, people would keep calm when they encounter difficulties [10], but this may lead to higher stress level, e.g. transference doesn't eliminate the actual problem [25]. Also, transference is effective for a short time [6]. Moreover, students have short clinical placement and they don't have to solve the problem completely. Avoidance is the least frequently used and least perceived effective coping strategy; it is consistent with a previous study [1, 6] coping by avoidance is non-constructive and it doesn't eliminate the underlying problem, and university students are well educated. Most of them would regulate their emotions and "take the responsibility to solve the problem".

#### 5. Conclusion

This cross-sectional descriptive study set out to examine Palestinian undergraduate nursing students' stress

sources and preferred coping strategies. The results showed that such students perceived low to moderate levels of stress. Students commonly used transference behavior followed by staying optimistic, problem-solving and avoidance from the stressful situation to other things to cope with their stress, and they found these methods to be effective.

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