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Original research article

Academic and clinical stress, stress resources and ways of coping among Turkish first-year nursing students in their first clinical practice

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INFORMACE O ČLÁNKU

Received: 2016-07-04

Accepted: 2016-08-16

Published online: 2016-09-30

Keywords:

Nursing students

Academic stress

Clinical stress

Coping ways

ABSTRACT

Aim: Nursing students face both physical and psychosocial risks such as job stress at work during the training period. The aim of the study was to determine the academic and clinical stress, and the ways first-year nursing students cope in their first clinical practice.

Methods: A descriptive, cross-sectional design was used. This study was carried out in the nursing department of Giresun University in Giresun, Turkey. The sampling consisted of 109 nursing students who agreed to participate in this study in the 2014–2015 academic spring term. A Personal Information Form, Ways of Coping Inventory (WCI) and Nursing Education Stress Scale (NESS) were used for gathering data.

Results: Students generally had moderate levels of academic and clinical stress. Among the academic stressors, the highest frequencies were given to the preparing for the exam (67.9%). Among the clinical stressors, the highest frequencies were given to being criticized by teachers in clinical environments (56.0%), followed by encountering a dying patient (52.3%) and the fear of making practice errors (51.4%). While students mostly used self-confident and optimistic approaches, the social support seeking approach was employed less. The nursing education stress level varied in students according to gender ($p < 0.05$).

Conclusion: In summary, the academic and clinical practice stress levels of nursing students were moderate in the first clinical practice. Therefore, it is suggested that a mentoring programme should be used to manage and regulate their academic and clinical practice stress level and to increase their positive coping strategies in nursing schools.

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Introduction

Nursing training is a stressful process. Nursing students face both physical and psychosocial risks such as job

stress at work during the training period [1]. Because they have clinical duties related to patient care in clinical environments, they experience similar stressors as professional nurses experience [2]. Nursing students have both internal and external stress sources related to the

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<http://dx.doi.org/10.1016/j.kontakt.2016.08.001>

KONTAKT XVIII/3: 160–166 • ISSN 1212-4117 (Print) • ISSN 1804-7122 (Online)

Článek citujte takto: Yılmaz EB. Academic and clinical stress, stress resources and ways of coping among Turkish first-year nursing students in their first clinical practice. Kontakt 2016; 18(3): e145–e151; <http://dx.doi.org/10.1016/j.kontakt.2016.08.001>

clinic environment, theoretical training, social life, and personal traits [3]. The sources of stress that are part of the vocational training affect nursing students in many ways. In several studies investigating the perceived stress levels of nursing students, it was found that they had higher stress levels and stress sources [4–6]. Also nursing students who reported higher level of stress were more likely to experience poor physi-psycho-social health [7].

The first clinical experience for nursing students can be stressful. The students expressed feelings of irritability, distress and concern due to reasons such as not being ready for clinical experience, thinking they have inadequate clinical skills, unsupportive health professional staff and clinical learning environment, concerns over patient safety [8]. These negative feelings can result from prolonged experience of stress. To cope with stress, the students need effective coping strategies [9].

The sources of stress for nursing students can be grouped as academic, intrapersonal, interpersonal, and environmental [10]. The most common sources of stress are academic workload, fear of unknown situations, mistakes with patients or handling of technical equipment [1], not knowing how to communicate with patients and how to discuss patients' illness with teachers or medical and nursing personnel, lacking the care skills [11], stress from peers and daily life [12], restrictive environment, lack of quality free time, difficulty in time management, and inconsistent faculty responses to their concerns [13], gap between theory and practice [14], and lack of clinical supervision [15].

There are many factors that have an effect on the academic and clinical stress level of students. These are individual factors, such as gender [16], spiritual well-being, psychological empowerment, emotional intelligence and resilience [17], hardiness [18]. One finding revealed by Papathanasiou et al. [19] was very interesting. There was a gap between the actual clinical learning environment and the clinical learning environment preferred by students. This finding may be related to individual characteristics, such as problem solving skills, communication skills and adaptability.

According to the findings obtained from forty four studies on the subject reviewed by Pitt et al, critical thinking, locus of control, anxiety, self-efficacy, social support seeking were associated with academic and clinical performance [20]. The academic and clinical stressors affecting the performance of students can be closely related to coping with stress. Eng and Pai [21] studied the association between individual characteristics, such as self-reflection, insight, coping ways and clinical practice stress among 312 Taiwanese nursing students. The study indicated that self-reflection and insight were associated with both coping behaviour and practice stress. The optimistic coping strategy was used to cope with stressors related to the clinical environment by students [22].

There were stress resources related to clinical learning environment. The attitudes of nursing staff and other health professionals towards students in clinical practice were one of the most common stressors perceived by nursing students [23]. Villiers et al. [24] found that these stressors could negatively affect learning. Unlike us, Akhu-

Zaheya et al. [25] found a negative correlation between perceived stress and clinical performance. However the leadership during clinical practice is very important for students because of bridging the gap between nursing theory and nursing practice [26]. For these reasons, the stress resources related to the clinical learning environment should be determined and eliminated.

Knowledge related to the effects of nursing education stressors and coping ways on academic and clinical practice success level of Turkish nursing students during first-clinical experience is limited. Shaban et al. [22] claimed that the findings obtained from the studies similar to this study "could help the development of an effective clinical teaching strategy in nursing education". Nursing students should be given support about academic and clinical stressors by nursing academic staff. Therefore, the aim of this study was to determine academic and clinical stress, stress resources and coping ways of first-year nursing students in their first clinical practice in North-East Turkey.

Materials and methods

Design

A descriptive, cross-sectional study was carried out in North-East Turkey to determine the academic and clinical stress, stress resources and ways of coping of first-year nursing students in their first clinical practice.

Participants

This descriptive study was conducted at Giresun University School of Health Sciences in Giresun, Turkey. The study population consisted of 120 first-year nursing students who were enrolled in the School of Health Sciences during the 2014–2015 academic year. A total of 109 of the students (91.0%) participated in the study, in which sampling was not used. The study was carried out among 109 students who consented to involvement. 11 students did not agree to take part.

Data collection and measures

Three instruments were used for gathering data. The first, the Personal Information Form, was designed by the researcher and included some sociodemographic variables of the students (age, gender, family structure, place of residence, socioeconomic status, and parents' education level).

The second part included the Ways of Coping Inventory (WCI) developed by Folkman & Lazarus and adapted to Turkish by Sahin and Durak [27]. The inventory has 30-items rated on a 4-point Likert-type scale range of 0–3. The WCI uses five subscales to measure coping with stress; self-confident approach, helpless approach, yielding approach, optimistic approach, and social support seeking approach. Each subscale is scored separately and total scores are not used. Cronbach's Alpha values of the subscales of the scale were 0.80 for self-confident approach,

0.73 for helpless approach, 0.70 for yielding approach, 0.68 for optimistic approach, and 0.45–47 for social support seeking approach.

The third part included the Nursing Education Stress Scale (NESS). The NESS was developed by Rhead and adapted to Turkish by Karaca et al. [28]. The scale has 32-items rated on a 3-point Likert-type scale range of 1–3. The NESS uses two subscales to measure academic stress and clinical stress. Higher scores indicate higher levels of academic and clinical stress. The probable range of scores is between 32 and 96. The Cronbach Alpha value of the scale was found to be 0.76.

The Personal Information Form, the WCI and the NESS were collected in the first clinical practice week of the Fundamentals of Nursing course. Prior to administering the questionnaires, the researcher informed the participants about the aim of the study. Informed consent was obtained from the students. In addition, the participants were informed that they could withdraw at any time. The forms were completed in approximately 20 min.

Ethical considerations

The study was approved by the nursing school administration. The study was conducted according to the ethical guidelines set out in the Declaration of Helsinki. Verbal consent was obtained from students participating in the research. All participants were informed of the purpose and design of the study. Participation in the study was voluntary.

Statistical analysis

Data were analyzed using SPSS 16.0 for Windows (SPSS, Chicago, IL, USA). Descriptive statistics are shown by numbers (n), percentages (%), and by mean standard deviations ($X \pm SD$). Mann-Whitney *U* Test was used to assess the nursing education stress level according to gender. The statistical significance level was set at $p < 0.05$.

Results

Sociodemographic characteristics

The sociodemographic characteristics of students are given in Table 1. A total of one hundred and nine first-year nursing students completed the questionnaire. The mean age of the students was 19.54 years, with a standard deviation of 1.02 years. The majority of students were female (80.7%). About 56.6% of students lived in the country, 73.4% had nuclear family types, and 78.0% had moderate socioeconomic status. The education levels of the mothers and fathers of most of students were below high school level –80.7% and 60.5%, respectively.

NESS scores of students

NESS scores are given in Table 2. The students had moderate levels of academic stress (mean score $34.77 \pm$

5.68) and moderate levels of clinical practice stress (mean score 33.73 ± 5.54).

Table 1 – Sociodemographic characteristics of first-year nursing students (n = 109)

Age, years (mean $\pm$ SD)		19.54 $\pm$ 1.02	
		n	%
Gender	Female	88	80.7
	Male	21	19.3
Place of residence	Village	13	13.3
	Town	29	30.1
	Country	68	56.6
Type of family	Nuclear	80	73.4
	Large	29	26.6
Socioeconomic status	High	22	20.2
	Moderate	85	78.0
	Low	2	1.8
Mother education level	<High school	88	80.7
	$\geq$ High school	21	19.3
Father education level	<High school	66	60.5
	$\geq$ High school	43	39.5

Table 2 – Nursing education stress and coping ways scores of first-year nursing students (n = 109)

	$X \pm SD$	(min–max)
Nursing education stress scale scores		
Clinical practice stress	33.73 $\pm$ 5.54	19.00 – 46.00
Academic stress	34.77 $\pm$ 5.68	20.00 – 45.00
Total score	68.50 $\pm$ 10.53	41.00 – 88.00
Coping ways scores		
Self-confident approach	2.16 $\pm$ 0.44	0.43 – 3.00
Helpless approach	1.45 $\pm$ 0.48	0.25 – 3.00
Yielding approach	1.02 $\pm$ 0.50	0.00 – 2.67
Optimistic approach	2.02 $\pm$ 0.44	1.00 – 3.00
Social support seeking approach	1.88 $\pm$ 0.52	0.50 – 3.00

Academic and clinical stress resources of students

Among the academic stressors, the highest frequencies were given to preparing for exams (67.9%, $n = 74$), followed by receiving negative feedback from teachers in the clinical environment (51.4%, $n = 56$) and passing theoretical exams or assessments (49.5%, $n = 54$) (Table 3). Not being satisfied with instructional methods (57.8%, $n = 63$), uncertainty about content and curriculum (54.1%, $n = 59$), gaps between theory and practice (51.4%, $n = 56$) and lack of guidance from teachers (51.4%, $n = 56$) were the academic stressors that were partially agreed by the students.

There are the clinical as well as academic stressors. Among the clinical stressors, the highest frequencies were given to being criticized by teachers in the clinical environment (56.0%, $n = 61$), followed by encountering a dying patient (52.3%, $n = 57$) and the fear of making practice errors (51.4%, $n = 56$) (Table 4). Also, the highest frequencies of the clinical stressors that were partially

Table 3 – The academic stress resources of first-year nursing students (*n* = 109)

	Disagree, <i>N</i> (%)	Partially agree, <i>N</i> (%)	Fully agree, <i>N</i> (%)
Being not satisfied with instructional methods	24 (22.0)	63 (57.8)	22 (20.2)
Difficulty of finding resources on illness and nursing in library	35 (32.1)	55 (50.5)	19 (17.4)
Being forced to study continuously for academic success	23 (21.1)	36 (33.0)	50 (45.9)
Feelings of time pressure about doing homework	19 (17.4)	41 (37.6)	49 (45.0)
Receiving negative feedback from teachers in clinical environment	17 (15.6)	36 (33.0)	56 (51.4)
Uncertainty about content and of curriculum	22 (20.2)	59 (54.1)	28 (25.7)
Inadequately equipped classroom environment	32 (29.4)	45 (41.3)	32 (29.4)
Preparing for the exam	8 (7.3)	27 (24.8)	74 (67.9)
Not knowing about effective learning strategies	24 (22.0)	34 (31.2)	51 (46.8)
Gap between theory and practice	21 (19.3)	56 (51.4)	32 (29.4)
Intensity of academic workload	42 (38.5)	40 (36.7)	27 (24.8)
Home/dormitory environment makes studying difficult	27 (24.8)	29 (26.6)	53 (48.6)
Passing theoretical exams or assessments	11 (10.1)	44 (40.4)	54 (49.5)
Insufficient support from teachers	28 (25.7)	42 (38.5)	39 (35.8)
Lack of guidance from teachers	18 (16.5)	56 (51.4)	35 (32.1)
Negative feelings about educational achievement	17 (15.6)	43 (39.4)	49 (45.0)

Table 4 – The clinical stress resources of first-year nursing students (*n* = 109)

	Disagree, <i>N</i> (%)	Partially agree, <i>N</i> (%)	Fully agree, <i>N</i> (%)
Not accepting teacher's perspective	33 (30.3)	46 (42.2)	30 (27.5)
Encountering a dying patient	17 (15.6)	35 (32.1)	57 (52.3)
Not having enough time to fulfil all functions of nursing	23 (21.1)	51 (46.8)	35 (32.1)
Not having enough time to provide emotional support to a patient	25 (22.9)	64 (58.7)	20 (18.3)
Not talking with nursing staff about problems in clinical practices	26 (23.9)	51 (46.8)	32 (29.4)
Encountering with a patient suffering	26 (23.9)	32 (29.4)	51 (46.8)
Not sharing of emotions and experiences related to clinical practices with nursing staff	33 (30.3)	62 (56.9)	14 (12.8)
Not knowing how to help patients with emotional problems	25 (22.9)	69 (63.3)	15 (13.8)
Fear of making practice errors	9 (8.3)	44 (40.4)	56 (51.4)
Being criticized by teachers in clinical environments	13 (11.9)	35 (32.1)	61 (56.0)
Not knowing what to say to patient about his/her illness	30 (27.5)	53 (48.6)	26 (23.9)
Uncertainty associated with use of equipment used in patient care	22 (20.2)	62 (56.9)	25 (22.9)
Not knowing how to help family of patients about emotional needs	19 (17.4)	66 (60.6)	24 (22.0)
Giving care for a dying patient	18 (16.5)	41 (37.6)	50 (45.9)
Negative clinical experiences with nursing staff	27 (24.8)	52 (47.7)	30 (27.5)
Having disagreement about patient's condition	19 (17.4)	62 (56.9)	28 (25.7)

agreed by the students were not knowing how to help patients with emotional problems (63.3%, *n* = 69), not knowing how to help the families of patients with emotional needs (60.6%, *n* = 66) and not having enough time to provide emotional support to patients (58.7%, *n* = 64).

Coping ways of students

As seen in Table 2, students mostly employed the self-confident (2.16 ± 0.44) and optimistic approaches ($2.02 \pm$

0.44). The helpless and yielding approaches were employed less (1.45 ± 0.48 and 1.02 ± 0.50 , respectively). Also, although the social support seeking approach is a positive way of coping, it was employed by fewer students than the other positive coping methods (1.88 ± 0.52).

The effect of gender

As shown in Table 5, the effect of gender on nursing education stress levels was statistically significant. The average scores of academic stress and clinical stress varied

Table 5 – Nursing education stress level according to gender (n = 109)

Gender	Academic stress score		Clinical stress score		Total stress score	
	Test value ^a	p value	Test value ^a	p value	Test value ^a	p value
Male	625.50	0.022	498.00	0.001	527.00	0.002
Female						

^a Mann-Whitney U Test was used.

in first-year nursing students according to gender ($p < 0.05$). Nursing education stress levels of females were higher than those of males.

Discussion

The present study assessed the academic and clinical stress, stress sources and coping methods of first-year nursing students in their first clinical practice in North-East Turkey. We found that nursing students generally had moderate levels of academic and clinical practice stress. A previous study found that during the second year of nursing training, students were much more engaged in clinical practice in health facilities and so experienced stress more than in their first year of nursing [29]. Similarly, in another study it was revealed that the stress level for second year students was significantly higher than that of first year students [30]. As shown both in previous studies and in ours, the clinical component of nursing training is a very stressful process. In addition, students with more clinical experience encountered more stress. Thus it is important to determine how students are affected by this process and which strategies they use to cope.

The study found that nursing students had multiple sources of academic and clinical stress. They experienced academic stressors such as preparing for exams, receiving negative feedback from teachers in the clinical environment, passing theoretical exams or assessments, not being satisfied with instructional methods, uncertainty about content and curriculum, gaps between theory and practice and lack of guidance from teachers (Table 3). Among the clinical stressors, the highest frequencies were given to being criticized by teachers in clinical environments followed by encountering a dying patient, the fear of making practice errors, not knowing how to help patients with emotional problems, not knowing how to help families of patients with emotional needs and not having enough time to provide emotional support to patients (Table 4).

Sharma and Kaur [4] and Al-Barrak et al. [10] grouped stressors as environmental, intrapersonal, academic and interpersonal. Sharif and Masoumi obtained four themes from data collected by focus group discussion; the initial clinical anxiety, theory-practice gap, clinical supervision and professional role [15]. Some of the most important problems of nursing training were theory-practice gaps, lack of time and lack of communication [31]. In another study, Eswi et al. reported too many responsibilities, lower grades than you hoped for, struggling to meet your own academic standards, not enough time to meet your

obligations and important decisions about your future career as academic stressors [6].

There were clinical factors such as fear of making a mistake in clinical placements and feeling responsible for what happened to patients among common stressors perceived by nursing students [2]. Other sources of clinical stress were a lack of caring attitudes of instructors while dealing with patients that negatively affects their motivation to learn [32], not knowing how to help patients with physio-psycho-social problems, and worry about not being trusted or accepted by patients or patients' families [11].

Because of these academic and clinical stressors, nursing students are distressed, disappointed and experience a lack of motivation and burnout. For these reasons, it should be determined whether the students use effective coping methods or not. In clinical learning environments, the support and attitudes of nursing staff are vital for nursing students. The opportunities and encouragement given by nursing staff increased the confidence level of nursing students in clinical practice [33]. Clinical educators should explain the scope and evaluation criteria of clinical practice and the responsibilities of students so that students have practical expectations about the objectives of clinical education to avoid unnecessary stress [22]. In this way, they will be exposed to fewer environmental risks and injuries such as needle pricks and broken ampules.

Our study revealed that while most students employed the self-confident and optimistic approaches, the helpless and yielding approaches were employed far less. This is fully in line with other studies, which report that students preferred to use positive coping methods [34,35]. Wolf et al. [36] reported that positive thinking and social support were used by nursing students to cope with academic and clinical stressors. Yildiz-Findik et al. [37] revealed that nursing students used the helpless approach among passive patterns as their clinical stress levels increased. Chan et al. [9] determined that nursing students who perceived a higher level of stress from academic and nursing staff were more likely to use passive strategies. According to Eng and Pai [21], coping behaviour was effective in moderating the effect of stress on the practice competence of students. Also, the self-confidence level of students increased their perceived competency levels [38]. For these reasons, the employment of self-confident, optimistic, and social support seeking approaches by nursing students is important.

The effect of gender on nursing education stress levels was statistically significant ($p < 0.05$). The nursing education stress levels of females were higher than those of males. Similarly, Chan et al. [16] reported that there

were differences in academic and clinical practice stress levels between male and female nursing students. Wan Chik et al. [39] revealed the association between gender and academic performance. Contrary to the results of our research, according to the study of Liu et al. [2], gender was not associated with perceived stress related to the clinical learning environment.

Conclusion

In summary, the academic and clinical practice stress levels of nursing students were moderate in their first clinical practice. The students were found to use self-confident and optimistic approaches among active coping methods. Nursing education stress levels of females was higher than those of males. The mentoring programme has an important role in increasing nursing students' active coping strategies with stress [40]. The mentoring programme helps students cope with challenges related to nursing education and increases their academic success [41]. Therefore, it is suggested that mentoring programmes should be used to decrease their academic and clinical practice stress levels and to increase their positive coping strategies in nursing schools. Additionally, nursing students had both academic and clinical sources of stress. The responsibility of instructors in academic and clinical environments is to decrease the stress levels and sources of stress for students, to assist students in providing and maintaining psychosocial adaptation, and to empower students' learning in bridging the theory-practice gap.

Conflict of interest

The author has no conflict of interest to disclose.

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