ASSESSMENT OF CLINICAL STRESS IN MALE AND FEMALE NURSING

STUDENTS, AS MEASURED ON THE FIRST AND LAST DAY OF THE

OBSTETRICAL NURSING CLINIC COURSE

Dilek COŞKUNER POTUR*, Nevin ÇITAK BİLGİN**

This study aimed to explore the clinical stress levels of male and female nursing students attending the first and last day of the delivery room and obstetrics wards. This cross-sectional study was conducted in December 2009 at a public university in Istanbul, Turkey. The study group included 108 nursing the third class students. Data were collected using a self-report questionnaire and a clinical stress questionnaire. Data were examined using percentages, Cronbach's alpha coefficients, chi-square analysis, Mann-Whitney U test, paired T-tests, and the Wilcoxon test. Results: The majority of male students found the clinical course stressful because most of the patients were female. Half of the male students stated that there was gender bias against them from the patients and that this was a source of stress during the clinical course. Male and female nursing students' stress levels on the first and last day of the delivery room and obstetrics wards were similar (p > 0.05). When stress levels from the first and last day were compared, a significant difference was observed between male and female students (p < 0.05) in the harm and benefit subscale scores. **Conclusion:** The obstetrical clinic course is a major source of stress for male students. Female students experience similar levels of stress. In addition, both male and female students had slightly increased stress levels at the end of the course than they had had at the beginning. Clinical instructors and other health professionals should provide suggestions to help students cope with stressors they may encounter during clinical courses. Keywords: Stress; Clinic course; male nursing student; female nursing student; obstetric

Kız - Erkek Öğrencilerin Doğum Klinik Uygulamasının İlk Gün ve Son Gün Stres Durumlarının Değerlendirilmesi

Çalışmanın amacı doğumhane klinik uygulamasının, ilk ve son günü, erkek ve kız öğrencilerin stres düzeylerini belirleyebilmektir. Kesitsel tipteki araştırma Aralık 2009'da İstanbul ili Anadolu yakasında bulunan bir devlet üniversitesinde yapılmıştır. Araştırmaya 108 öğrenci dahi olmuştur. Veriler, öğrenci anket formu ve klinik stres ölçeği ile toplanmıştır. Verilerin değerlendirilmesinde, yüzdelik, Cronbach Alfa, ki kare, Mann-Whitney U, paired T testi ve Wilcoxon kullanılmıştır. Bulgular: Erkek öğrencilerin büyük çoğunluğu hasta grubunun kadın olmasını, yaklaşık yarısı ise hastalar tarafından cinsiyet ayırımı yapılmasını klinik uygulamada stres kaynağı olarak belirtmişlerdir. Doğumhane ve doğum kliniği uygulamasının ilk ve son günü, erkek ve kız hemşirelik öğrencilerinin stres düzeyleri benzer bulunmuştur (p>0.05). Stres düzevleri klinik ilk gün ve son güne göre değerlendirildiğinde yarar, zarar alt boyutunda hem kız hem de erkek öğrencilerde anlamlı farklılık olduğu belirlenmiştir (p<0.05). Sonuc: Doğumhane klinik uygulaması erkek öğrenciler için önemli bir stres kaynağıdır. Kız öğrencilerde erkek öğrenciler kadar klinik uygulama süresince stres yaşamaktadır. Hatta klinik uygulama sonunda stres düzeyinde hem kız hem de öğrencilerin stres düzeylerinde hafif artış görülmektedir. Klinik eğitimciler ve sağlık personeli tarafından öğrencilere klinik eğitim öncesi ve sırasında uygulamada karşılaşabilecekleri stresörlerle baş etmeleri konusunda önerilerde bulunulmalıdır.

Anahtar kelime: Stres; klinik uygulama; hemşirelik öğrencileri; erkek öğrenci hemşire; kız öğrenci hemşire; obstetri

^{*} Marmara Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, Öğretim Elemanı, Dr. İletişim için: dilekcp@yahoo.com

^{**} Bolu Abant İzzet Baysal Üniversitesi, Bolu Sağlık Yüksekokulu, Yard.Doç.Dr

The aim of nursing education is to gain theoretical knowledge and practical knowledge to use in clinical practice. Clinical training is considered indispensable to professional nursing for several reasons: it provides an opportunity for using theoretical knowledge; it develops a professional identity; and it enables learning by doing (Elçigil and Sari 2007, Akyüz, Tosun, Yıldız and Kılıç 2007, Sendir and Acaroğlu 2007, Shaban, Khater and Akhu-Zaheya 2012, Tiwari, et al. 2005). Furthermore, it improves students' capacity for critical thinking, analysis, and synthesis, psychomotor abilities, communication, management skills, and self-confidence (Chan 2002, Karaöz 2003).

Although clinical training is an indispensable part of nursing education, it can be a stressful experience for students (Chan, So, and Fong 2009). Students may face many challenges or threats in dynamic and complex clinical environments, such as in using high-tech medical equipment, maintaining good relationships with clinical staff and instructors, and managing sudden changes in the emotions of patients' relatives. Such clinical experiences may be stressful for students (Elliot, 2002).

Providing intimate care to women clients is a challenging experience for male nurses in general. Several studies have shown that women clients experience increased levels of stress when male nurses touch their genital or breast areas (Chur-Hansen, 2002, Inoue, Chapman and Wynaden 2006).

Various studies investigating patients' views about nursing have explored the affect of gender. Back and Wikblad (1998) found that female patients preferred to be examined by female nurses. In contrast, Greenhalgh, Vanhanen and Kyngas (1998) observed that nurses' technical skills, not gender, were important for patients. However, other studies indicate that being male is not a preferred characteristic for nurses who work in clinical environments. Egeland and Brown (1989) suggested that male nurses would be more successful in management and education environments rather than clinical ones.

The Fundamentals of Nursing clinical course is a serious source of stress for students, who have never worked in a hospital setting before. However, every clinical course contains specific stressors. For example, the operating room may be a source of stress during the surgical clinical course, and providing care for the mentally ill may be a stressful experience during the Psychiatry clinical course. The Clinical Stress Questionnaire (CSQ) can be used successfully to determine stress levels on the first and last day of various clinical courses besides Fundamentals of Nursing.

In obstetrical nursing courses, patients consist of women who need the following services: monitoring bleeding; perineal hygiene; breast care; breastfeeding support, etc. In addition, students are expected to play an active role during labor. These elements of obstetrical nursing courses may be stressful for male students, who may feel unwillingness to participate during these courses. (Taşçı, 2007). As in Egypt (Eswi and El Sayed, 2011) and the other Muslim societies, male students in Turkey could experience stress in obstetrical nursing course due to cultural factors. Therefore, male students perceive obstetrical nursing courses as challenging and threatening (Taşçı, 2007).

Usually, studies have assessed obstetrical nursing courses from the viewpoint of maternity nursing clients. Only a limited number of studies have investigated male nursing students' feelings and experiences, particularly the strain they feel during obstetrical nursing clinical courses (Patterson and Morin, 2002, Inoue et al., 2006, Eswi and El Sayed, 2011, Tzeng, Chen, Tu, Tsai, 2009). The current study will contribute to the literature on this subject because the aim of the study is to determine the stress levels of students during an obstetrical nursing clinic course. This study may be helpful for clinical educators and clinical staff in identifying male and female nursing students needs, facilitating their learning in the clinical setting, and developing effective interventions to reduce the stress they encounter. This was addressed by the study questions:

- 1. What is the level of stress in male and female students who attend Obstetrical Nursing clinic training on the first and last days of the course?
- 2. Is there a difference in stress levels according to gender?
- 3. Is there any difference in stress level of the students according to the first and last day of the clinic course?
- 4. Is the Clinical Stress Questionnaire (CSQ), which is a reliable instrument for determining students' stress levels on the first day of the Fundamentals of Nursing clinical course, also valid for measuring students' stress levels on the first day of the Obstetrical Nursing clinic course?
- 5. Is the CSQ a reliable instrument for measuring students' stress levels on the last day of the Obstetrical Nursing clinic course?

METHODS

Desing and Sample: This cross-sectional study aimed to determine the stress levels of students who attended the Women's Health and Diseases Nursing course in the autumn of 2009, on the first and last day of the obstetrical nursing clinical course (delivery room and obstetrics wards).

The sample of the study consisted of 112 students who attended the Women's Health

and Diseases Nursing course for the first time in the Fall semester 2009 at a public university School of nursing in Istanbul, Turkey. Sampling was not carried out because all students in the sample were included in the study (n = 112). The study excluded two students who did not agree to participate, and two students who were absent on the first and last days of the clinical course. Therefore, the study included 108 students who consented to participate.

Data collection tools: In the study, two data collection forms were used: the student questionnaire form and the Clinical Stres Questionnaire (CSQ). CSQ form were collected on December 17, 2009 (the first day of the clinical course) and on December 31, 2009 (the last day of the clinical course). Data were collected in two stages. The first stage, the data were collected by instructors in hospital the training rooms at the end of the first day of clinic course. The second stage, the data were collected by instructors in hospital the training rooms at the end of the last day of the clinic course. Data collection tools were distributed to the students and then collected. The students were asked to use nickname in order to get the correct answers because the research is composed of two-stages.

The student questionnaire form: The Student Questionnaire Form included 15 items that investigate socio-demographic characteristics (age, gender, family type, income, etc.) and stressful situations during clinical training (female patients, gender bias, and the clinical environment). To protect students' identities and to encourage truthful responses, we asked students to use an alias on the questionnaire forms.

The CSQ: The CSQ is a self-reported, Likert-type instrument developed by Pagana in 1989 to determine stressors that threaten or challenge nursing students in their first clinical experience (Pagana 1989). Sendir and Acaroğlu (2007) carried out Turkish validity and reliability testing of the CSQ. The questionnaire has four subdimensions, including threat, fight, damage, and benefit emotions. Each item is assessed in five increments and requires choosing one the following options: 0 = "none," 1 = "a little bit," 2 = "moderate," 3 = "much," and 4 = "too much." Scores range from 0 to 80, based on points given for each item. Lower scores indicate lower stress levels; higher scores indicate higher stress levels. Permission was obtained from Sendir and Acaroğlu to use the CSQ on the first day (CFD) and last day (CLD) of clinical practice in the obstetrical nursing course. Sendir and Acaroğlu had found that the CSQ's Cronbach's alpha coefficient was 0.70. In the current study, the CSQ's Cronbach's alpha coefficient was 0.82 for the CFD and 0.81 for the CLD.

Ethical Considerations: In all stages of the study, ethical principles were considered. Students were told that they could quit the study at any time during the data-collection period. Students were informed about the nature of the study and its objectives. Students were informed that all information provided were confidential. Students were asked to use a nickname on the questionnaire during the CFD and told that they needed to remember this nickname for use on the CLD. The Director of the College of Nursing gave permission to access the students and conduct the study.

Data Analysis: Data analyses were carried out using the Statistical Software Package for the Social Sciences (SPSS), version 15.0 (SPSS Inc., Chicago, IL, USA). All data were examined with percentages, chi-square analysis, the Mann-Whitney U test, paired t-test, the Wilcoxon test, and Cronbach's alpha coefficients. The accepted confidence interval was 95%, and the significance level for all analyses was p < 0.05.

Limitations of the study: One important limitation of this study was the use of a small sample of students. Our findings cannot be generalized for students enrolled on other schools. The other limitation of this study was conducted in Istanbul, a large city in Turkey. Therefore, patients were more likely to accept receiving care from male nursing students. This study should be repeated in other parts of Turkey.

RESULTS

Sociodemographic characteristics

In our study, most of the students were female (77.8%). The mean age of female students was 21.08 ± 1.26 years (range 19–24 years). The mean age of male students was 22.04 ± 1.73 years (range 19–27 years). Bivariate analysis showed that sociodemographic statistics (family type, high school, residence, how they chose the nursing profession, level of information about the nursing profession, level of income) for female and male students were similar. None of the students was married.

Stres Sources								
	Yes		ľ	No To		(n=108)	$P(\chi^2)$	
	n	%	n	%	n	%		
Working with a female patie	ent group							
FS	1	6.2	83	90.2	84	77.8	0.001**(55,59)	
MS	15	93.8	9	9.8	24	22.2		
The fear of harming the pati	ent							
FS	36	81.8	48	75.0	84	77.8	0.276 (0,701)	
MS	8	18.2	16	25.0	24	22.0		
The fear of making an error								
FS	43	78.2	41	77.4	84	77.8	0.551 (0,11)	
MS	12	12.8	12	22.6	24	22.2		
Having difficulty in commu	nicating w	ith the patie	nt					
FS	13	65.0	71	80.7	84	77.8	0.113 (2,31)	
MS	7	35.0	17	19.3	24	22.2		
Feeling incompetent								
FS	43	75.4	41	80.4	84	77.8	0.351 (0,382)	
MS	14	24.6	10	19.6	24	22.8		
Being subject to gender bias								
FS	31	59.6	53	94.6	84	77.8	0.001** (33,21)	
MS	21	40.4	3	5.4	24	22.2		

Table 1. Comparison of Male and Female Students' Sources of Stress During Clinical

Practice

**P<0.001

FS: Female Student

MS: Male Student

Table 1 shows male and female students' sources of stress during the obstetrical clinical course. The majority of male students reported that dealing with a female patient population (93.8%) and gender bias against them from patients (40.4%) were sources of clinical stress. The difference between male and female students in this regard was statistically significant (p < 0.01).

CSQ					CFD			
	Gender	n	Mean [±] SD	Median	Min-	Mean	Z^{\dagger}	р
					max	rank		
Threat	FS	84	8.93 ± 4.89	8.00	0-23	55.82	859	.413
	MS	24	8.17 ± 5.33	7.00	0-22	49.90		
Challenge	FS	84	10.98 ± 5.18	10.00	3-24	51.67	-1.759	.079
	MS	24	10.98 ± 5.03	13.00	0-22	64.40		
Benefit	FS	84	2.52 ± 2.08	2.00	0-8	55.71	-1.039	.299
	MS	24	2.92 ± 1.76	4.00	0-6	52.90		
Harm	FS	84	5.08 ± 4.47	4.00	0-17	64.40	215	.830
	MS	24	5.13 ± 4.18	4.00	0-16	54.15		
CSQ Total	FS	84	27.90 ± 10.82	27.00	8-52	53.93	351	.725
	MS	24	29.29 ± 12.87	26.50	4-57	56.48		

Table 2: Comparison of CSQ Scores on the CFD According to Gender

[†] Mann-Whitney U FS: Female Student MS: Male Student CFD: Clinic First Day

Table 2 shows the stress levels on the CFD according to gender. There was no significant difference in CFD stress levels between the male and female students (p > 0.05).

CSQ					CLD			
	Gender	п	Mean [±] SD	Median	Min- max	Mean rank	Z^{\dagger}	р
Threat	FS	84	9.11 ± 4.94	9.00	0-20	55.32	511	.609
	MS	24	8.54 ± 4.18	9.00	0-17	51.63		
Challenge	FS	84	12.42 ± 4.48	13.00	2-20	53.27	763	.445
	MS	24	13.58 ± 5.67	13.00	3-25	58.79		
Benefit	FS	84	3.42 ± 1.83	4.00	0-8	52.86	-1.034	.301
	MS	24	3.88 ± 1.48	4.00	0-6	60.23		
Harm	FS	84	6.07 ± 4.38	5.00	0-19	53.46	645	.519
	MS	24	6.46 ± 4.00	6.50	0-13	58.13		
CSQ Total	FS	84	31.01 ± 10.17	30.50	9-59	53.63	544	.587
	MS	24	32.46 ± 12.10	32.50	3-57	57.56		

Table 3: Comparison of CSQ Scores on the CLD According to Gender

[†] Mann-Whitney U FS: Female Student MS: Male Student CLD: Clinic Last Day

Table 3 shows the stress levels on the CLD according to gender. There was no significant difference in CLD stress levels between the male and female students (p > 0.05).

CSQ	Time	FS n:84	MS n:24
		Р	Р
Threat	CFD	.709	.793
	CLD		
Challenge	CFD	.020	.473
	CLD		
Benefit	CFD	.002*	.024*
	CLD		
Harm	CFD	.027*	.029*
	CLD		
CSQ Total	CFD	.004*	.122
	CLD		

Table 4: Comparison of CFD and CLD Stress Levels (n = 108)

*P<0.05 FS: Female Student MS: Male Student CFD: Clinic First Day CLD: Clinic Last Day

Table 4 shows the comparison of CFD and CLD stress levels in male and female students. The female students' harm and benefit mean scores and total CSQ mean scores on the CLD were significantly higher than those on the CFD (p < 0.05). Similarly, male students' harm and benefit mean scores and total CSQ mean scores on the CLD were significantly higher than those on the CFD (p < 0.05).

DISCUSSION

The aim of the current study was to investigate Turkish male and female nursing students' experience of stress during the first and last day of a clinical obstetrical nursing course. This cross-sectional study determined that the CSQ could be used for measuring stress levels on the first and last days of clinical practice. Results indicated that male and female nursing students' stress levels on the first and last day of the course were similar. Female students experienced higher levels of stress on the CLD than their male counterparts did. The harm and benefit mean scores of both male and female students on CLD were significantly higher than they were on CFD. The CSQ is a reliable tool for the first and the last day of obstetrical clinic course.

Nursing students may face many factors causing stress during their education (Admi, 1997, Burnard et al. 2008, Eşer, Khorshid and Denat, 2008). If students experience stress from

one or more of these factors or from clinical practice, and if they cannot manage it properly, this may affect their academic performance and their perceptions about the profession (Eşer et al. 2008). In the current study, the majority of male students reported that dealing with female patients was the most important source of clinical stress (Table 1). Similarly, Utkualp and Ogur (2010) showed that working with female patients had a negative effect on male students, Mohamed and El- Nemer (2013) reported that the male nursing students experienced stress during course from the rejection of some doctors, nurses and mothers as some time doctors were refusing to let them into examination room and nurse asked them to stay outside and Elswi and El-Sayed (2010) found that the majority of Egyptian male students (66.7%) found the clinical maternity nursing course very stressful.

Previously, it has been reported that patients who are being treated at obstetrics clinics may feel uncomfortable about receiving care from male nurses, may tend to think that only women should work as nurses, and may prefer male nurses to work in other clinics where the majority of patients are men. Eswi and El-Sayed (2010) reported that the main sources of stress for male nursing students were rejection from women receiving care from them, clinical training requirements, attitudes of clinical instructors, and difficulty dealing with some maternity nursing skills. In the current study, the majority of male students reported that they experienced stress during clinical practice because there was a gender bias against them from the patients (Table 1). Mohamed and El- Nemer (2013), Nicum and Karoo (1998) and Tzeng et al. (2009) reported similar findings. In Turkey, where the majority of the population is Muslim, the attitudes of obstetrics and gynecology patients toward male nurses might be more complicated than those of medical or surgical patients. Women consider male obstetricians trusted and more experienced, while male nursing students are still young, not mature enough, and might have feelings that could affect the care they provide.

Stress may affect thinking and learning in both negative and positive ways. High levels of stress inhibit learning, whereas low stress levels seem to motivate students (Chan et al. 2009). The current study found that both male and female students experienced moderate levels of stress on the first day of clinical practice (Table 2). Karabacak, Uslusoy, Şenturan, Alpar and Yavuz (2012) found similar levels of stress in nursing students during a fundamentals of nursing clinical course. Therefore, it can be assumed that clinical practice will always lead to a certain amount of stress in students.

Prior to the current study, CSQ scores on the last day of an obstetrical nursing clinical course had never been explored. Female students' total CSQ mean scores on the CLD were not significantly lower than those on the CFD. In addition, there was a gender difference in

terms of perceived stress; female students reported higher levels of stress than male students did (Table 4). This finding is similar to that of a U.S. study (Kirkland 1998). The genderlinked difference in stress may be attributed to differing patterns of psychological morbidity; men are simply less communicative of their concerns. Sirin, Kavlak and Ertem (2003) reported that female students experienced high levels of anxiety before maternity practice and that their anxiety subsided during the middle phase and end of clinical training. The high levels of stress experienced by female students may be related to empathy, because students themselves may experience pregnancy in the future. Another factor may be that clinical lecturers assume care practices at the beginning of the clinical course to model for students how to do things, whereas they are observers during the last days of the course so they can evaluate students' clinical skills and clinical decision-making abilities. This evaluation process may play a role in increasing the stress levels of students.

Pagana (1989) underlined that feelings of harm and benefit can be expected to emerge in the long term because those feelings are a result of past experiences. The current study investigated stress on the first and last day of clinical practice; thus, the feelings of harm and benefit can be evaluated clearly. Results of the current study showed that both female and male students' harm and benefit mean scores on the CLD were significantly higher than those on the CFD (Table 4). The increase in females' scores may be explained by their sensitivity about patients' negative experiences during labor. The increased harm scores of the male students may be related to rejection and negative experiences regarding gender bias, whereas the increase in benefit scores may be explained by the immediate assessment of care for postpartum patients and newborns. Moreover, this patient group was easy to communicate with; therefore, both male and female students may have received support during their care practices.

Patterson and Morin (2002) conducted a qualitative study with male nursing students who were attending postpartum/neonatal rotation and found that the students experienced complicated feelings, such as anxiety and fear of rejection, at the beginning of their clinical practice. Keogh and Olynn (2007) reported that their participants, who were posted in the obstetrics ward, perceived the midwifery staff as cold and hostile, that male student were made to feel uncomfortable during the rotation, and that many male students were not allowed to participate in the full range of care during the obstetrics rotation.

CONCLUSION

Our study showed that male and female nursing students' stress levels on the first and last day of the course were similar. Female students experienced higher levels of stress on the CLD than their male counterparts did. The harm and benefit mean scores of both male and female students on CLD were significantly higher than they were on CFD.

The main sources of stress for male students included working with female patients and being subject to gender bias. In light of findings from the current study, the following suggestions have emerged:

Programs should be implemented to provide public information about the non-gender specific nature of nursing; these programs should point out that the gender of the nurse is completely irrelevant to the quality of care provided.

The public should be better informed about the nursing profession and the roles within it to raise consciousness among students who might consider choosing nursing as a profession.

Nursing instructors should be aware that students experience high levels of stress during the obstetrical clinical course so that they can be more understanding of students.

Factors that may increase students' stress levels should be eliminated if possible. For example, if care plans are necessary for the first day of the clinical course, students should participate in organizing them.

Clinical instructor and other health professionals should provide suggestions to help students cope with stressors they may encounter during clinical courses. Prior to the obstetrical clinical course, students should be informed about possible stressors and difficulties they may experience and about ways to cope with these stressors. Obstetrics doctors should be role models for male nursing students in approaching female patients.

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