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**THE EFFECT OF INTENSIVE CARE UNIT NURSES' ANXIETY LEVELS ON
MORAL SENSITIVITY**

Yoğun Bakım Ünitesi Hemşirelerinin Anksiyete Düzeylerinin Ahlaki Duyarlılığa Etkisi

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ABSTRACT

Nurses experience a great deal of stress in their work environment. This quantitative descriptive study was carried out to determine the anxiety levels and the moral sensitivity of nurses working in intensive care units. Data were collected with a personal information form, the Beck Anxiety Inventory and Moral Sensitivity Questionnaire. The data analyses were performed using descriptive statistics, independent group's t-test, the Mann-Whitney U test, the Kruskal-Wallis test and correlation analysis. It was determined that the nurses' average total Beck Anxiety Inventory score was 18.65±9.73, average total Moral Sensitivity Questionnaire score was 96.24±24.24. There was no relationship between anxiety and moral sensitivities of nurses ($p>0.05$). Research results showed that nurses had moderate levels of anxiety and moral sensitivity. With these results it may be recommended to increase in-service training to improve the moral sensitivity of intensive care nurses and to develop improvement policies to reduce their anxiety levels.

Keywords: Anxiety, Intensive Care Units, Moral Sensitivity, Nursing

ÖZ

Hemşireler, çalışma ortamlarında büyük bir stres yaşamaktadırlar. Bu nicel tanımlayıcı çalışma, yoğun bakım ünitelerinde çalışan hemşirelerin anksiyete düzeylerinin ve ahlaki duyarlılıklarının belirlenmesi amacı ile yürütüldü. Veriler; kişisel bilgi formu, Beck Anksiyete Envanteri ve Ahlaki Duyarlılık Anketi ile toplandı. Veri analizleri; tanımlayıcı istatistikler, bağımsız gruplar t-testi, Mann-Whitney U testi, Kruskal-Wallis testi ve korelasyon analizi kullanılarak yapıldı. Hemşirelerin; Beck Anksiyete Envanteri toplam puan ortalaması 18.65±9.73, Ahlaki Duyarlılık Anketi toplam puan ortalaması 96.24±24.24 bulundu. Hemşirelerin anksiyeteleri ve etik duyarlılıkları arasında bir ilişki yoktu ($p>0.05$). Araştırma sonuçları hemşirelerin orta düzeyde kaygı ve ahlaki duyarlılığa sahip olduğunu gösterdi. Bu sonuçlar ile yoğun bakım hemşirelerinin ahlaki duyarlılığını geliştirmek için hizmet içi eğitimin artırılması ve kaygı düzeylerini düşürmek için iyileştirme politikalarının geliştirilmesi önerilebilir.

Anahtar kelimeler: Ahlaki Duyarlılık, Anksiyete, Hemşirelik, Yoğun Bakım Üniteleri

INTRODUCTION

Anxiety is a biological stimulus that excites the individual to act in order to do what is necessary in the face of a possible threat of danger. Sometimes this arises from a loss, or sometimes from an internal mental conflict. Freud explained fear as a reaction to a real threat and anxiety as a reaction to an internal danger (Bal, Çakmak, & Uğuz, 2013).

Nurses experience a great deal of stress in their work environment because of the reasons as; differences in working conditions, inadequate control in work, increasing demands of work, lack of support, concerns about the quality of nursing care, relationships with other healthcare team members, job rotation, working systems, etc. (Aydın & Kutlu, 2001; Lambert et al., 2004). This situation negatively affects the physiological and psychological health, social life and both individual and patient safety (Barrau-Baumstarck et al., 2009; Karagozoglu & Bingöl, 2008). The ability of nurses to maintain their physical and mental health depends on the protection offered in their work environment from adverse physiological and societal impacts (Arcak & Kasimoğlu, 2006). Various studies have determined the factors that nurses face in their work environment which cause stress (Kaliterna, Prizmic, & Zganec, 2004; Lee, Hwang, Kim, & Daly, 2004). It has been determined that long-term and frequent repetitive stressful experiences in the workplace cause social, occupational and individual problems as physical health issues, anxiety, desperation, depression, job dissatisfaction, reduced confidence related to work, reduced productivity in work, burnout syndrome, resignation, smoking, drinking, drug addiction, breakdown of family relationships, interpersonal communication problems (Paşa, 2007; Tel, Karadağ, Aydın, & Tel, 2003). For this reason, in order to reduce professional misconduct among nurses and improve patient safety, it is thought that positive results can be obtained in terms of performance and motivation by protecting and improving nurses' health and supporting them to overcome stress (Ören, 2011; Özgür, Yildirim, & Aktaş, 2008)

Intensive care units support the life functions of patients' with critical health problems and special treatment is administered in them (Özgür et al., 2008). Nurses working in these units provide multidimensional, dynamic nursing care which requires attention and close observation due to busy patient circulation. Intensive care nurses, in addition to problem-solving skills in the patient care process, must use a large number of life-saving technological tools. Intensive care conditions and working conditions can affect nurses and cause various problems. When viewed from an institutional perspective, the problems encountered can hinder work performance and cause a rise in mistakes. Therefore, it may cause; economic

losses for the institution, an increase in work accidents and a direct risk for patients care. All these factors may impact the care of the patient and cause a reduction in the quality of care (Abualrub, 2004; Arcaç & Kasimoğlu, 2006; Dunn, Wilson, & Esterman, 2005; Oktay, 2005; Yilmaz, Hacıhasanoğlu, & Çiçek, 2006)

Ethics have become an important and systematic field of study in philosophy and science, regarding moral behaviour, actions and judgements. Ethics (*ethicon, ethos*) is a Greek-derived word used for manner and moral. Ethics is about doing the right thing and not doing the wrong thing (Topdal, 2012). At the same time, ethics can be defined as a group of moral principles or a set of values that direct the behavior of an individual or a profession (Bahar et al., 2011). For this reason, nurses are expected to know the basic concepts relating to; ethics, ethical principles, the ethical decision-making process and the resources that can be used in ethical dilemmas, and to comply with moral rules in an integrated approach to human (Tosun, 2005).

Moral sensitivity is an important factor in the ethical decision-making process of nurses, and is defined as the ability to distinguish ethical issues (Başak, Uzun, & Arslan, 2010). Moral sensitivity requires an understanding of the ethical aspects of situations that concern a person's health. A critical approach, open-mindedness and courage are required for the development of moral sensitivity (Torjuul & Sorlie, 2006). Intensive care nurses are more likely to encounter complicated and unexpected problems as a professional team member who determines changes in the patient's health and must make quick decisions in emergencies as part of a team (Eşer, Khorshid, & Demir, 2007). A significant proportion of these problems are ethical issues. In order to be able to solve the faced ethical issues, to recognize ethical problems, and to make the best decisions, intensive care nurses' moral sensitivity must be developed. As professionals, intensive care nurses must fulfill their roles and responsibilities based on moral values. As well as contributing to their occupational professionalism, the high moral sensitivity of intensive care nurses directly influences the quality of the nursing care provided to patients (Beck, Steer, & Carbin, 1988; Özdemir, 2007).

METHOD

Design

This quantitative descriptive research has been done to determine the effect of anxiety levels on the moral sensitivity of intensive care nurses.

Participants

The study was carried out between April and May 2017. Research population was composed of nurses working for a training and research hospital located in South East Turkey. The total number of nurses working in intensive care units was 84. It was the intention to reach all of the nurses working in intensive care units without using any sampling method. The research was undertaken with the participation of a total of 70 nurses.

Data Collection

Data were collected by paper questionnaires (Personal Information Form, Beck Anxiety Inventory (BAI) and The Moral Sensitivity Questionnaire (MSQ)).

Instruments

Personal Information Form

The Personal Information Form consists of ten questions prepared by the researcher in accordance with the literature, concerning demographic information such as age, gender, education status, marital status and knowledge of ethics.

Beck Anxiety Inventory (BAI)

The Beck Anxiety Inventory (BAI) (Beck et al., 1988) can be used in geriatric and healthy populations, and among patients with psychiatric disorders. It measures the frequency of anxiety symptoms experienced by the individual. Individuals can answer themselves on a 4-point Likert-type self-assessment scale consisting of 21 articles scored 0-3 ("None", "Mild" and "Severe"). The total score indicates the level of the anxiety experienced. It measures more physical symptoms of anxiety. The patients' anxiety levels are classified according to their BAI scores. A score of 0-17 is low, 18-24 moderate and 25 or above is high. The higher score means the greater anxiety experienced. Ulusoy et al. tested the validity and reliability of the BAI with anxiety, depression, mixed, and control groups and found that it had a high internal consistency ($\alpha=0.93$) and the total correlation of the articles ranged from 0.45 to 0.72 (Ulusoy, Sahin, & Erkmen, 1998). The Cronbach's Alpha coefficient of this study was found 0.82.

Moral Sensitivity Questionnaire (MSQ)

The Moral Sensitivity Questionnaire was developed by Kim Lutzen to measure ethical sensitivity and was first used at the Karolinska Nursing Institute in 1994 (Stockholm, Sweden), primarily among physicians and nurses working in psychiatric clinics and later in

other units. It is a 7-point Likert-type scale of 30 articles. The reliability and validity of the scale were tested by Hale Tosun in Turkey in 2003 (Tosun, 2005). The Moral Sensitivity Questionnaire is a measurement tool consisting of 30 articles in six subdimensions (Autonomy, Benefit Providing, Integrated Approach, Conflict, Application, Orientation). Articles 3, 23, and 26, were not included in Lutzen's factor analysis (Tosun, 2005). In the MSQ, the grading of statements on a scale from 1 (fully agree) to 7 (not at all) is required, 1 indicating high sensitivity to participate fully, and 7 indicating low sensitivity to not participate at all. The lowest possible score on the MSQ is 30 and the highest is 210. Low scores show high sensitivity to moral questions and high scores show low sensitivity (Tosun, 2005). The Cronbach's Alpha coefficient of this study was found 0.87.

Data analysis

Research data were analyzed via SPSS (Statistical Package for Social Science) 25.0 software. Whether the descriptive statistics and data on the quantitative variables were normally distributed was evaluated via Shapiro-Wilk normality test. Chi-squared tests were used to compare socio-demographic data between groups, and independent samples t-test, Mann-Whitney U, Kruskal-Wallis tests. Pearson correlation was employed for measuring the correlational power. Statistical significance was identified if the P-value was lower than 0.05 ($p < 0.05$).

Ethical considerations

Before starting the study, written permissions were obtained from the Ethic Committee of Dicle University Hospitals on 17.04.2017, reference number 80, and from Diyarbakır Gazi Yaşargil Research and Training Hospital Manager on 21.04.2017, reference number 45. The criteria in the Declaration of Helsinki attached to the ethics committee's application documents were followed. The written consent of the nurses participating in the study was obtained verbally and in writing.

FINDINGS

It was determined that 81.4% of the included nurses were female, and the median age was 31.15 ± 5.24 . It was determined that 77.1% of the nurses were married, 84.3% were university graduates, 57.1% worked in internal medicine intensive care clinics, 78.6% had 0-5 years' experience working in intensive care, 42.9% were partially satisfied with the unit they were working in, 55.7% were working day and night shifts, 45.7% were satisfied with the way they work, and 54.3% were educated about ethics (Table 1).

Table 1. Distribution of Nurses According to Their Descriptive Characteristics ($n = 70$)

Characteristics	n	%
Gender		
Female	57	81.4
Male	13	18.6
Marital		
Married	54	77.1
Single	16	22.9
Education level		
High school	9	12.9
College	59	84.3
Postgraduate	2	2.9
Intensive care unit		
Internal unit	40	57.1
Surgical unit	30	42.9
Experience in the intensive care unit		
0-5 years	55	78.6
6-10 years	15	21.4
Satisfied with the unit		
Yes	30	42.9
No	22	31.4
Partially	18	25.7
Work pattern		
Day and night shifts	39	55.7
Only day shifts	31	44.3
Satisfied with the work pattern		
Yes	32	45.7
No	16	22.9
Partially	22	31.4
Educated about ethics		
Yes	46	65.7
No	24	34.3
Total	70	100.0
	M ± SD	
Age	31.15 ± 5.24	

It was determined that the nurses' average total BAI score was 18.65 ± 9.73 . They scored an average total of 96.24 ± 24.24 for moral sensitivity and, an average score of 20.07 ± 7.00 for the autonomy sub-dimension, 13.00 ± 4.90 for the benefit sub-dimension, 14.51 ± 5.28 for the integrated approach sub-dimension, 13.10 ± 3.99 for the conflict sub-dimension, 14.10 ± 4.98 for the application sub-dimension, 10.14 ± 4.99 for the orientation sub-dimension (Table 2).

Table 2. Nurses' Average BAI Scale Total Scores ($n = 70$)

Scales	Total Items	Score Averages	Min. -Max	Mean±SD
Total Score (BAI)	21	0-63	00-39	18.65±9.73
MSQ and Sub-dimension				
Autonomy	7	7-49	7-39	20.07±7.00
Benefit	4	4-28	4-23	13.00 ±4.90
Integrated approach	5	5-35	5-29	14.51±5.28
Conflict	3	3-21	3-21	13.10 ± 3.99
Application	4	4-28	4-23	14.10±4.98
Orientation	4	4-28	4-24	10.14±4.99
Total score (MSQ)	30	30-210	51-166	96.24±24.24

The MSQ scores for orientation sub-dimension were statistically significant ($p<0.05$) for marital status. MSQ scores for autonomy sub-dimension were statistically significant ($p<0.05$). The difference between the overall satisfaction with the work unit, and the mean scores of MSQ total, application and orientation sub-dimensions was found to be significant ($p<0.05$).

The BAI and MSQ scores were statistically insignificant ($p>0.05$) for gender, marital status, education, intensive care unit experience in intensive care unit, work pattern, satisfaction with the work pattern, and education in ethics. The difference between these groups mean score was found to be statistically insignificant ($p>0.05$) (Table 3).

Table 3. Comparison of the Descriptive Characteristics of Nurses' Average BAI and MSQ Scores (n= 70)

<i>Characteristics</i>	Total BAI (Mean±SD)	MSQ scale total and sub-group scores (Mean±SD)						
		Autonomy (Mean±SD)	Benefit (Mean±SD)	Integrated approach (Mean±SD)	Conflict (Mean±SD)	Application (Mean±SD)	Orientation (Mean±SD)	Total MSQ (Mean±SD)
Gender								
Female	17.80±9.72	19.33±6.14	12.71±4.72	13.84±4.38	13.01±4.03	13.91±5.19	9.35±4.18	93.66±21.35
Male	22.38 ± 9.26	23.30 ± 9.59	14.23±5.67	17.46±7.69	13.46±3.97	14.92±3.98	13.61±6.72	107.53±32.91
Test	MWU:249.500	MWU:273.500	MWU:320.000	MWU:272	MWU:363.500	MWU:323.500	MWU:223.000	MWU:289.500
Statistical significance	p:0.06	p:0.14	p:0.44	p:0.13	p:0.91	p:0.47	p:0.02	p:0.22
Marital status								
Married	18.25±9.51	21.40±6.69	13.38±4.79	14.51±5.36	13.48±3.73	14.64±4.64	10.59±5.04	99.25±23.99
Single	20.00±10.68	15.56±6.28	11.68±5.21	14.50±5.18	11.81±4.69	12.25±5.75	8.62±4.64	86.06±22.95
Test	MWU:381.500	MWU:225.000	MWU:340.000	MWU:422.000	MWU:329.000	MWU:322.500	MWU:320.500	MWU:310.500
Statistical significance	p:0.47	p:0.00	p:0.19	p:0.88	p:0.14	p:0.14	p:0.12	p:0.089
Education level								
High school	20.00±8.39	18.77±8.88	12.22±6.49	16.00±4.63	12.00±4.58	15.00±6.24	10.22±5.26	95.55±24.69
College	18.52±10.12	20.11±6.53	12.98±4.70	14.25±5.22	13.22±3.95	13.93±4.86	10.00±4.85	95.69±23.92
Postgraduate	16.50±3.53	24.50±14.84	17.00±1.41	15.50±12.02	14.50±3.53	15.00±4.42	14.00±9.89	115.50±41.71
Test	KW _x ² :0.423	KW _x ² :0.616	KW _x ² :1.869	KW _x ² :1.248	KW _x ² :0.784	KW _x ² :0.279	KW _x ² :0.302	KW _x ² :0.561
Statistical significance	p:0.80	p:0.73	p:0.39	p:0.53	p:0.67	p:0.87	p:0.86	p:0.75
Intensive care unit								
Internal unit	17.27±9.94	21.32±7.19	12.92±4.92	15.00±5.78	13.50±4.18	13.87±4.86	11.00±5.56	99.22±25.63
Surgical unit	20.50±9.30	18.40±6.49	13.10±4.97	13.86±4.54	12.56±3.72	14.40±5.19	9.00±3.91	92.26±22.05
Test	t:-1.380	t:-1.754	t:-0.147	t:0.886	t:0.966	t:-0.434	t:1.681	t:1.192
Statistical significance	p:0.17	p:0.08	p:0.88	p:0.37	p:0.33	p:0.66	p:0.09	p:0.23
Experience in the intensive care unit								
0-5 years	17.83±9.86	19.54±7.20	13.14 ± 5.00	14.43±5.44	13.20±3.77	13.89±5.20	9.92±5.11	95.58±24.25
6-10 years	21.66±8.91	22.00±6.04	12.46±4.64	14.80±4.80	12.73±4.86	14.86±4.13	10.93±4.57	98.66±24.92

Test Statistical significance	MWU:321.500 p:0.19	MWU:329.500 p:0.23	MWU:385.500 p:0.69	MWU:390.000 p:0.74	MWU:389.000 p:0.73	MWU:362.000 p:0.46	MWU:324.500 p:0.20	MWU:382.000 p:0.66
Satisfied with the unit								
Yes	17.36±9.55	19.23±7.31	12.06±5.11	14.40±5.61	13.00±3.99	13.50±5.24	9.26±4.91	92.76±24.65
No	20.18±10.35	18.59±5.85	12.59±4.40	13.04±3.92	12.86±3.64	12.31±4.58	8.45±3.06	88.40±16.75
Partially	18.94±9.53	23.27±7.11	15.05±4.78	16.50±5.79	13.55±4.57	17.27±3.52	13.66±5.48	111.61±25.03
Test Statistical significance	KW _x ² :1.419 p:0.49	KW _x ² :5.073 p:0.07	KW _x ² :4.146 p:0.12	KW _x ² :3.437 p:0.17	KW _x ² :0.457 p:0.796	KW _x ² :10.623 p:0.00	KW _x ² :12.247 p:0.00	KW _x ² :9.269 p:0.01
Work pattern								
Day and night shifts	18.84±9.78	20.41±7.25	13.10±5.01	14.64±5.55	13.66±4.02	14.74±5.10	9.84±5.30	97.71±24.86
Only day shifts	18.41±9.84	19.64±6.78	12.87±4.84	14.35±5.01	12.38±3.90	13.29±4.78	10.51±4.62	94.38±23.72
Test Statistical significance	t:0.181 p:0.85	t:0.451 p:0.65	t:0.195 p:0.84	t:0.223 p:0.82	t:1.338 p:0.18	t:1.217 p:0.22	t:-0.555 p:0.58	t:0.568 p:0.57
Satisfied with the work pattern								
Yes	18.78±9.14	19.18±8.12	12.00±5.11	13.93±5.63	12.71±3.87	13.50±5.04	9.62±5.29	92.28±26.92
No	19.56±10.97	21.06±6.58	14.12±5.01	16.43±4.87	12.75±3.43	14.12±4.70	11.43±3.61	99.87±19.73
Partially	17.81±10.03	20.63±5.51	13.63±4.43	13.95±4.93	13.90±4.57	14.95±5.18	9.95±5.42	99.36±23.22
Test Statistical significance	KW _x ² :0.830 p:0.66	KW _x ² :2.630 p:0.26	KW _x ² :1.952 p:0.37	KW _x ² :2.421 p:0.29	KW _x ² :3.823 p:0.14	KW _x ² :1.850 p:0.39	KW _x ² :0.965 p:0.61	KW _x ² :3.724 p:0.15
Educated about ethics								
Yes	17.32±9.84	19.95±6.95	12.52±5.06	14.82±5.69	12.52±4.07	13.93±5.17	10.45±5.51	95.58±26.02
No	21.20±9.20	20.29±7.24	13.91±4.55	13.91±4.45	14.20±3.67	14.41±4.68	9.54±3.82	97.50±20.88
Test Statistical significance	t:-1.601 p:0.11	t:-0.189 p:0.85	t:-1.131 p:0.26	t:0.681 p:0.49	t:-1.699 p:0.09	t:-0.382 p:0.70	t:0.725 p:0.47	t:-0.311 p:0.74

There was no relationship between anxiety and MSQ total and sub-group scores ($p>0.05$) (Table 4).

Table 4. Analysis of the Statistical Associations Between the Mean of Nurses' BAI Scores and Means of Their MSQ and MSQ Sub-scale Scores (n = 70)

MSQ and Sub-dimension	Autonomy	Benefit	Integrated approach	Conflict	Application	Orientation	Total score MSQ
BAI	r= 0.90 p=0.45	r= 0.10 p=0.93	r= 0.88 p=0.46	r= 0.91 p=0.45	r= 0.14 p=0.24	r= -0.34 p=0.77	r= 0.70 p=0.56

DISCUSSION

BAI scores of 0-17 are low, 18-24 moderate, and 25 or above are high, 30 is the lowest MSQ score and 210 is the highest (Öner, 2012; Tosun, 2005).

Our study has found that the average total BAI and total MSQ scores were moderate (Table 2). In a study conducted to determine the anxiety levels of 622 nurses working in various health-care facilities, state and continuous anxiety scores were identified to be moderate, similar to our results (Durmuş & Günay, 2007). The findings of Başak and et al.'s study on intensive care nurses' ethical sensitivity are moderately similar to ours (Başak et al., 2010). Tosun's study on 170 nurses, seeking descriptive- relationships, found nurses working in psychiatric clinics to have moderate ethical sensitivity (Tosun, 2005). Tazegün and et al. determined that pediatric nurses' moral sensitivity was moderate, similar to the present study (Tazegün & Çelebioğlu, 2016). In Arslan's study, the moral sensitivity in the intensive care nurses was determined moderate (Arslan, 2017; Daşbilek, 2016).

The MSQ orientation sub-dimension of the nurses was statistically significant in the term of sex (Table 3). Tazegün and Çelebioğlu did not find a significant difference in the level of moral sensitivity between genders among nurses (Tazegün & Çelebioğlu, 2016). In contrast to this result, in a meta-analysis of the impact of gender differences on the level of moral sensitivity, it was determined that women had higher sensitivity than men (You, Maeda, & Bebeau, 2011). It can be considered that the statistical significance between sexes on the MSQ orientation sub-dimension in our study was due to the low number of male nurses participating. It can be said that the lack of male nurses is the result of the fact that nursing education in Turkey has only been opened to men in 2007.

The autonomic sub-dimension of the nurses was determined to be statistically significant by marital status (Table 3). In the literature there is no significant difference between marital status and sensitivity (Başak et al., 2010; Ersoy & Göz, 2001). Tosun, found that scores on the sub-dimension of benefit were higher in married nurses than in bachelors

(Tosun, 2005). It can be said that the responsibility brought by marriage positively influences the autonomy sub-dimension.

In this study, there is no relationship between nurses' anxiety and moral sensitivity. There is no study in the literature that shows this relationship. However, different results may occur with new researches after the covid-19 pandemic.

Limitations

The results of the study can be generalized only to this sample group. A study with a larger sample could facilitate the generalization of results.

Clinical Implications and Future Directions

This research determined that the average total BAI and MSQ scores were moderate. The relationship between anxiety and moral sensitivity was not determined. Future studies aiming to improve the moral sensitivity of intensive care nurses may seek to identify and solve ethical problems. The anxiety levels of nurses working in intensive care units could be examined periodically and larger samples would allow researchers to determine the moral sensitivity of intensive care nurses and the different variables that influence anxiety.

Conflict of interest

The authors declare that there is no conflict of interest.

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