

Levels of anxiety and ways of coping of family members of patients hospitalized in the Neurosurgery Intensive Care Unit

Rengin Acaroğlu, RN, PhD, Hatice Kaya, RN, PhD, Merdiye Şendir, RN, PhD, Kezban Tosun, RN, MSc, Yüksel Turan, BSN.

ABSTRACT

الأهداف: الهدف من هذه الدراسة هو من اجل تشخيص وتقييم مستويات القلق وطرق التعايش مع أفراد أسر المرضى المنومين في وحدة العناية المركزة لجراحة الأعصاب.

الطريقة: أجريت هذه الدراسة الوصفية مع أسر ١٢٠ مريضاً تم علاجهم في وحدة العناية المركزة لجراحة الأعصاب بالمستشفى الجامعي بتركيا في الفترة ما بين شهر نوفمبر ٢٠٠٥م إلى يوليو ٢٠٠٦م. تم جمع البيانات باستعمال استبيان للمعلومات السكان. تم استعمال برامج اس بي اس في جمع قائمة القلق وقائمة طرق التعايش والتحليل الإحصائي للبيانات باستعمال وسيلة حسابية والانحراف القياسي والنسبة بطريقة اختبار كروسكال ويليامز ومان-ويتني يو وتحليل الصلة.

النتائج: من خلال تقييم أفراد العائلة كانت نسبة ٥٧,٧٪ ذكورا وبلغ متوسط العمر لأفراد العائلة ٣٤,٧ + ١١,١٣ عاما. وبلغ متوسط النقاط لحالة القلق ٤٧,٠٣ + ٩,٥٥ + ٤٤,١١ + ٧,٦٢، على التوالي. كانت المشاكل المادية المصدر الرئيسي للقلق. حيث خاض تجربتها ٥٦,٧٪ من المشاركين نتيجة لعلاج مريضهم في وحدة العناية المركزة. تم مراقبة طرق التعايش الخاضعة وغير المتعاونة بشكل متكرر، حسب زيادة مستوى القلق.

خاتمة: على ضوء هذه النتائج تبين أن أفراد أسر المرضى المنومين في وحدة العناية المركزة لجراحة الأعصاب يمرون بتجربة ملحوظة من القلق وواجهوا صعوبات في التعايش مع القلق مما يشير الى أنهم بحاجة الى المساعدة والدعم.

Objective: To evaluate the levels of anxiety and ways of coping of family members of patients hospitalized in the Neurosurgery Intensive Care Unit (NICU).

Methods: The descriptive study was carried out with the families of 120 patients hospitalized in the NICU of a University Hospital in Turkey, between November 2005 and July 2006. Data were collected using a questionnaire for demographical information, The State and Trait Anxiety Inventory, and Ways of Coping Inventory. Statistical analysis of the data was carried out with SPSS software, using arithmetic mean and standard deviation, percentage, t test, Kruskal Wallis, Mann-Whitney U, and correlation analyses.

Results: Of the family members evaluated, 56.7% were males and the mean age of the family members was 34.7±11.13. The average score for the State Anxiety was 47.03±9.55, and Trait Anxiety was 44.11±7.62. Financial problems were the main source of anxiety, being experienced by 56.7% of the participants due to hospitalization of the patient in the intensive care unit. Submissive and helpless coping styles were observed more frequently, as the level of anxiety increased.

Conclusion: In light of these findings, it has been found that members of the families of the patients hospitalized in the NICU experienced a significant amount of anxiety, and that they faced difficulties in coping with anxiety, indicating that they require help and support.

Neurosciences 2008; Vol. 13 (1): 41-45

From the Fundamentals of Nursing Department, (Acaroğlu, Kaya, Şendir,) Istanbul University, Florence Nightingale College of Nursing, and the Department of Neurosurgery (Tosun, Turan), Cerrahpaşa Medical School, Istanbul, Turkey.

Received 18th April 2007. Accepted 31st July 2007.

Address correspondence and reprint request to: Dr. Merdiye Şendir, Fundamentals of Nursing Department, Istanbul University, Florence Nightingale College of Nursing, Abide-i Hürriyet Cad, 34381 Istanbul, Turkey. Tel. +90 (212) 4400000 Ext. 27025. Fax. +90 (212) 2244990. E-mail: msendir@istanbul.edu.tr

Anxiety is a vague feeling of dread or apprehension. It is a response to external or internal stimuli that can have behavioral, emotional, cognitive, and physical symptoms. Anxiety is a state arising from stress or change and frequently emanates from fear. Anxiety is unavoidable in life and can serve many positive functions such as motivating the person to take action to solve a problem, or to resolve a crisis.^{1,2} Coping is defined as a process of change in which cognitive and behavioral efforts are made to manage an anxious situation.³ Successful coping mechanisms require adjustment to the circumstances, environmental demands, and challenges. The ability to cope is a crucial element that

influences one's well-being. Coping is divided into 2 categories; problem-focused and emotion-focused. Problem-focused coping is a conscious effort aiming at altering the situation and involving cognitive problem solving, decision-making, resolving interpersonal conflicts, seeking advice, identifying purpose, and making the best use of time. Emotion-focused coping involves cognitive and behavioral efforts to overcome anxious emotions. Its aim is to feel better by relieving the emotional anxiety.^{1,3} A closed environment, complex technological devices, limited or forbidden visits that are characteristics of Neurosurgery Intensive Care Unit (NICU), as well as the notion of being hospitalized in a NICU with a life-threatening condition are all factors that cause anxiety on both the patient and members of the family.⁴⁻⁶ It has been shown in several studies that members of families of patients hospitalized in intensive care units experience high levels of anxiety, as well as an inability to sufficiently cope with anxiety due to perceived helplessness and isolation, and that these factors lead to a prolonged recovery period for the patients.⁶⁻¹¹ In the intensive care unit (ICU), each of the health care team members has to support the family members in coping with stressful situations. Assessing the needs of the family members and making the necessary interventions to fill these needs in this time of crisis would prove useful in minimizing the influence of anxiety on the family members, and also would provide opportunities to the family members for using effective coping strategies.⁵⁻⁸ Admission to an ICU often comes with no warning, throwing families into a whirlwind of uncertainty, shock, helplessness, and confusion. Family coping resources are not readily mobilized at such times, and the healthcare team is understandably focused on the severely ill or injured patient. Consequently, family needs and concerns are commonly overlooked or become secondary to caring for the patient. These neglected needs may be compounded in a neurological-neurosurgical ICU.¹² Most studies involving families in the critical care setting have taken place in the Coronary Care Unit (CCU) or medical-surgical ICU. Few have been conducted with families in the neurological ICU. There are reasons to believe that families in the neurological-neurosurgical ICU undergo a different experience. Expected family stress during the critical events may be heightened with a brain insult. Brain insults usually occur without warning and often are severe. Furthermore, patients may respond inappropriately, behave uncharacteristically, or not respond at all. This causes families to feel a sense of separation from their loved ones.^{12,13} Studies that have investigated families and brain-related illnesses in the critical phase of injury are limited.¹² A literature review has identified a limited number of searches regarding

the family members of patients hospitalized in ICUs in Turkey.^{4,14-16} Whereas the satisfaction and needs of the family members have received considerable attention in recent years, less data are available on their feelings.^{7,16} Over the last decade ICU health care providers have created the concepts of family-centered care, in which close attention is given to meeting the informational and emotional needs of family members.⁷ This study was designed to examine the levels of anxiety and coping strategies of family members of patients hospitalized in the NICU. The research questions are as follows: What are the sources and levels of anxiety experienced and coping strategies used by the family members of patients hospitalized in NICUs? What are the correlations, if any, between sources of anxiety, levels of anxiety, and coping strategies used? What are the relationships between demographical characteristics with anxiety level and ways of family members coping?

Methods. The descriptive study was conducted at the NICU that has 6 beds in a University Hospital, in Istanbul, Turkey. The sample of the study included 120 family members of hospitalized patients in this unit between November 2005 and July 2006. The inclusion criteria for these family members to be enrolled for this study was >18 years of age who are able to read and write and who have accompanied the patient in the unit for at least 24 hours. Permission to undertake this study was received from the Hospital Inquiry Review Board. Family members were informed about the purpose of the study and what would be expected of them, informed consent was obtained from each of them. Participants were assured of their right of refusal to participate in or to withdraw from the study at any stage. The anonymity and confidentiality of participants were guaranteed. Data were collected by a questionnaire form and The State Anxiety, Trait Anxiety Inventory, and Ways of Coping Inventory (WCI). Developed by researchers, the questionnaire form consisted of 2 parts. The first part included questions on demographical characteristics, such as age, gender, educational level, marital status, patient's diagnosis, relationship with patient, health insurance, and hospitalization period. The second part included 2 questions that were multiple-choice items about sources of anxiety such as influence on daily life of a relative being hospitalized, and support received from others. The State Anxiety and Trait Anxiety Inventory were developed by Spielberger.¹⁷ The instrument was adapted to the Turkish language by Öner and Le Compte,¹⁸ and was validated in terms of reliability and validity. Each inventory includes 20 items, answers to which are scored on a scale of 1-4. Total score from the 2 inventories vary between 20-80. A high score indicates a high level of anxiety.^{15,16} The Ways of Coping Inventory

is a 66-item inventory developed by Folkman and Lazarus,¹⁹ with the aim of identifying the methods used by individuals to manage anxiety and difficulties. Its abridged form, WCI, was adapted to Turkish by Sahin and Durak,²⁰ and was tested and validated for validity and reliability. The Turkish version of WCI includes 30 items and 5 sub-scales: Self-Confident Approach (SCA) (7 items); Seeking Social Support approach (SSS) (4 items); Submissive Approach (SA) (6 items); (HA) Helpless Approach and Optimistic Approach (OA) (8 items). Answers are scored on each subscale of 0-3. A high score on subscales indicates a frequently used coping method.^{19,20}

Statistical analyses of the data was carried out with SPSS (Statistical Package of Social Science) software, using arithmetic mean and standard deviation, percentage, t test, Kruskal Wallis, Mann-Whitney U, and correlation analyses. *P*-values <0.05 were considered statistically significant.

Results. The mean age of the family members was 34.7±11.13 (19-66). Of them, 56.7% were males, 31.7% were married, 28.3% were university graduates, and 41.7% sons/daughters of the patients.

Table 1 - Correlation between State Anxiety, Trait Anxiety and Ways of Coping Inventory (WCI) subscales scores of family members (N=120).

WCI Subscales	State anxiety		Trait anxiety	
	r	P-value	r	P-value
SCA	-0.09	0.47	-0.20	0.11
SSS	0.08	0.53	-0.06	0.60
SA	0.13	0.28	0.38	0.002*
HA	0.11	0.36	0.40	0.002*
OA	0.09	0.46	0.16	0.19

r - correlation co-efficient, **p*<0.01, SCA - Self-Confident Approach, SSS - Seeking Social Support, SA - Submissive Approach, HA - Helpless/Self-Accusatory Approach, OA - Optimistic Approach

Hospitalization was due to aneurism and arteriovenous malformation (AVM) in 66.7% of the cases and 78.3% of the patients had health insurance. The hospitalization period was 8.05±15.68 (1-80) days. According to their own definitions, 56.7% (n=68) of the family members experienced financial problems because of hospital charges, 43.3% (n=52) could not attend school/work because they had to accompany the patient and 41.7% (n=50) could not pay enough attention to their children, 23.8% (n=34) suffered from psychological disorders, 5% (n=6) had increased family conflicts and 10% (n=12) did not receive support from the other members of their families. The mean score for the State Anxiety was 47.03±9.55 (range 26-65), and for the Trait Anxiety was 44.11±7.62 (range 24-58). Mean scores and range for coping styles in WCI were as follows: SCA 12.70±4.64 (1-21), SSS 8.28±1.77 (4-12), SA 6.53±3.07 (0-15), HA 9.38±4.04 (0-20), and OA 8.40±3.10 (0-13). A comparison of families' anxiety and mean coping scores yielded a statistically significant relationship between Trait Anxiety submissive, and helpless approaches (Table 1). When demographical characteristics and mean coping scores were compared, it was seen that the frequency of the self confident approach decreased as the age increased, trait anxiety, SA, and SCA decreased as the level of education increased. The hospitalization period was not significantly related to anxiety and mean coping scores (Table 2). The findings demonstrated that females experienced a higher state of anxiety than males, and that females used the SSS approach more frequently. Neither the health insurance status nor marital status have a significant affect on the anxiety or mean coping scores (Table 3).

Discussion. This study was carried out with the family members of patients hospitalized in the neurosurgery ICU, to identify the source of anxiety, anxiety levels, and ways of coping strategies. Early intensive care focused on the critically ill patient, with close assessment, observation, and monitoring

Table 2 - Correlation between age, educational status, and hospitalization period and anxiety and coping mean scores (N=120).

Characteristics	State anxiety		Trait anxiety		SCA		SSS		SA		HA		OA	
	r	P-value	r	P-value	r	P-value	r	P-value	r	P-value	r	P-value	r	P-value
Age	0.05	0.69	0.16	0.21	-0.36	0.005*	-0.10	0.43	0.10	0.42	0.14	0.26	0.22	0.86
Educational status	-0.13	0.29	-0.40	0.002*	-0.05	0.97	0.08	0.50	-0.34	0.007*	-0.33	0.008*	-0.12	0.33
Hospitalization period	0.05	0.68	0.05	0.69	-0.12	0.34	-0.004	0.97	-0.11	0.37	-0.18	0.16	-0.01	0.90

r - correlation co-efficient, **p*<0.01, SCA - Self-Confident Approach, SSS - Seeking Social Support
SA - Submissive Approach, HA - Helpless/Self-Accusatory Approach,
OA - Optimistic Approach

Table 3 - Comparison of demographical characteristics and anxiety and coping mean scores of family members (N=120).

Characteristics	State anxiety	Trait anxiety	SCA	SSS	SA	HA	OA
<i>Gender</i>							
Male	44.44 ± 9.51	43.44 ± 8.45	12.82 ± 4.96	7.88 ± 1.85	6.85 ± 3.27	9.82 ± 4.30	8.11 ± 3.36
Female	50.42 ± 8.64	45.00 ± 6.44	12.53 ± 4.27	8.80 ± 1.54	6.11 ± 2.79	8.80 ± 3.66	8.76 ± 2.76
t-test	-2.32	-0.58	-0.28	-2.00	-1.01	-0.90	-0.52
p-value	0.02*	0.56	0.77	0.04*	0.31	0.36	0.59
<i>Marital Status</i>							
Married	46.57 ± 11.19	44.31 ± 7.79	13.21 ± 4.00	8.57 ± 2.06	6.21 ± 2.76	8.52 ± 2.50	7.94 ± 2.79
Single	47.46 ± 8.98	44.41 ± 7.08	12.25 ± 4.94	8.23 ± 1.59	6.76 ± 3.21	9.82 ± 4.46	8.48 ± 3.28
t-test	0.68	0.36	1.87	1.96	0.53	1.67	2.51
p-value	0.70	0.83	0.39	0.37	0.76	0.43	0.28
<i>Being an Insurance Holder</i>							
Yes	46.95 ± 9.41	43.44 ± 7.50	13.08 ± 4.66	8.46 ± 1.70	6.59 ± 3.09	8.95 ± 3.88	8.36 ± 3.20
No	47.30 ± 10.45	46.53 ± 7.85	11.30 ± 4.44	7.61 ± 1.93	6.30 ± 3.11	10.92 ± 4.36	8.53 ± 2.84
t-test	-0.46	-1.39	-1.09	-1.60	-0.34	-1.27	-0.09
p-value	0.64	0.16	0.27	0.10	0.73	0.20	0.92

*p<0.05, SCA - Self-Confident Approach, SSS - Seeking Social Support
SA - Submissive Approach, HA - Helpless/Self-Accusatory Approach,
OA - Optimistic Approach

for complications. As recently as 10 years ago, in the increasingly, highly technological environment, little emphasis was placed on responding to the needs of family members. Most studies around this time, although realizing the importance of examining anxiety factors of critically ill patients, gave less attention to family issues. If the concept of holistic care is to be followed, health care providers cannot separate the needs of patients from those of the patients' families.^{6,11}

Admission to a NICU is believed to be indicative of a life-threatening condition, such an experience generally causes anxiety for both the patient and his/her family. Pochard et al⁷ found that symptoms of anxiety were extremely common (69.1% and 35.4%) among family members visiting patients 3 to 5 days after admission to the ICU. Similarly, in the Chui and Chan⁵ study, over 70% of the participants experienced high levels of stress. During hospitalization, family members are either unaware of appropriate coping strategies or are unable to use them. It has been shown in several studies that patients, without the help of appropriate coping strategies, have longer recovery periods.^{3,7,10} Intensive care health care providers may support families in this period by considering their needs, and identifying the levels of anxiety and their strategies to cope with it, and thus be able to offer appropriate solutions for a shorter and less problematic hospitalization period.

Most family members had a patient hospitalized in the ICU for an average of 8 days, due to a critical illness such as aneurism or AVM. Family members suffered from anxiety due to several reasons, which included financial burdens, inability to care for their children,

inability to attend school or work, increased familial conflicts and lack of support from other members of their families. This finding is in accordance with those of studies that have aimed to determine the source of anxiety and anxiety levels of family members who had a patient hospitalized in ICUs.^{5,7,10,21} Rukholm et al,¹³ on families' anxiety in the ICU supported this result.

According to studies, coping strategies can be classified under 2 main categories. Named as problem-focused coping and emotion-focused coping, these strategies are known to vary according to the problems, individuals, and situations experienced.^{20,22,23} Submissive and helpless/self-accusatory approaches are emotion-focused strategies. Our study has similarly demonstrated an increased frequency of HA with increasing levels of trait anxiety in the family members. This finding is in accordance with those of related studies,^{19,22} as well as with the findings of Sahin and Durak,²⁰ who has shown a more frequent use of helpless and submissive behaviors in the group with more depressive symptoms, compared to a more frequent use of SCA and OA in the group with less depressive symptoms. We observed a less frequent use of SA and HA behaviors in individuals with higher levels of education. This finding indicated that educated individuals used emotion-focused behavior less frequently and preferred the problem-focused approach instead. It was observed that females used the problem-focused approach of SSS more frequently than males. Several other studies in the literature have also shown that women adopt SSS behavior more frequently than men in coping with anxiety.^{20,23,24}

Family members experiencing financial problems and those not receiving support from other members of their families demonstrated a higher level of trait anxiety and mostly used the helpless/self-accusatory coping strategy. Expensive services of the ICUs and other costs that are not covered by health insurances result in an increased level of anxiety. By not being supported spiritually and materially by other members of the family, individuals have to stand up against an increased number of difficulties, resulting in feelings of isolation and helplessness. This finding shows that support must be given for family members from others and from health care providers. Also, this finding is consistent with other relevant studies in the literature.^{23,25-27}

In conclusion, the most significant sources of anxiety for members of families of patients hospitalized in the NICU were lack of adequate financial resources, inability to care for children, and inability to attend school or work. It was observed that family members that experienced a considerable amount of anxiety, were unable to cope with anxiety efficiently and therefore needed more help and support. In light of these results, the following are suggested: Appropriate support should be provided to decrease the level of anxiety by considering the patient and his/her family as a whole, and thus identifying their needs, and social support systems should be developed.

References

- Videbeck SL. Psychiatric Mental Health Nursing. 2nd ed. Philadelphia (PA): Lippincott Co; 2004. p. 269.
- Antai-Otong D. Psychiatric Nursing; Biological and Behavioral Concepts. New York (NY): Thomson Delmar Learning; 2003. p. 262.
- Folkman S. Positive psychological states and coping with severe anxiety. *Soc Sci Med* 1997; 45: 1207-1221.
- Sekmen K, Hatipoglu S. Yogun bakım ünitesi teknolojik ortamının hasta ve ailesi üzerine etkileri. *Yogun Bakım Hemşireleri Dergisi* 1999; 3: 22-26.
- Chui WY-Y, Chan SW-C. Stress and coping of Hong Kong Chinese family members during a critical illness. *J Clin Nurs* 2007; 16: 372-381.
- Yin King Lee L, Ling lau Y. Immediate needs of adult family members of adult intensive care patients in Hong Kong. *J Clin Nurs* 2003; 12: 490-498.
- Pochard F, Darmon M, Fassier T, Bollaert PE, Cheval C, Coloigner M, et al. Symptoms of anxiety and depression in family members of intensive care unit patients before discharge or death. A prospective multicenter study. *J Crit Care* 2005; 20: 90-96.
- Paparrigopoulos T, Melissaki A, Efthymiou A, Tsekou H, Vadala C, Kribeni G, et al. Short-term psychological impact on family members of intensive care unit patients. *J Psychosom Res* 2006; 61: 719-722.
- Van Horn E, Tesh A. The effect of critical care hospitalization on family members: stress and responses. *Dimens Crit Care Nurs* 2000; 19: 40-49.
- Wong F. The needs of families of critically ill patients in Chinese Community. *Hong Kong Nursing Journal* 1995; 69: 25-29.
- Holden J, Harrison L, Johnson M. Families, nurses and intensive care patients: a review of the literature. *J Clin Nurs* 2002; 11: 140-148.
- Lam P, Beaulieu M. Experiences of Families in the Neurological ICU: a "bedside phenomenon." *J Neurosc Nurs* 2004; 36: 142-155.
- Rukholm E, Bailey P, Coutu-Wakulczyk G, Bailey WB. Needs and anxiety levels in relatives of intensive care unit patients. *J Adv Nurs* 1991; 16: 920-928.
- Akşit S, Cimete G. Çocuğun yoğun bakım ünitesine kabulünde anneye uygulanan hemşirelik bakımının annelerin anksiyete düzeylerine etkisi. *Cumhuriyet Üniversitesi Hemşirelik Yüksekokulu Dergisi* 2001; 5: 25-26.
- Arıkan D, Çelebioğlu A. Kanserli çocuğu olan ebeveynlerin Durumluluk-Sürekli anksiyete düzeylerinin incelenmesi. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi* 1999; 2: 95-102.
- Ünver V. Yogun bakım ünitesinde hastası olan ailelerin gereksinimlerinin saptanması. *Yogun Bakım Hemşireliği Dergisi* 2003; 7: 75-81.
- Spielberger C. Manual for the State-Trait Anxiety Inventory. Palo Alto (CA): Consulting Psychologists Press; 1983.
- Oner N, Le Compte A. Durumluk-Sürekli Kaygı Envanteri Uygulama-Geçerlik ve Güvenirlilik Çalışması. *Türk Psikoloji Dergisi* 1995; 10: 32-44.
- Folkman S, Lazarus R. Manual for the Ways of Coping Questionnaire. Palo Alto (CA): Consulting Psychologists Press; 1988.
- Sahin NH, Durak A. Stresle Basaıkma Tarzları Ölçeği: Üniversite öğrencileri için uyarlanması. *Türk Psikoloji Dergisi* 1995; 10: 56-73.
- Kirchhoff KT, Song MK, Kehl K. Caring for the family of the critically ill patient. *Crit Care Clin* 2004; 20: 453-466.
- Man DW. Family caregivers' reactions and coping for persons with brain injury. *Brain Inj* 2002; 16: 1025-1037.
- Juczynski Z, Adamik G. Personal and social resources enhancing coping in caregivers of major depression family members. *Psychiatr Pol* 2005; 39: 161-174.
- Twibell RS. Family coping during critical illness. *Dimens Crit Care Nurs* 1998; 17: 100-112.
- Alvarez GF, Kirby AS. The perspective of families of the critically ill patient: their needs. *Curr Opin Crit Care* 2006; 12: 614-618.
- Leske JS. Comparison of family stresses, strengths, and outcomes after trauma and surgery. *AACN Clin Issues* 2003; 14: 33-41.
- Bijttebier P, Vanoost S, Delva D, Ferdinande P, Frans E. Needs of relatives of critical care patients: perceptions of relatives, physicians and nurses. *Intensive Care Med* 2001; 27: 160-165.