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Evaluate of anxiety status of children hospitalized for acute or chronic diseases and their mothers

Akut veya kronik hastalıklar nedeniyle hastanede yatan çocukların ve annelerinin anksiyete durumlarının değerlendirilmesi

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ABSTRACT

Purpose: This study was conducted to evaluate the anxiety status of children hospitalized for acute or chronic diseases and their mothers.

Method: This is a descriptive and cross-sectional study. The study was carried out in 6-17 age group children and their mothers who were admitted to the Child and Infant Clinic of Çaycuma State Hospital in Zonguldak between August 1 and October 31, 2019. The study was completed with 225 children and 225 mothers. "Child and Mother Information Form", "The Childhood Anxiety Sensitivity Index (CASI)" and "The Beck Anxiety Inventory (BAI)" were used as data collection tools in the study.

Results: In the study, the mean CASI general score was 35.70±4.94, and the mean BAI general score was 21.35±6.16. A positive correlation was found between CASI and BAI (p = 0.011). In the study, no statistical difference was found between the anxiety level of children with acute disease and the anxiety level of children with chronic disease (p=0.072). There was a statistically significant difference between mothers' anxiety levels according to the acute or chronic disease diagnosis status of the children (p <0.001).

Conclusion: This study revealed that both children and their mothers suffer from moderate level of anxiety during their stay at the hospital. It was concluded that the anxiety levels of mothers of the children diagnosed with acute disease were significantly higher than the anxiety levels of children with chronic disease. In addition, it was found out that the gender, age and educational status of the children affected the anxiety levels of the children. Another conclusion was that family type, educational status, employment status and the presence of children other than the hospitalized child affected the anxiety levels of the mothers.

Keywords: Acute disease; anxiety; chronic disease; hospitalized child; mother

ÖZET

Amaç: Bu çalışma, akut veya kronik hastalığı nedeniyle hastanede yatışı olan çocukların ve annelerinin anksiyete durumlarının değerlendirilmesi amacıyla yapıldı.

Yöntem: Tanımlayıcı ve kesitsel tipte bir çalışmadır. Çalışma, Zonguldak ili Çaycuma Devlet Hastanesinin Çocuk ve Süt Çocuğu Servisine yatışı yapılan 6-17 yaş grubu çocuklar ve anneleri ile 1 Ağustos-31 Ekim 2019 tarihleri arasında gerçekleştirildi. Çalışma 225 çocuk ve 225 anne ile tamamlandı. Araştırmada veri toplama aracı olarak "Çocuk ve Anne Bilgi Formu", "Çocuklar için Anksiyete Duyarlılığı İndeksi" ve "Beck Anksiyete Envanteri" kullanıldı.

Bulgular: Çalışmada, CASI genel puan ortalaması 35.70±4.94, BAI genel puan ortalaması 21.35±6.16'idi. CASI ve BAI arasında pozitif yönlü bir ilişki olduğu tespit edildi (p=0.011). Çalışmada, akut hastalık tanısı olan çocukların anksiyete düzeyi ile kronik hastalığı olan çocukların anksiyete düzeyi arasında istatiksel olarak fark yoktu (p =0.072). Çocukların akut veya kronik hastalık tanısı durumuna göre annelerin anksiyete durumları arasında istatistiksel olarak anlamlı farklılık vardı (p <0.001).

Sonuç: Çalışma, hem çocukların hem de annelerinin hastanede kalma süresince orta düzeyde anksiyete yaşadıklarını göstermiştir. Akut hastalık tanısı alan çocukların annelerinin anksiyete düzeylerinin, kronik hastalığı olan çocukların anksiyete düzeylerinden anlamlı derecede yüksek olduğu sonucuna varılmıştır. Ayrıca, çocukların cinsiyeti, yaşları ve eğitim durumlarının çocukların anksiyete düzeylerini etkilediği, annelerin yaşadıkları aile tipi, eğitim, çalışma ve hasta olan çocuktan başka çocuk varlığı durumlarının ise annelerin anksiyete düzeylerini etkilediği sonucuna varılmıştır.

Anahtar kelimeler: Akut hastalık; anksiyete; kronik hastalık; hastanede yatan çocuk; anne

Introduction

The phenomena of disease and hospitalization can lead to negative impacts and feelings on all children, regardless of their age (Beickert & Mora, 2017; Burns-Nader & Hernandez-Reif, 2016). One of the most prevalent of these negative emotions is anxiety (Çalışır & Karataş, 2019; Öztürk Şahin & Topan, 2019). Physical impairment, invasive interventions, surgery, death, pain and experiencing loss of control are among the reasons that make children feel anxious in the hospital environment (Çamur & Sarıkaya Karabudak,

2021). In addition, diseases and resulting hospitalization may cause anxiety for the child by preventing their independence, relationships with friends, schooling, and game-playing (Öztürk Şahin & Topan, 2019).

Children can rely on the support of their family when they face hospitalization procedures. The support of parents is especially important (Nabors, Liddle, Graves, Kamphaus, & Elkins, 2019). However, hospital environment is unfamiliar and a source of anxiety not only for the child but also for his/her attendant. The hospital attendants of children are usually their mothers. For this reason, they are the ones who are most affected by the disease of the child and hospital environment (Açıkgöz, Ezen, Söngüt, Ulukuş, & Emir, 2019). It has been reported that this situation, which restricts daily life, increases the child's need for care and brings with it a series of unexpected changes, causes the mother to experience anxiety (Üstün, Akan, & Küçük, 2021). Hospitalization of the child, worrying that the child has a serious health problem, complications, loss or disability of the child, the thought of not being able to help the child, lack of information, permission problems related to the workplace, and uncertainties about social and economic difficulties can increase the anxiety of mothers (Günay, Sevinç, & Arslantaş, 2017; Kaynak & Çövener Özçelik, 2020). In addition to the factors related to the parents, it is stated that the variables related to the child such as age, history of an acute or chronic illness, and the duration of the disease also affect the mother's anxiety level (Üstün et al., 2021).

It is known that parent anxiety, in turn, affects children (Platt, Williams, & Ginsburg, 2016). Parents reflecting their hospital and illness-related anxiety to their children may cause the child to experience more anxiety, react more to medical interventions, and even develop resistance to treatment (Karaca Çiftçi, Aydın, & Karataş, 2016). In addition, anxiety increases the release of stress hormones such as cortisol physiologically and leads to the suppression of the immune system, more severe pain, and changes in respiratory and coronary functions. For this reason, it is important that all professionals working in the field of pediatrics adopt an atraumatic care approach to alleviate the anxiety of children and their symptoms (Çalışır & Karataş, 2019). Nurses are the health professionals who communicate frequently with the hospitalized child and their parents and spend the most time with them (Öztürk Şahin & Topan, 2019). In this sense, it is the nurses who should identify the factors and anxiety situations that may cause anxiety in parents and children, minimize the factors that may cause anxiety, plan and implement correct and appropriate help initiatives, and inform the family properly (Kaynak & Çövener Özçelik, 2020). Psychosocial symptoms, stress and anxiety issues experienced by hospitalized children or their mothers have been widely covered in the literature, but there are limited research results that deal with mother and child together, especially about anxiety (Çamur & Sarıkaya Karabudak, 2021; Kaynak & Çövener Özçelik, 2020). Accordingly, this study was conducted to evaluate the anxiety status of children hospitalized for acute or chronic diseases and their mothers. In line with this general purpose, answers to the following questions have been sought:

- What is the anxiety level of children and their mothers?
- Is there any difference between anxiety level of children according to their acute or chronic disease status?
- Is there any difference between anxiety level of the mothers according to the acute or chronic disease status of their children?
- What is the effect of some descriptive characteristics of children and their mothers on anxiety levels?

Methods

Design, setting, population, and sample size

This is a descriptive cross-section study conducted at Public Hospital in Çaycuma, Zonguldak, between 1 August and 31 October, 2019. Çaycuma State Hospital, where the study was conducted, is a 200-bed public hospital located in Çaycuma district center of Zonguldak province, providing outpatient and inpatient treatment services. Pediatric patients hospitalized in this hospital are treated in the 26-bed "Child and Infant Service", where the study was carried out.

The population of the study consisted of 6-17 age group children hospitalized at Child and Infant Service of Çaycuma State Hospital and their mothers. Interview was conducted with the Informatics and Statistics Department of the institution to find out that 900 children between 6 and 17 years of age were hospitalized at the Child and Infant Service in the last year. The minimum number to be reached with a 95% confidence interval and a 5% margin of error was calculated as 225, using the known population sampling formula. Assuming that there may be data losses, the sample group consisted of 230 children and 230 mothers. However, 5 (five) data forms were excluded from the analysis during the data analysis phase, due to the incomplete filling of the scale by two children and the information form by three mothers. As a result, the study was completed with 225 children and 225 mothers. The inclusion criteria of the children were being in the 6-17 age group, having an acute or chronic illness, being literate, and being voluntary. The inclusion criteria of the mothers in the study were that they could speak Turkish, were literate and were volunteers.

Data collection tools

Child and Mother Information Form. This form prepared by the researchers consists of a total of 26 questions, 10 of which are open-ended, examining the socio-demographic characteristics of children and their mothers, their experience of illness and hospital, and the variables affecting their perception of illness (Karaca Çiftçi et al., 2016; Günay et al., 2017; Charana et al., 2018).

The Childhood Anxiety Sensitivity Index (CASI)

The Index was developed by Silverman, Fleisig, Rabian, and Peterson (1991) and its adoption to Turkish as well as reliability and validity studies were performed by Yılmaz and Zinnur Kılıç (2015). The scale examines the feelings of children following internal and external stimulants which can cause anxiety. It is a self-report scale prepared for children aged 6-17. The scale consists of 3 sub-dimensions, namely social, cognitive and physical, and a total of 18 items. Each item is scored as none (1), a little (2), and a lot (3). The lowest score that can be obtained from the scale is 18, and the highest score is 54. A higher score on the scale means increased anxiety. Silverman et al. (1991) found the Cronbach alpha value of the scale to be 0.87, while Yılmaz and Zinnur Kılıç (2015) found it to be 0.74. In this study, it was found as 0.75.

The Beck Anxiety Inventory (BAI)

The Turkish validity and reliability study of the scale developed by Beck, Epstein, Brown, and Steer (1988) was conducted by Ulusoy, Sahin, and Erkmen (1998). The scale consists of 21 items each of which is scored between 0-3. Participants marked the most appropriate option for each item such as none (0), mild (1), moderate (2), and severe (3). This is a kind of self-report scale that is interpreted as the higher the score, the higher the anxiety level of the subject. There is no specified cut-off score, but 8-15 points can be interpreted as mild anxiety symptoms, 16-25 points as moderate anxiety symptoms, and 26-63 points as severe anxiety symptoms. Beck et al. (1988) found the Cronbach alpha value of the scale to be 0.92, while Ulusoy et al. (1998) found it to be 0.93. In this study, it was found as 0.89.

Data collection

Research data were collected from children aged 6-17 hospitalized in the "Child and Infant Service" of Çaycuma State Hospital in Zonguldak province between August 1 and October 31, 2019, and their mothers. The researchers delivered the data collection tools to the patient rooms of the children and their mothers, and the participants were asked to answer the questions. Children and their mothers answered the data collection tools themselves. However, the scale questions were read by the researcher to 17 children who received pre-school education (kindergarten), and the children were asked to answer them. The implementation of the data collection tools took a maximum of 20 minutes for each child and their mother.

Statistical analysis

The study was conducted on the data belonging to 450 individuals, including 225 children and 225 mothers. The data were completed by transferring to IBM SPSS Statistics 23 program. While evaluating the study data, frequency distribution (number, percentage) for categorical variables and descriptive statistics (mean, standard deviation, median and interquartile range) for numerical variables were provided. Compliance of numerical variables with normal distribution was checked with the Kolmogorow-Smirnov test. Mann-Whitney U test was used to examine whether there was a difference between the two groups, since conformity to the normal distribution was not achieved, and The Kruskal Wallis test was used to see if there was a difference between more than two groups. Spearmann correlation analysis was used to analyze the relationship between two numerical variables. The results of the research were evaluated within the 95% confidence interval, and $p < 0.05$ was accepted for significance.

Ethical considerations

Ethical approval was obtained from Karabuk University Non-Interventional Clinical Research Ethics Committee (Date: 18/03/2019, Decision No: 3/8) for the study to be conducted, and institutional permission (Date: 26/07/2019, Number: 39330677-799) was obtained from the Provincial Health Directorate of Zonguldak Province to which Çaycuma State Hospital is affiliated. Children and their mothers were informed about the study. Verbal consent was obtained from the children who agreed to participate in the study, and verbal and written consent (Informed Voluntary Consent Form) was obtained from their mothers.

Results

225 children participated in the study; the mean age of the children was 9.48±2.96 and 59.1% of the children were girls. 92.5% of the children attended school and 7.5% attended pre-school education. 81.3% of the children stated that they lived in a nuclear family, and 77.8% of them stated that they had siblings. 39.6% of the mothers were high school graduates and 60.9% were housewives (Table 1).

Table 1. Descriptive characteristics of children and their mothers

Variables	Mean±SD	
Age	9.48±2.96	
	n	**%**
Gender		
Girl	133	59.1
Boy	92	40.9
Education status		
Pre-school education	17	7.5
Primary school	132	58.7
Middle School	60	26.7
High school	16	7.1
Siblings		
Yes	175	77.8
No	50	22.2
Family Type		
Nuclear	183	81.3
Extended	42	18.7
Education status of the mother		
Only literate	6	2.7
Elementary school	46	20.4
Secondary school	55	24.4
High school	89	39.6
University	29	12.9
Profession of the mother		
Housewife	110	60.9
Private sector	65	28.9
Public official	20	8.9
Self-employed	2	0.9
Worker	1	0.4
Total	**225**	**100.0**

It was observed that 75.1% of the children participating in the study were hospitalized for an acute disease and 24.9% for a chronic disease. In our study, viral enteritis (13.8%) among acute diseases and asthma (19.6%) among chronic diseases ranked first as the reasons for hospitalization in children (Table 2).

Table 2. Medical diagnosis of the children

	Diagnosis	**n**	**%**
Acute Disease	Viral Enteritis	31	13.8
	Bronchitis	27	12.0
	Tonsillitis	25	11.1
	Urinary tract infection	25	11.1
	Bronchiolitis	20	8.9
	Otitis Media	16	7.1
	Pneumonia	13	5.8
	Stomach ache	12	5.3
	Sub total	**169**	**75.1**
Chronic Disease	Asthma	44	19.6
	Diabetes	4	1.8
	Epilepsy	3	1.4
	Kidney failure	2	0.9
	Cystic fibrosis	1	0.4
	Anorexia	1	0.4
	Myocarditis	1	0.4
	Sub total	**56**	**24.9**
Total		**225**	**100.0**

In the study, the mean CASI general score was 35.70±4.94, and the item score average was 1.98±0.27. The mean BAI general score was 21.35±6.16, and the item score average was 1.02±0.29. A positive correlation was found between CASI and BAI (p = 0.011) (Table 3).

Table 3. CASI and BAI mean scores and the relationship between them

	Number of items	Lower and upper value	Point mean scores	Item point mean scores
			$\bar{X} \pm$SD	$\bar{X} \pm$SD
CASI	18	22-57	35.70±4.94	1.98±0.27
BAI	21	0-51	21.35±6.16	1.02±0.29
		BAI		
	r		p	
CASI	0.168		**0.011**	

r: Spearmann correlation coefficient

In the study, no statistical difference was found between the anxiety level of children with acute disease (36.0) and the anxiety level of children with chronic disease (34.5) (p=0.072 > 0.05). There was a statistically significant difference between mothers' anxiety levels according to the acute or chronic disease diagnosis status of the children (p <0.001). Accordingly, the anxiety scores of mothers of children with acute diseases (8.0) were found to be higher than the scores of the mothers of children with chronic diseases (5.0) (Table 4).

Table 4. Anxiety status of children and their mothers according to acute and chronic disease status

Medical diagnosis	CASI		BAI	
	Median	IQR	Median	IQR
Acute disease	36.0	6.0	8.0	7.0
Chronic disease	34.5	6.5	5.0	5.0
MW*	-1.796		-4.402	
p	0.072		**<0.001**	

**:Mann Whitney U test

In the study, there was no statistically significant difference between CASI scores (p > 0.05) in terms of the child's sibling status (p = 0.598), family type (p = 0.324), mother's educational status (p = 0.506), and mother's employment status (p = 0.337). The anxiety scores of girls were higher than those of the boys (p = 0.006). There was a statistical difference between the children's CASI scores in terms of education status (p = 0.042). Accordingly, the anxiety scores of the children at high school age were lower than the children who attended pre-school education and primary education (Table 5).

There was no statistical difference between the anxiety scores of the mothers according to the gender of the children (p = 0.193). Anxiety scores of mothers with one child were higher than those of mothers with two or more children (p < 0.001). Anxiety scores of mothers with nuclear family structure were higher than those of mothers with extended family structure (p = 0.011). Anxiety scores of mothers with high school or higher education were found to be higher than those of mothers with primary education (p <0.001). Anxiety scores of working mothers were higher than non-working mothers (p = 0.009). Anxiety scores of mothers whose hospitalized child was going to pre-school education and attended primary school were higher than those of mothers whose hospitalized child was going to secondary and high school (p <0.001). A negative correlation was found between the child's age and both the child's anxiety (p = 0.001) and the mother's anxiety (p <0.001) (Table 5).

Table 5. Comparison of some variables of children and their mothers with CASI and BAI

Variables	CASI		BAI	
	Median	IQR	Median	IQR
Gender				
Girl	37.0	5.0	7.0	7.0
Boy	35.0	6.0	7.0	6.5
MW* / p	-2.775	**0.006**	1.301	0.193
Siblings of the child				
Yes	36.0	6.0	6.0	7.0
No	36.0	5.0	10.0	7.0
MW* / p	-0.527	0.598	3.704	**<0.001**
Family type				
Nuclear	36.0	6.0	8.0	8.0
Extended	34.5	6.0	6.0	4.0
MW*/ p	-0.987	0.324	-2,557	**0.011**
Education status of mother				
Elementary school	35.0	6.0	5.0	8.0
High school	36.0	6.0	9.0	6.0
University	37.0	6.0	10.0	7.0
KW / p**	1.364	0.506	32.738	**<0.001**
Employment status of mother				
Not working	36.0	6.0	6.0	7.0
Working	36.0	5.0	8.0	7.0
MW* / p	-0.960	0.337	2.620	**0.009**
Education status				
Pre-school education	37.0	5.0	10.0	5.0
Elementary school	36.0	6.0	8.0	6.0
Secondary school	35.0	5.0	5.0	6.5
High school	32.5	8.0	3.5	6.0
KW / p**	8.185	**0.042**	22.705	**<0.001**
Age of the child				
r / p	-0.221	**0.001**	-0.349	**<0.001**

*:Mann Whitney U test, **: Kruskal Wallis test, r:Spearmann correlation coefficient

Discussion

The Childhood Anxiety Sensitivity Index mean score of the children included in the study was found as 35.7, which is a moderate score; thus, it was found out that the children experienced moderate level of anxiety. It was seen that the mean score of anxiety level of the children who participated in the study was higher than the CASI mean scores of healthy school children (32.5) (Yılmaz & Zinnur Kılıç, 2015). In a study in which the CASI scores of children aged 6-12 who will undergo surgery were measured, it was observed that the anxiety level of children was similar to the rate in our study (34.8) and the conclusions were consistent with our research (Bahadır & Kürtüncü, 2020). In the literature, it has been reported that one of the most common negative emotions experienced by children during illness and hospitalization is anxiety (Çalışır & Karataş, 2019; Öztürk Şahin & Topan, 2019), and the fact that children experience moderate anxiety can be interpreted as an expected result since the participants in our study group were hospitalized children.

The mean BAI score of the mothers was 21.3 (according to BAI, the range of 16-25 points is accepted as moderate anxiety level), and it was determined that the mothers experienced moderate anxiety like their children. When studies using BAI are examined in the literature, it has been determined that mothers of children who will undergo surgery in the pediatric surgery clinic and mothers of children diagnosed with cancer in the hematology clinic experience severe anxiety (Doğan & Dikeç, 2020; Köse, Türköz Arar, & Yıldırım, 2019). In another study examining the anxiety levels of mothers whose children were hospitalized in a pediatric clinic, it was determined that mothers suffered from moderate anxiety (BAI score average of 22.7), which is found to be compatible with our study (Çamur & Sarıkaya Karabudak, 2021).

In studies conducted with parents of pediatric patients in the literature, it is stated that being a mother is significantly associated with parental anxiety (Ayenew, Endalew, Agegnehu, & Bizuneh, 2020; Charana et al., 2018). In our study, a positive correlation was found between mother and child anxiety scores. Studies conducted on pre-operative phase children (Charana et al., 2018; Getahun, Endalew, Mersha, & Admass, 2020), children with chronic disease (Licari, Ciprandi, Marseglia, & Ciprandi, 2019) and hospitalized children (Kaynak & Çövener Özçelik, 2020) report positive relationship between the anxiety scores of children and their mothers, which is compatible with our study. Correlation coefficients are interpreted as follows: 0.00-0.25 negligible, 0.26-0.49 low, 0.50-0.69 moderate, 0.70-0.89 high, and 0.90-1.00 very high (Coşansu, 2020). When the level of correlation in our study is examined, it can be seen that there is negligible correlation.

In our study, no significant difference was found between the anxiety level of children with acute disease and the anxiety level of children with chronic disease. In another study conducted on hospitalized children, it was found that the acute or chronic disease of the children did not affect their anxiety levels, which was consistent with our study (Üstün et al., 2021). Anxiety scores of mothers of children diagnosed with acute disease were found to be significantly higher than those of mothers of children with chronic disease. No study could be found in the literature to determine the anxiety of mothers according to the presence of acute and chronic diseases. When the studies on the anxiety experienced by the mothers of hospitalized children were examined, it was seen that anxiety was mostly evaluated as state and trait anxiety scores (Açıkgöz et al., 2019; Günay et al., 2017; Karaca Çiftçi et al., 2016; Licari et al., 2019). In one of these studies, it was reported that the mother's trait anxiety level increased as the child's disease continued (Günay et al., 2017). In another study, it was determined that most of the mothers of children with acute diseases suffered from high levels of state and trait anxiety. It was found that the mothers of children with chronic disease also had high levels of state anxiety, but the number of people in the category of high anxiety in trait anxiety scale scores was higher among mothers of children with acute disease (Açıkgöz et al., 2019). The high level of anxiety experienced by the mothers of children diagnosed with acute disease in our study can be explained by the sudden development of the child's disease and the mothers' unfamiliarity with the hospital environment.

In our study, it was found out that gender, age, and education status of children affected their anxiety levels. The anxiety levels of girls were found to be higher compared to that of boys. In the literature, there are findings which show difference from these results. Two studies conducted on hospitalized children found that gender of children did not affect their anxiety levels (Charana et al., 2018; Üstün et al., 2021). In one study, it was reported that the anxiety levels of boys were higher than that of girls (Selbes, Manav, & Karayağız Muslu, 2021), while another study found that the anxiety levels of girls were higher, which is in line with our study (Getahun et al., 2020). It is believed that children's anxiety may be affected by individual differences such as the child's cognitive status, hospital experience and their living, which result in different findings in the literature. In the study, it was observed that as the age of the children increased, their anxiety levels decreased. This result is consistent with findings from previous studies (Getahun et al., 2020; Kim, Jo, Oh, Choi, & Lee, 2012; Moura, Dias, & Pereira, 2016). The level of anxiety experienced by children is a function of the developmental stage and cognitive potential of the child. A child's cognitive capacity increases with age, resulting in greater awareness and capacity to handle stress compared to younger children. For this reason, anxiety is more common among children who are hospitalized and exposed to procedures such as diagnosis and treatment at a young age, and it decreases as the child gets older (Muris, Mayer, Freher, Duncan, & van den Hout, 2010). In addition, in the study, it was observed that as the educational status of the children increased, their anxiety scores decreased. This can also be explained by the development of cognitive status as age and educational status increase.

There is a negative relation between the age of children and the anxiety level of their mothers, similar to the case with the children. It has been observed that the anxiety scores of mothers decreased as the age of the children increased. In our study, parallel to this finding, it was observed that as the education level of the children increased, the anxiety levels of the mothers decreased. In another study conducted on mothers whose children were hospitalized, it was determined that the age and education level of the child did not have a significant effect on the mothers' state and trait anxiety scores, which was not compatible with our study (Günay et al., 2017). There was a significant difference between the mother's anxiety scores and family type, education, employment, and presence of children other than the child in the hospital. When the studies conducted on mothers whose children were hospitalized were examined, it was determined that the mother's education level, employment status, and the total number of children did not affect the anxiety levels of mothers (Açıkgöz et al., 2019; Doğan & Dikeç, 2020; Günay et al., 2017). In a study conducted with children and their mothers who were admitted to the hospital due to day surgery, it was determined that the working status of the mothers did not affect their anxiety levels. On the other hand, it was found that the difference between the education level of the mothers, the number of their children, and the anxiety levels of the mothers was statistically significant. In addition, in this study, it was reported that illiterate mothers with 4 or more children experienced more anxiety. On the other hand, in our study, it was determined that mothers who have only one child and have a high school or higher education degree experienced more anxiety, which was not found to be compatible with the aforementioned study (Gürol & Binici, 2017). The fact that working mothers experienced higher anxiety compared to non-working mothers in our study can be explained by the phenomenon that they attended their children in hospital, and therefore, they experienced additional stress due to problems related to the workplace and taking leave from work.

Conclusion

This study revealed that both children and their mothers suffer from moderate level of anxiety during their stay at the hospital, and that there is positive relationship between the anxiety levels of the mother and the child. It has also been demonstrated that the anxiety experienced by the children did not differ significantly according to the acute and chronic disease status. However, it was concluded that the anxiety levels of mothers of the children diagnosed with acute illness were significantly higher than the anxiety levels of children with chronic disease. In addition, it was found out that the gender, age and educational status of the children affected the anxiety levels of the children. Another conclusion was that family type, educational status, employment status and the presence of children other than the hospitalized child affected the anxiety levels of the mothers.

In line with the conclusions of the study, it was found out that pediatric nurses should have knowledge and awareness about the anxiety experienced by hospitalized children and their mothers as well as the factors affecting their anxiety. It is believed that this will form the basis of nursing applications for the minimization of the anxiety of children and their mothers.

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