

# Preoperative anxiety in parents of pediatric patients: related factors and the role of health literacy

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## ABSTRACT

**Aims:** In this study, it was aimed to determine preoperative anxiety levels, related factors, the relationship between health literacy and anxiety in parents of pediatric patients.

**Methods:** This descriptive cross-sectional study was conducted on the parents of children who will be operated in a tertiary hospital between 15 June and 15 September 2022. The number of 82 people were included in the study. Information form introducing children and families, Health Literacy Scale(HLS), State Trait Anxiety Inventory(STAI) questionnaires were applied to parents.  $p<0.05$  was considered significant in statistical analysis.

**Results:** The state anxiety score of the parents participating in the study was  $37.51\pm9.50$ , trait anxiety score was  $42.55\pm8.83$ , HLS  $45.46\pm14.34$ . Preoperative state anxiety level of mothers( $39.63\pm9.97$ ) was higher than that of fathers( $34.36\pm8.71$ ) ( $p=0.040$ ), trait anxiety level was similar( $p=0.189$ ), mothers' health literacy( $40.36\pm11.11$ ) was found to be lower ( $48.11\pm15.19$ ) than fathers( $p=0.019$ ). The state anxiety level of parents whose income is equal to expenditure was found to be the lowest( $33.43\pm7.33$ )( $p<0.001$ ). While the state anxiety score was found to be significantly lower( $p=0.024$ ), the trait anxiety score was similar( $p=0.560$ ) and the health literacy score was higher( $p=0.042$ ), among the parents who had knowledge about anesthesia. The relationship between state anxiety score and health literacy score was negative and significant( $p<0.001$ ).

**Conclusion:** It is seen that the anxiety levels of parents with low health literacy increase before the surgery. It is important to know the factors related to the anxiety levels of the parents before the surgery.

**Keywords:** Health literacy, anxiety, pediatric patients, parents, surgery

## INTRODUCTION

Surgery a medical procedure involving anesthesia, is a stressful event. Therefore, anxiety experienced before surgery is an important problem in children who are scheduled for surgery and their parents.<sup>1</sup> Anxiety is a physiological response such as fear, worry, restlessness, and nervousness that occurs when a person does not feel safe in the face of an undefined danger or an unknown threat.<sup>2</sup> It is known that every year millions of pediatric patients undergo surgery and undergo a number of procedures.<sup>3</sup> Children are a more vulnerable population than adults and their ability to cope with stressful events is less developed. In addition, children are dependent on others and have limited ability to make sense of their experiences.<sup>4</sup> There is also a state of emotional dependence between parents and children. Conditions such as fear and anxiety experienced by parents are important determinants of children's lives.<sup>5</sup> Even when people hear the word "Surgery", they may experience fear, anxiety and depression. For this reason, it has been shown that there is a positive relationship between pre- and post-operative anxiety levels due to reasons such as pain, complications and

fear of death in most of the children who are planned to have surgery and in their parents.<sup>1,6-8</sup>

Intense stress and anxiety experienced by parents cause difficulties in giving support and care to their children in the pre-operative period. More than half of the parents of children who will undergo surgery are concerned about surgical procedures and surgery.<sup>3</sup> High level of anxiety in parents is an important risk factor for preoperative anxiety in children. Studies have shown that pain and anxiety scores are high in children of parents with moderate or severe preoperative anxiety.<sup>9</sup> Anxiety of parents may also negatively affect health workers while performing health services for the child.<sup>3</sup> In order to eliminate the effect of anxiety in pediatric patients and their parents, it is important to know the conditions that increase anxiety before surgery.<sup>10</sup> Anxiety levels of parents decrease when they have sufficient information about their children's medical condition, anesthesia and surgery plan, possible anesthesia and surgical complications.<sup>11-14</sup> In addition to these, they should be able to evaluate and correctly interpret the health information given about these issues. Health literacy is defined as the cognitive and social skills related

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to the ability and desire of individuals to access, understand and use information about health in order to maintain and improve well-being in health. Health literacy leads to the sharing of responsibilities between health care providers and patients receiving health care services, and for both parties to better understand each other during communication. Having a high level of health literacy is an important factor for people to understand the information they receive from the physician, and to make decisions about treatment and care in health by testing the accuracy and reliability of the information.<sup>15</sup> For this reason, the level of health literacy may be one of the effective factors in parental anxiety.

In this study, it was aimed to determine preoperative anxiety levels, related factors, the relationship between health literacy and anxiety in parents of pediatric patients.

## METHODS

The study was carried out with the permission of Samsun University Clinical Researches Ethics Committee (Date: 01.06.2022, Decision No: 2022/2/3). All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

This descriptive cross-sectional study was conducted in Samsun Training and Research Hospital, Department of Otorhinolaryngology, between 15 June and 15 September 2022 on the parents of children who will undergo surgery. In order to determine the number of samples to be taken for the study, power analysis was performed using the G\* power 3.1.9.7 program.<sup>16</sup> According to Cohen's effect size coefficients; While the effect size was  $d=0.30$ , the type 1 error level was calculated as  $\alpha=0.05$ , the power  $1-\beta$  ( $\beta$ =type 2 error probability) =0.80 and the sample size calculated as a minimum of 72 people. Parents of children between the ages of 0 and 18 who will have surgery between the specified dates were included in the study. Parents of children who were planned to have surgery were all included in the study, without making any distinction between surgery indication and diagnosis. The research was completed with 82 people. Necessary explanations were given the day before the surgery to the volunteers from the parents determined by simple randomization, after obtaining written and verbal consent from the individuals, data collection tools were applied using face-to-face interview technique.

### Data Collection Tools

Information Form Introducing Children and Their Families: In the form prepared by the researchers, there are sociodemographic information about the parents and the child (11 questions) and questions about the disease status (8 questions).

State-Trait Anxiety Inventory (STAI) scale: It was developed by Spielberg et al.<sup>17</sup> Turkish validity-reliability study was performed by Öner and Le Compte.<sup>18</sup> The internal consistency and reliability of the State Anxiety Inventory (STAI-S) were between 0.83 and 0.92, and between 0.86 and 0.92 for the Trait Anxiety Inventory (STAI-T). The items in the scale are in 4-point Likert type. STAI-S determines how an individual feels at a particular moment and in a situation. It is widely used in preoperative anxiety measurement. STAI-T determines how a person generally feels, regardless of the individual's situation and circumstances. Scores obtained from both scales range from 20 (low anxiety) to 80 (high anxiety). An increase in the score obtained from the scale indicates a high level of anxiety.

Health Literacy Scale (HLS): The 47-item Health Literacy Survey in Europe scale (HLS-EU), developed by Sorensen et al.<sup>19</sup> was simplified to 25 items (HLS-EU, Health Literacy Index) by Sorensen et al.<sup>19</sup> and Toçi et al.<sup>20</sup> The Turkish validity and reliability of this scale was performed by Aras and Bayık Temel.<sup>21</sup> The cronbach alpha value of the scale was found to be 0.92. The scale is in 5-point Likert type and consists of four sub-dimensions. In sub-dimensions; It consists of 25 items, 5 items being access to health information, 7 items understanding health information, 8 items appraising/evaluating health information, and 5 items are applying/using health information. A minimum of 25 and a maximum of 125 points are taken from the scale. Low scores indicate insufficient, problematic and poor health literacy, while high scores indicate adequate and very good. The higher the score, the higher the individual's health literacy level.<sup>21</sup>

### Statistical Analysis

SPSS 22.0 package program was used for the statistical analysis of the data obtained in this study. Results were expressed using mean±standard deviation(min-max) (median (quarters)) and number (%) according to data. For those who fit the normal distribution in the analysis of the data; Student-t test and One-Way ANOVA test were used. For those who do not follow the normal distribution; Mann Whitney-U, Kruskal Wallis test was used. Spearman correlation analysis was used in the correlation analysis. Statistical significance level of  $p<0.05$  was accepted for all tests.

## RESULTS

The mean age of the participants in the study was  $36.52\pm5.92$  (25.0-59.0) years. Of the participating parents, 65.9% were mothers, 34.1% were fathers, 26.8% were university graduates, 65.9% were living in the city center. The mean age of the children scheduled for surgery was  $6.51\pm2.77$  (1.0-14.0) years, and 53.7% were girls (Table 1).

According to the analysis of the parents' possible causes of anxiety; It was found that 13.4% of them were not given sufficient information about the surgery, 32.9% were afraid of the success of the surgery, 53.7% were afraid of the complications of the surgery, 54.9% were afraid of the complications of anesthesia (Table 2). When the child's surgery decision time was questioned, 19.5% (n=16) two months ago, 42.7% (n=35) one month ago, 34.1% (n=28) one week ago, 3.7% (n=3) one day ago surgery was decided.

The STAI-S score of the participating parents was  $37.51\pm9.50$ , the STAI-T score was  $42.55\pm8.83$ , and the HLS total score was  $45.46\pm14.34$  (Table 3).

Among the participating parents, the fathers' STAI-S score average ( $34.36\pm8.71$ ) was lower than the mothers' STAI-S mean score ( $39.63\pm9.97$ ) ( $p=0.040$ ), and their STAI-T scores were similar ( $p=0.186$ ). In addition, the fathers' total HLS score ( $48.11\pm15.19$ ) was found to be higher than the mean score of the mothers ( $40.36\pm11.11$ ) ( $p=0.019$ ). While the mean STAI-S score was similar in their education level ( $p=0.689$ ), the mean STAI-T score of those with secondary school and below education ( $48.00\pm8.32$ ,  $p<0.001$ ) was found to be significantly higher than the mean score of those in the other group. The mean HLS score of the parents who graduated from university or higher was found to be higher than the others ( $p<0.001$ ). According to the monthly income perception of the parents, the STAI-S mean score of those whose income is more than their expenses ( $44.75\pm13.77$ ) was the highest, while the STAI-S mean score of those whose income was equal to their expenses ( $33.43\pm7.33$ ) was found to be the lowest ( $p<0.001$ ) (Table 4).

Table 1. Demographic features (n=82)		
Variables	n=82	%
Parent		
Fathers	28	34.1
Mothers	54	65.9
Age		
<40 years	60	73.2
≥40 years	22	26.8
Education status		
Secondary school and below	29	35.4
High school graduate	31	37.8
University graduate and above	22	26.8
Working status		
Yes	42	51.2
No	40	48.8
Number of children		
1 child	5	6.1
≥2 children	77	93.9
Children age		
0-4 ages	16	19.5
5-8 ages	52	63.4
9-14 ages	14	17.1
The person's perception of the monthly income of the family		
Income less than expenses	28	34.1
Income equals expense	42	51.2
Income more than expenses	12	14.7
Living place		
Province center	54	65.9
Town center	24	29.2
Village/town	4	4.9
Sex of the child		
Male	38	46.3
Female	44	53.7
Age (years)	36.52±5.92 (25.0-59.0) *	
Number of children	2.33±0.61 (1.0-4.0) *	
Child's age (years)	6.51±2.77 (1.0-14.0) *	

\*; Mean±Standart Deviation (minimum-maximum)

Table 2. Responses to possible causes of anxiety in parents		
Possibilities causing anxiety	Yes (n, %)	No (n, %)
Presence of congenital disease in the child	6 (7.3)	76 (92.7)
Has the child ever had surgery before?	16 (19.5)	66 (80.5)
Has the child been hospitalized before?	24 (29.3)	58 (70.7)
Information about the surgery	82 (100.0)	0 (0.0)
Information about the plan of anesthesia	71 (86.6)	11 (13.4)
Was the information given about the operation sufficient?	71 (86.6)	11 (13.4)
Fear of surgical success	25 (32.9)	55 (67.1)
Fear of anesthesia related complications	45 (54.9)	37 (45.1)
Fear of surgery related complications	44 (53.7)	38 (46.3)
Fear of pain in the child after surgery	47 (57.3)	35 (42.7)
Fear of late discharge of the child	19 (23.2)	63 (76.8)

Table 3. Distribution of participating parents according to the scores they got from the scales			
Scales	Mean±Standart Deviation	Min-Max	Median (Quarters)
HLS	45.46±14.34	25.0-75.0	44.0(33.0-57.0)
Access/obtain health information	9.62±4.02	5.0-19.0	9.0(5.0-14.0)
Understand health information	13.23±4.81	7.0-24.0	12.5(9.0-17.0)
Process/appraise health information	14.07±4.80	8.0-24.0	13.5(10.0-18.0)
Apply/use health information	8.54±3.04	5.0-16.0	8.5(6.0-11.0)
STAI-S	37.51±9.50	22.0-68.0	37.0(31.0-44.0)
STAI-T	42.55±8.83	27.0-62.0	42.0(35.0-49.0)

HLS; Health Literacy Scale, STAI-S; State Anxiety Inventory, STAI-T; Trait Anxiety Inventory

Table 4. Evaluation of the scores of the scales according to the sociodemographic variables of the participant parents			
Variables	STAI-S	STAI-T	HLS
Parent			
Fathers	34.36±8.71	40.75±9.22	48.11±15.19
Mothers	39.63±9.97	43.48±8.56	40.36±11.11
p Value	0.040*	0.186+	0.019*
Age			
<40 years	38.25±10.23	43.43±8.04	44.98±14.77
≥40 years	35.50±9.94	40.14±10.53	46.77±13.34
p Value	0.171+	0.135+	0.620*
Education status			
Secondary school and below <sup>1</sup>	38.69±8.51	48.00±8.32	43.76±7.38
High school graduate <sup>2</sup>	37.16±8.11	40.48±8.43	37.19±11.05
University graduate and above <sup>3</sup>	36.45±12.43	38.27±6.37	59.36±15.47
p Value	0.689++	<0.001**	<0.001++
1-2 <sup>a</sup>		0.001	0.085
1-3 <sup>a</sup>		<0.001	<0.001
2-3 <sup>a</sup>		0.576	<0.001
Working status			
Yes	37.60±10.86	40.45±8.06	46.43±16.14
No	37.43±7.96	44.75±9.17	44.45±12.30
p Value	0.936*	0.027+	0.533+
Number of children			
1 child	37.73±9.61	42.79±8.85	45.60±20.84
≥2 children	34.20±7.66	38.80±8.55	45.45±14.01
p Value	0.425*	0.331+	0.983*
Children age			
0-4 ages	38.83±8.15	46.14±8.21	43.78±8.98
5-8 ages	39.94±8.44	42.64±8.17	43.59±9.14
9-14 ages	37.58±7.78	44.72±8.84	44.62±8.68
p Value	0.196**	0.072**	0.146++
The person's perception of the monthly income of the family			
Income less than expenses <sup>1</sup>	44.75±13.77	45.04±8.26	43.64±11.39
Income equals expense <sup>2</sup>	40.54±7.29	40.14±8.57	43.69±14.79
Income more than expenses <sup>3</sup>	33.43±7.33	45.17±9.37	55.92±15.53
p Value	<0.001++	0.039**	0.022++
1-2 <sup>a</sup>	0.328	0.057	0.899
1-3 <sup>a</sup>	<0.001	0.999	0.012
2-3 <sup>a</sup>	0.013	0.180	0.013
Living place			
Province center	37.61±10.00	42.00±9.63	46.48±15.21
Town center	37.71±9.14	43.50±7.66	43.38±13.45
Village/town	35.00±4.61	44.25±1.5	44.25±5.18
p Value	0.866++	0.733++	0.673++

HLS; Health Literacy Scale, STAI-S; State Anxiety Inventory, STAI-T; Trait Anxiety Inventory, \*; Student-t test, \*\*; One Way ANOVA test, +; Mann-Whitney-U test, ++; Kruskal Wallis test, a; Mann Whitney U test with Bonferroni correction.

While the mean STAI-S score of parent whose child has a congenital disease was 42.33±3.07 and higher than those who did not (37.13±9.74) (p=0.007), the STAI-T score did not differ significantly (p=0.410). In addition, the mean HLS score of Parent whose child has a congenital disease was low (p=0.005). While the mean STAI-S score of parents who had knowledge about anesthesia (33.55±4.98) was found to be significantly lower than the mean score of STAI-S (38.13±9.90) of parents who did not have knowledge about anesthesia (p=0.024), the STAI-T mean scores were similar (p=0.560), and the HLS level was found to be higher in parents who had knowledge about anesthesia (p=0.042). While the STAI-S mean score(41.00±6.74) was higher in those who were afraid of the late discharge of their child after the surgery (p=0.048) than those who were not afraid (36.46±9.99), there was no significant difference between STAI-T mean scores and HLS mean scores (p=0.756) (Table 5).



**Table 5. Evaluation of the scores of the scales according to the possible causes of anxiety of the parents**

Variables	STAI-S	STAI-T	HLS
Presence of congenital disease in the child			
Yes	42.33±3.07	42.78±9.01	36.00±5.89
No	37.13±9.74	39.67±5.82	46.21±14.57
p Value	0.007+	0.410+	0.005*
Has the child ever had surgery before?			
Yes	34.19±8.84	44.31±8.56	43.38±12.33
No	38.32±9.54	42.12±8.91	45.97±14.83
p Value	0.119*	0.377+	0.520*
Has the child been hospitalized before?			
Yes	36.29±8.89	43.83±9.03	40.83±11.27
No	38.02±9.77	42.02±8.77	47.38±15.11
p Value	0.458+	0.401*	0.035*
The child's surgery decision time			
Two months ago	42.31±7.05	47.31±9.33	42.63±11.05
One month ago	37.23±8.79	43.77±8.01	46.46±15.43
One week ago	34.79±10.86	38.82±8.05	46.29±14.87
One day ago	40.67±8.50	37.67±10.26	41.33±16.28
p Value	0.078++	0.058++	0.775++
Information about the plan of anesthesia			
Yes	33.55±4.98	42.77±8.43	46.34±14.38
No	38.13±9.90	41.09±11.46	39.82±13.39
p Value	0.024*	0.560+	0.042+
The person who informs about the surgery			
Surgeon	38.36±10.05	43.89±8.95	45.67±14.10
Anesthesiologist	42.00±8.54	48.00±3.36	40.00±5.56
Surgeon and anesthesiologist	37.17±10.01	39.91±7.07	48.48±15.68
p Value	0.712**	0.101++	0.558++
Was the information given about the operation sufficient?			
Yes	40.00±7.65	42.77±8.66	45.97±14.41
No	37.13±9.74	41.09±10.22	42.18±14.11
p Value	0.354*	0.560+	0.418*
Fear of surgical success			
Yes	38.44±8.94	44.07±8.98	43.78±15.68
No	35.63±10.47	39.44±7.79	46.29±13.72
p Value	0.211*	0.025*	0.854+
Fear of anesthesia related complications			
Yes	37.44±10.12	46.35±9.09	43.59±11.07
No	37.59±8.82	39.42±7.34	47.00±16.53
p Value	0.944+	<0.001*	0.270+
Fear of surgery related complications			
Yes	37.93±10.33	41.82±9.26	43.87±11.05
No	37.03±8.55	43.39±8.35	46.84±16.68
p Value	0.670*	0.424+	0.339+
Fear of pain in the child after surgery			
Yes	36.34±8.17	41.68±9.23	41.30±12.88
No	39.09±10.96	43.71±8.25	51.06±14.47
p Value	0.198*	0.306+	0.002*
Fear of late discharge of the child			
Yes	41.00±6.74	43.11±9.82	43.53±14.02
No	36.46±9.99	42.38±8.59	46.05±14.50
p Value	0.048+	0.756*	0.505*
Has the parent had surgery before?			
Yes	37.64±8.57	41.44±8.12	47.16±13.54
No	38.98±10.11	43.13±9.15	50.87±14.36
p Value	0.244*	0.372+	0.172*

HLS; Health Literacy Scale, STAI-S; State Anxiety Inventory, STAI-T; Trait Anxiety Inventory; \*, Student-t test, \*\*, One Way ANOVA test, +; Mann-Whitney-U test, ++; Kruskal Wallis test.

The relationship between HLS and STAI was examined by correlation analysis. HLS total score ( $r=-0.579$ ,  $p<0.001$ ), access to information sub-dimension ( $r=-0.631$ ,  $p<0.001$ ), understanding information sub-dimension ( $r=-0.604$ ,  $p<0.001$ ), information evaluation sub-dimension ( $r=-0.484$ ,  $p<0.001$ ), application/use sub-dimension ( $r=-0.553$ ,  $p<0.001$ ) and a negative correlation was found between the

STAI-S total score. HLS total score ( $r=-0.327$ ,  $p=0.011$ ), access to information sub-dimension ( $r=-0.254$ ,  $p=0.048$ ), understanding information sub-dimension ( $r=-0.667$ ,  $p<0.001$ ), applying/using information sub-dimension ( $r=-0.163$ ,  $p=0.026$ ) and a negative correlation was found between the STAI-T total score.

## DISCUSSION

It has been shown that the level of anxiety increases in the parents of children who are planned for surgical operation, and that increased anxiety creates problems in children and even increases the postoperative recovery period.<sup>11,22-24</sup> While parental anxiety is effective on both the child and the family, it negatively affects many situations, including surgical decision and informed consent.<sup>25</sup> Health literacy is an important determinant of anxiety in parents. In the pediatric surgical setting, parental health literacy is important in understanding the role of surgery in the treatment of the child, obtaining valid informed consent, and following pre/post operative instructions. Despite the importance of parental health literacy, there are few studies in the literature investigating its possible impact on parental anxiety. Therefore, in our study, we evaluated preoperative anxiety levels, factors affecting this, the relationship between health literacy and anxiety in parents of children who will undergo surgery.

In studies conducted in the literature, the STAI-S threshold used to determine the level of anxiety, which indicates how an individual feels at a certain moment and in a given situation, is 39-40, whereas in different studies performed on patients for the preoperative anxiety measurement, the threshold varies between 36-45 points.<sup>26-28</sup> In our study, the preoperative STAI-S score average of the parents was found to be 37.51 and this value was found to be compatible with the literature. In addition, in our study, it was found that the state anxiety levels of the mothers were higher than the fathers, but the trait anxiety scores were similar in the parents. This result is consistent with other studies showing that women are more anxious before surgery than men.<sup>22,23,29-31</sup> The fact that mothers generally have a protective nature towards their children and spend longer time with their children may have caused higher levels of anxiety. In our study, while STAI-T scores of parents varied according to education level and employment status, it was found that STAI-S scores were not related to these variables. In addition, it was found that the level of state anxiety was high and health literacy was low in parents who had a congenital disease in their child and were not informed about the anesthesia to be applied. We think that this may have had a negative impact on the person's health literacy, possibly due to the motivation to cope with complex health-related situations. In a study by Ayenew et al.<sup>3</sup> it was shown that insufficient knowledge of parents about anesthesia increases anxiety, similar to our results. Information exchange between parents and healthcare professionals and trust in healthcare personnel are effective in reducing parental anxiety in the preoperative period.<sup>13,32</sup>

As a result of our study, it was found that the health literacy levels of the participating parents were low (45.46 points). In many studies, it is seen that the HL score is higher than the scores obtained from this study.<sup>21,33,34</sup> In the study of Çimen and Bayık,<sup>33</sup> the mean HLS was 87.96, in the study of Aras and Temel,<sup>21</sup> the mean HL score was 90.30. In our study, health literacy levels were associated with parents'

education level, socioeconomic status (income more than expenditure according to income perception). Our results are consistent with previous studies in parents. Walker et al.<sup>35</sup> found that among hospitalized patients, those with sufficient health literacy were significantly associated with socioeconomic status and education. Yin et al.<sup>36</sup> showed that it was significantly associated with low health literacy level in parents with high school or lower education and low income parents. The low results in our study may be due to the difference between the education levels of the people included in the study.

Another important result of our study was that health literacy was related to the preoperative anxiety levels of the parents and as the health literacy level decreased, the anxiety level of the parents increased. Our results are similar with studies examining the relationship between health literacy and anxiety.<sup>37,38</sup> Kampouroglou et al.<sup>37</sup> found in their study, similar to our results, that parents with lower health literacy levels were more anxious before the surgery. Rowland et al.<sup>38</sup> in his study on patients with coronary heart disease, he reported that patients with low health literacy had higher levels of anxiety than those with adequate health literacy. It is thought that parents' obtaining information about health in the preoperative period, understanding and evaluating this information, and interpreting it correctly will contribute to good management of the preoperative situation and decrease the level of anxiety.

## CONCLUSION

In the preoperative state anxiety levels of the parents; parent's being a mother, income status, congenital disease in the child, giving information about anesthesia and surgery were found to be related factors. It is seen that the anxiety levels of parents with low health literacy increase before the surgery. Our study is descriptive and our results cannot be generalized to the general population. However, factors affecting the preoperative anxiety levels of parents should always be considered and it is important to take steps to reduce anxiety. In particular, a screening tool can be used to determine the health literacy level of parents. In this way, using a plain language that parents with low health literacy in written and verbal communication can understand can contribute to reducing their anxiety levels.

## ETHICAL DECLARATIONS

**Ethics Committee Approval:** The study was carried out with the permission of Samsun University Clinical Researches Ethics Committee (Date: 01.06.2022, Decision No: 2022/2/3).

**Informed Consent:** All patients signed the free and informed consent form.

**Referee Evaluation Process:** Externally peer-reviewed.

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