



## Original Article

# Validity and reliability of the Turkish form of the attitudes questionnaire toward attention deficit hyperactivity disorder treatment (parent form)

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### Abstract

**Objectives:** This study was conducted to determine the validity and reliability of the Turkish form of the “Questionnaire on Attitudes Toward Treatment – Parents Form (QATT-Parents Form)” that was developed to determine the attitudes toward the treatment of parents of attention deficit hyperactivity disorder (ADHD) patients.

**Methods:** This study was performed methodologically. QATT, developed by Ferrin (2012), was used with the permission of Maite Ferrin for data collection. One hundred and seventy-five volunteer parents of ADHD diagnosed children with DSM 5 diagnosis criteria who applied to Gaziantep Cengiz Gökçek Gynecology and Children’s Disease Hospital and Gaziantep University Şahinbey Training and Research Hospital. After the language equivalence of the scale was given, opinions were received from the experts for scope validity. For the test-retest reliability, 30 samples from the same sample were re-scaled after 15–21 days. The construct validity of the scale was examined by principal component factor analysis.

**Results:** The Cronbach alpha reliability coefficient of the QATT-Parents Form was 0.80. The test-retest score correlation of the questionnaire was found to be 0.85.

**Conclusion:** QATT-Parents Form was found to be valid and reliable in measuring parents’ attitudes toward ADHD treatment.

**Keywords:** Attitude; reliability; the attention deficit hyperactivity disorder; validity.

Attention deficit hyperactivity disorder (ADHD) is one of the most common neuropsychiatric disorders in childhood. When DSM-5 diagnostic criteria are used, its prevalence is reported as 5–10% in children and adolescents.<sup>[1]</sup> ADHD can negatively affect the social and school life of the child.<sup>[2]</sup>

According to the international joint statement of ADHD, it is stated people with ADHD have much higher rates of having few or no friends (50–70%), not being able to attend school, having poor performance in business life (70–80%), interest in antisocial activities (40–50%), smoking and illicit substance use compared to those without ADHD. In addition, children growing up with ADHD are more likely to have sexually transmitted diseases and become pregnant in adolescence (16%),

excessive speed driving and accidents, depression (20–30%) in adulthood, and misdirecting and endangering their lives in different ways.<sup>[3]</sup>

The acceleration of studies on ADHD in Türkiye in recent years and the delivery of information by experts to the public through visual media eliminates many misconceptions. Parents, who initially saw ADHD as a positive feature for their child, are now approaching the problem much more cautiously.<sup>[4]</sup> In a study conducted in our country, it was reported that ADHD is a serious health problem that significantly reduces the quality of life of children in almost every area, and it would be beneficial to consider and take this situation into account in planning and treatment studies about ADHD.<sup>[5]</sup>

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The effectiveness of drug therapy in controlling ADHD has been proven. However, the inability of patients to take the prescribed drugs regularly and as recommended creates a public health problem, and non-compliance with treatment reduces the likelihood of progress in patients.<sup>[6,7]</sup>

Adherence to treatment, which has an important place in the treatment of serious mental illnesses, is a complex and careful behavioral process that is affected by different factors such as the patient and his/her environment, the treatment team, and the delivery of treatment-related care. Complementing the treatment, using the drugs in the planned dose and time, coming to the controls, regulating the lifestyle, and managing the disease are all parts of compliance with the treatment.<sup>[8]</sup> A significant number of adolescents diagnosed with ADHD do not comply with the treatments given, especially pharmacological treatments. At this point, it is important to identify attitudes that negatively affect adherence to treatment.<sup>[6]</sup> Inceoğlu and Cüceloğlu defined the attitude as follows; "It is a mental, emotional and behavioral reaction, pre-tendency that an individual organizes based on his/her experience, knowledge, emotions, and motives (motivation) toward himself or any object, social issue or event in his/her environment."<sup>[9]</sup>

Causes of drug non-compliance in individuals diagnosed with psychiatric illness include lack of insight into the disease, psychopathology at the psychotic level, fears about drug use, progressive disease, side effects after treatment, inadequate social and environmental support, financial problems, lack of knowledge about treatment or not understanding the treatment, hospital conditions, the attitude of the patient and those around him toward drug therapy and mental illness, and cultural beliefs also play an important role.<sup>[8]</sup> The family's attitude toward drug treatment and emotional over-intervention are the factors affecting adherence to treatment.<sup>[10]</sup> It has been argued that treatment acceptability plays a large role in the treatment of pediatric diseases, and families are more likely to initiate and adhere to interventions they find acceptable.<sup>[11]</sup>

ADHD is a common and highly disabling disorder that has diverse consequences but also causes significant relapses in adult life. Although compliance with treatment is important, the level of compliance for this group seems to be quite low. In particular, little is known about factors that influence treatment adherence, such as intentional or attitudinal factors. Moreover, there is little research that has understandably examined these attitudinal factors. Attitude to the treatment requires an appropriate, reliable, and valid measure that could be used in both clinical and research settings.<sup>[12]</sup>

There are no scales to determine attitudes toward ADHD treatment in Türkiye. Standardized, valid, and reliable measurement tools are needed to facilitate and evaluate the patient's and family's attitudes toward treatment, which is one of the most important factors in front of ADHD treatment.

In this study, it was aimed to conduct the validity and reliability study of the "Attitude Questionnaire Toward the Treatment

#### What is known about this topic?

- Attention deficit hyperactivity disorder is a disease that occurs in childhood and causes problems in various areas of life such as family, friends, and academics, and it can be controlled with medication. The implementation and maintenance of treatment in diseases related to children are affected by the treatment perspective of the family as well as the child. In our country, there is no measurement tool to determine the attitudes of parents toward the treatment of attention deficit hyperactivity disorder.

#### What does this article add to the known?

- In this study, the validity and reliability study was carried out by adapting the "The Questionnaire on Attitudes Toward Treatment of QATT) Attitude Questionnaire Parent Form Toward the Treatment of Attention Deficit Hyperactivity Disorder" developed by Ferrin into Turkish. It has been concluded that the questionnaire has high validity and reliability and is a valid and reliable measurement tool in determining the attitudes of the families of adolescents receiving attention deficit hyperactivity treatment in Turkish society toward treatment.

#### What is its contribution to the application?

- It is thought that determining the attitudes toward treatment will guide psychiatric nurses in eliminating the concerns of the family about the treatment and providing the correct information to the families.

of ADHD" (Parent Form) in the Turkish population.

## Materials and Method

### Type and Purpose of the Study

This study is of a methodological type and was planned and carried out to adapt the "Attitude Questionnaire Toward the Treatment of ADHD" (Parent Form) to Turkish society.

### Population and Sample of the Research

The research was carried out in Gaziantep Cengiz Gökçek Obstetrics and Pediatrics Hospital, Gaziantep University Şahinbey Research and Practice Hospital, and Child Psychiatry outpatient clinics. The sample of the study consisted of the parents of 175 adolescents who were diagnosed with ADHD, who applied to the child psychiatry outpatient clinic of the relevant hospitals between October 2014 and June 2017 and met the inclusion criteria. When the measurement tool is translated into another language, it is necessary to reach 5–10 times the sum of the items that make up the scale.<sup>[13]</sup> In this direction, 5 times the number of items (n=170) was reached for the 34-item scale.

Characteristics of parents included in the research; being literate, residing in the city center of Gaziantep, not having a mental or cognitive disability that prevents answering the survey questions, having a child with ADHD according to DSM 5 diagnostic criteria, a parent's child should have taken medication for ADHD for at least 6 months.

### Personal Information Form

The personal information form containing the introductory characteristics of the parents of adolescent patients with ADHD was developed by the researcher. This form includes questions about the parent's age, education level, income, family history of psychiatric illness, and the child's illness and treatment.

### **Attitude Questionnaire Toward ADHD Treatment (The Questionnaire on Attitudes Toward Treatment of QATT) Form**

It was developed by Ferrin et al.<sup>[6]</sup> (2012) to determine the attitudes toward the treatment of parents of adolescents receiving ADHD treatment. Permission was obtained from Maite Ferrin to adapt the scale to Turkish society. The scale has a 5-point Likert-type feature and has 34 items related to attitude toward treatment. Four means "Always true" and zero means "Always false." The scale evaluates six different dimensions: "Perceptions about the disease and treatment," "Concerns about the treatment," "Perceptions of the family about the attitude of the child," "Satisfaction," "Obstacles" and "Insight into the treatment." There is no cut-off point in the evaluation of the scale, as the scores obtained from the scale increase, it shows that the attitude in that sub-dimension increases.

### **Analysis and Evaluation of Data**

In the analysis of the data obtained from this research, twelve different statistical analyses were performed. Analyses were made on the computer with the SPSS for Windows 22.00 statistical package program and the Lisrel 8.8 package program. These analyses are: Cronbach alpha coefficient, correlation analysis, student's t-Test, Kaiser-Meyer Olkin (KMO) sample adequacy analysis, Barlett's sample size test, anti-image correlation analysis, explanatory factor analysis as principal component, varimax orthogonal rotation, scree plot test, Shapiro-Wilks test, Kolmogorov-Smirnov test, structural equations modeling.<sup>[14-17]</sup>

### **Ethics of Research**

For the adaptation of QATT to Turkish society, permission was obtained from Maite Ferrin, who developed the original scale, through e-mail. Ethics committee permission (2014/287) was obtained from Gaziantep University Clinical Research Ethics Committee Presidency on September 22, 2014, institutional permissions were obtained from Gaziantep University Şahinbey Research and Application Hospital, Gaziantep Cengiz Gökçek Obstetrics and Pediatrics Hospital. To protect the rights of the parents participating in the research, firstly, the reason for the research, how long it will take and the procedures to be carried out during this period were explained, and their written consent was obtained in accordance with the ethical principle of "informed consent" and care was taken to ensure voluntary participation. The study was conducted in accordance with the principles of the Declaration of Helsinki.

## **Results**

### **Findings about the Introductory Characteristics of the Parents Included in the Study**

About 8% of the parents included in the study are 30 years old and below, 62.9% are 31–40 years old, 25.7% are 41–50 years

old, 3.4% are 51 years old and over, the mean age is  $38.05 \pm 5.52$ , 39.4% are primary school graduates, 97.1% live in the city, 57.1% have income equivalent to their expenses, 17.7% have another psychiatric illness in their family, 56.3% have a sibling with a psychiatric illness, 16% have someone else diagnosed with ADHD in their family, 88.9% of their sibling has ADHD, 54.3% of their child's disease has been going on for 1–3 years, 37.7% of them stopped taking their child's medication without consulting their doctor, 30.3% of them discontinued their medication because of the side effects of the medication, 92% of their child's were able to come to the controls at the hospital regularly, 93.1% stated that they thought that their child's medication had a therapeutic effect on their disease.

### **Language and Scope Validity**

In the first stage of the study for the language validity of QATT, the scale was translated from English to Turkish by two academicians and one English linguist who knew both languages very well. After it was determined that there was no semantic change in the expressions of the scale, which was translated back from Turkish to English by an English linguist who knows both languages well, a Turkish language expert was consulted in terms of sentence structure and semantic integrity. After the expert opinion presentation form was created, the content validity of QATT was evaluated by consulting ten experts for language equivalence. For content validity, experts were asked to score each item between 1 and 4 points. The scoring scale used for language equivalence was used. All the experts whose opinions were asked for the scale gave their opinions about the content validity of the scale. Content validity index was used for content validity based on expert opinions. It was determined that all of the experts gave 3–4 points to each item on the scale, so it was accepted that the scale had content validity. The scale was finalized with the necessary corrections and a preliminary application was made to 20 parents who applied to the psychiatry outpatient clinic. The data of the pre-treated group were not included in the study. As a result of the expert opinions and the pilot application of the scale, it was determined that the Turkish form of QATT was an appropriate measurement tool in terms of language and content.

### **Construct Validity**

A ratio of five to ten observations per variable (1:5 to 1:10) is recommended to obtain reliable factor results.<sup>[13]</sup> In this study, the sample size was determined as 175 people/34 items = 5.15. This value shows that the generalizability of the results of the sample size is sufficient. The KMO coefficient was found to be 0.716. Accordingly, it is seen that the sample size is suitable for factor analysis. Bartlett test results were found to be  $X^2 = 2002.152$  and significant at  $p < 0.001$  significance level (Table 1).

Principal component analysis and varimax transformation were applied as the explanatory factor analysis of the 34-item scale. As shown in the table, a structure with 6 factors was found with an eigenvalue above 1.50, which explained 49%

**Table 1. KMO and ve bartlett test**

Test KMO	0.716
Bartlett sample size test	
Ki-square	2002.152
SD	561
p	0.000
KMO: Kaiser-Meyer-Olkin.	

of the total variance of the scale, which was limited to six factors. The factor loadings of the items after varimax rotation are given in Table 2. The factor load of the items of the scale was found to be above 0.30 and it was seen that the number of iterations was seven. These findings show that the construct validity of the scale is appropriate (Table 2).

When the table is examined, it is seen that 11.460% of the total variance is determined by the 1<sup>st</sup> factor, 11.430% by the 2<sup>nd</sup> factor, 7.031% by the 3<sup>rd</sup> factor, 6.856% by the 4<sup>th</sup> factor,

**Table 2. Factor loads matrix of items after varimax rotation**

	Component					
	1	2	3	4	5	6
ITEM 1	0.601					
ITEM 4	0.457					
ITEM 16	0.618					
ITEM 17	0.711					
ITEM 18	0.417					
ITEM 21	0.548					
ITEM 30	0.400					
ITEM 33	0.327					
ITEM 34	0.666					
ITEM 2		0.371				
ITEM 12		0.776				
ITEM 13		0.453				
ITEM14		0.557				
ITEM 15		0.836				
ITEM 20		0.794				
ITEM 22		0.618				
ITEM 25		0.379				
ITEM 23			0.635			
ITEM 27			0.567			
ITEM 28			0.655			
ITEM 32			0.535			
ITEM 8				0.875		
ITEM 9				0.850		
ITEM 11				0.575		
ITEM 3					0.750	
ITEM 5					0.506	
ITEM 10					0.359	
ITEM 19					0.743	
ITEM 24					0.705	
ITEM 26					0.350	
ITEM 29					0.401	
ITEM 31					0.356	
ITEM 6						0.822
ITEM 7						0.740
Explained variance %	11.460	11.430	7.031	6.856	6.709	5.110
% of total variance explained	11.460	22.890	29.921	36.777	43.486	48.596

Extraction method: Principal Component Analysis. Rotation method: Varimax with Kaiser Normalization. a. Rotation converged in 7 iterations.

6.709% by the 5<sup>th</sup> factor, and 5.110% by the 6<sup>th</sup> factor. It is seen that the factor explains and all of these factors explain 48.596% of the total variance. The components that make up the six-factor structure of the second part of the attitudes toward the treatment of ADHD questionnaire were examined and the names of the factors in the original scale were suggested.

1. Factor: The sub-dimension of "Perceptions of illness and treatment" was suggested for this factor, which consists of nine items in total, including the 1<sup>st</sup>, 4<sup>th</sup>, 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 21<sup>st</sup>, 30<sup>th</sup>, 33<sup>rd</sup>, and 34<sup>th</sup> items
2. Factor: 2<sup>nd</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, 20<sup>th</sup>, 22<sup>nd</sup>, 25<sup>th</sup>. A sub-dimension of "concerns about the treatment" was suggested for this factor, which consists of eight items in total
3. Factor: 23<sup>rd</sup>, 27<sup>th</sup>, 28<sup>th</sup>, 32<sup>nd</sup> A sub-dimension of "Obstacles" was suggested for this factor, which consists of a total of four items
4. Factor: A sub-dimension of "Satisfaction" was suggested for this factor, which consists of three items in total, including the 8<sup>th</sup>, 9<sup>th</sup>, and 11<sup>th</sup> items
5. Factor: A sub-dimension of "Family's Perceptions Regarding Child's Attitude" was suggested for this factor, which consists of a total of eight items, including the 3<sup>rd</sup>, 5<sup>th</sup>, 10<sup>th</sup>, 19<sup>th</sup>, 24<sup>th</sup>, 26<sup>th</sup>, 29<sup>th</sup>, and 31<sup>st</sup> items
6. Factor: A sub-dimension of "Insight into treatment" was suggested for this factor, which consists of two items in total, including the 6<sup>th</sup> and 7<sup>th</sup> items.

### Reliability Analysis of the Attitude Questionnaire toward the Treatment of ADHD (Parent Form)

It is seen that the Cronbach alpha coefficient of the attitudes toward the treatment of ADHD questionnaire is 0.802, the required range of the scale is 102, and the calculated range is 74 (Table 3). All these findings show that there is no problematic item in the attitude questionnaire toward the treatment of ADHD.

To determine the effect of each item of the attitudes toward the treatment of ADHD questionnaire on the total score of the scale, the item-total score correlation was calculated and the findings are given in Table 4. When Table 4 is examined, all of the item-total score correlations of the items of the scale were found to be significant.

### Correlation between Test-Retest Scores of the Attitude Questionnaire (Parent Form) Toward the Treatment of ADHD

Pearson product-moment correlation analysis was performed to evaluate the time invariance of the scale. After the first application was made to 175 parents to whom the research would be conducted, the tests were administered to 30 parents for the 2<sup>nd</sup> time 15 days later to evaluate the test-retest reliability. The correlation value of the relationship between the results of the first measurement and the second measurement of the

test was  $r=0.859$  and  $p<0.001$  was found to be significant. This finding shows that the test-retest measurement results of the scale administered at 15-day intervals are similar.

## Discussion

In this research, validity, and reliability studies were carried out to ensure that the "Attitude Questionnaire toward the Treatment of ADHD (Parent Form)" can produce standardized and then appropriate information, and it has been brought to the Turkish society.

It has not been mentioned much how the parents of children with ADHD, with their perceptions of this disease, perceive the drug treatments that leave their mark on their children's daily lives and futures. Underlying attitudes toward treatment can seriously affect adherence to treatment, especially in very sensitive patients with a long-term illness. It is anticipated that this questionnaire will be a useful tool for the clinical setting.<sup>[12]</sup>

The KMO test was used to understand the feasibility of factor analysis of the data, and the Bartlett test was used to understand whether the relationships between the variables to be analyzed were significant and different from zero, and the KMO coefficient was found to be 0.716. This value is expected to be equal to or  $>0.70$ .<sup>[17]</sup> This finding shows that the sample size is suitable for factor analysis. It is seen that the Chi-square value of the Bartlett test is significant at the  $p<0.05$  significance level. Bartlett's test is used to test whether the correlation matrix is the unit matrix and according to the result, it is determined whether the factor model is appropriate or not.<sup>[18]</sup> This finding shows that the data has factor analysis applicability. In the original scale, the KMO value was found to be 0.57, and the Chi-square value for the Bartlett test was also found to be 0.00.<sup>[6]</sup>

After the factor analysis of the Attitudes toward the Treatment of ADHD Questionnaire, a 6-factor structure with an eigenvalue above 1.50 emerged, which explains 49% of the total variance, and all of these factors explain 48.596% of the total variance. Definitions close to the names in the original scale were suggested for the Attention Deficit Factors, the 1<sup>st</sup> Factor "**Perceptions of the disease and treatment**," for the 2<sup>nd</sup> Factor "**Concerns about the treatment**," for the 3<sup>rd</sup> Factor "**Perceptions of the family regarding the Child's Attitude**," and for the 4<sup>th</sup> Factor "**Satisfaction**." It was deemed appropriate to name the 5<sup>th</sup> Factor as "**Obstacles**" and the 6<sup>th</sup> Factor as "**Insight into the Treatment**." Six basic dimensions were specified as a result of varimax rotation item-factor loading in the original scale. These are: "Children's attitudes and compliance with treatment" (factor 1, variance: 10.25%), "concerns about treatment and alternative treatments for ADHD" (factor 2, variance: 10.00%), "social shame" (factor 3: Variance: 6.62%), "understanding of the disease and the need for medication" (factor 4, variance: 6.29%), "concern about future side effects of treatment and patient-doctor relationship" (factor 5, variance: 5.89%), "ADHD and perceptions about information about their



**Table 3. Cronbach alpha analysis of the attitude questionnaire toward the treatment of attention deficit hyperactivity disorder (parent form)**

Item no	Arithmetic mean	Standard deviation	If the item is deleted, the average of the scale	Variance of the scale if an item is deleted	Adjusted item-total score correlation	If the item is deleted, the Cronbach alpha coefficient of the scale
Item 1	2.95	0.745	78.51	167.964	0.103	0.803
Item 2	1.38	1.081	80.08	163.281	0.219	0.800
Item 3	1.59	1.012	79.87	164.770	0.181	0.801
Item 4	3.23	0.748	78.23	167.993	0.101	0.803
Item 5	2.26	1.258	79.21	157.337	0.367	0.794
Item 6	2.54	1.173	78.93	163.770	0.178	0.802
Item 7	2.77	1.102	78.70	158.868	0.375	0.794
Item 8	2.46	1.123	79.00	162.391	0.239	0.799
Item 9	2.39	1.164	79.07	162.926	0.209	0.801
Item 10	1.54	1.097	79.92	162.476	0.244	0.799
Item 11	2.30	1.156	79.17	155.863	0.461	0.790
Item 12	2.63	1.166	78.83	157.603	0.394	0.793
Item 13	1.58	1.224	79.88	158.761	0.332	0.796
Item 14	3.04	0.943	78.42	157.659	0.505	0.790
Item 15	2.85	1.116	78.62	156.513	0.456	0.791
Item 16	3.75	0.485	77.71	167.814	0.195	0.801
Item 17	3.66	0.650	77.81	166.422	0.218	0.800
Item 18	2.81	0.927	78.66	163.939	0.240	0.799
Item 19	2.78	1.179	78.68	157.794	0.382	0.794
Item 20	2.42	1.195	79.05	154.147	0.503	0.788
Item 21	3.38	0.699	78.09	165.619	0.244	0.799
Item 22	1.66	1.234	79.80	153.103	0.520	0.787
Item 23	2.37	1.085	79.09	163.946	0.194	0.801
Item 24	2.36	1.287	79.10	156.874	0.371	0.794
Item 25	1.58	1.171	79.89	164.228	0.163	0.803
Item 26	.83	1.018	80.63	164.568	0.188	0.801
Item 27	3.17	0.723	78.29	161.840	0.443	0.794
Item 28	2.27	1.223	79.19	156.606	0.405	0.792
Item 29	1.30	1.252	80.16	157.457	0.365	0.794
Item 30	3.01	0.884	78.45	166.077	0.160	0.802
Item 31	1.19	1.173	80.27	167.416	0.056	0.807
Item 32	1.99	1.187	79.47	156.067	0.439	0.791
Item 33	2.72	0.842	78.74	164.020	0.268	0.798
Item 34	2.69	0.823	78.78	167.737	0.098	0.803
<b>Scale</b>	<b>Arithmetic mean</b>	<b>Variances</b>	<b>Standard deviation</b>	<b>Item number</b>	<b>Cronbach alpha</b>	<b>Ranj</b>
	81.46	170.503	13.058	34	0.802	74

treatment" (factor 6, variance: 4.93%). In the original scale, the Cronbach's alpha coefficient (>60) was calculated for each factor and was stated to be sufficient. (1<sup>st</sup> Factor: 0.73; 2<sup>nd</sup> Factor: 0.79; 3<sup>rd</sup> Factor: 0.50; 4<sup>th</sup> Factor: 0.63; 5<sup>th</sup> Factor: 0.60 and 6<sup>th</sup> Factor: 0.68).

For the reliability of the "Attitude Questionnaire toward the Treatment of ADHD," the reliability of the Cronbach alpha co-

efficient was examined with item-total score correlations and test-retest methods. In this study, it is seen that the Cronbach's alpha coefficient of the scale is 0.80. It is seen that the required range of the scale is 102 and the calculated range is 74. All these findings show that there is no problematic item in the questionnaire. When the item-total score correlation was calculated to find out the effect of one item of the questionnaire

**Table 4. Item-total score correlation of the attitude questionnaire toward the treatment of attention deficit hyperactivity disorder (parent form)**

	r	p
1. I know everything about my child's illness.	0.259	0.003
2. I prefer herbs or natural remedies rather than medicines for my child.	0.297	0.000
3. This medication is only for a short time.	0.256	0.001
4. This medication is necessary for my child.	0.257	0.004
5. My child dislikes being on medications.	0.449	0.000
6. My child has psychological difficulties.	0.265	0.000
7. My child prefers taking only one pill a day (rather than many pills a day)	0.446	0.000
8. My child is happy with the way he is.	0.320	0.000
9. My child is happy with how he is doing at school.	0.294	0.000
10. My child prefers talking with someone about his difficulties (rather than taking medicines).	0.322	0.000
11. My child can stop this treatment as soon as he feels better.	0.529	0.000
12. I am worried about my child being on medications.	0.468	0.000
13. I think medicines are only for very ill people.	0.414	0.000
14. My child takes medications only because he has to.	0.558	0.000
15. I am worried that medications may be bad for my child in the long term.	0.523	0.000
16. My child has to take treatments exactly as prescribed by doctors.	0.231	0.002
17. We will discuss with the doctor if we consider stopping medication.	0.265	0.000
18. My child is more "his real self" when he is on medication.	0.307	0.000
19. My child needs someone to remind him about his medication.	0.458	0.000
20. I think medications can be addictive.	0.570	0.000
21. I get on well with my child's doctor.	0.294	0.000
22. I am worried that medications can change my child's personality.	0.587	0.000
23. My child is motivated and ready to follow a treatment.	0.273	0.000
24. My child usually forgets about taking his pills.	0.455	0.000
25. I think doctors prescribe pills for everything.	0.250	0.001
26. My child is the only person responsible for his treatments.	0.262	0.000
27. My child needs some help deal with his problems.	0.487	0.000
28. My child feels embarrassed if he has to take pills in front of his friends.	0.482	0.000
29. My child has difficulties swallowing pills.	0.447	0.000
30. I trust doctors and nurses a lot.	0.226	0.003
31. My child would stop medications if he wanted to consume alcohol or drugs.	0.211	0.009
32. My child feels different because he is on medication.	0.511	0.000
33. My child can prevent getting sick by staying on medication.	0.327	0.000
34. I know everything about this treatment.	0.160	0.034

on the total score of the scale, it was found that all item-total score correlations of the items of the scale were significant. The item-total score correlation is an indicator of whether an item measures the feature it measures as a whole. The lowest value that can indicate the consistency of an item with the entire test is given as 0.20.<sup>[19]</sup> Accordingly, the correlation values of the questionnaire are at an acceptable level for item analysis. Only article 34 received a value below 0.20. The reason for this was attributed to the fact that the statement "I know everything about this treatment", which is the 34<sup>th</sup> item, was given the same positive (always correct) response to the routine treatment training and information given to the parents of the adolescents diagnosed with ADHD. To increase the reliability of the scale, it may be considered to remove this item.

The correlation value of the relationship between the pre-test and post-test measurement results of the questionnaire was  $r=0.859$ , and it was found to be statistically significant with  $p<0.001$ . This finding shows that the pre-test and post-test measurement results of the scale applied with 15-day intervals are similar. All these findings show that the reliability of the attitude questionnaire toward the treatment of ADHD is high.

According to expert opinions and statistical analysis results, it can be said that the questionnaire has high validity and reliability and is a valid and reliable measurement tool in determining the attitudes of the families of adolescents receiving attention deficit hyperactivity treatment in Turkish society toward treatment.

### Limitation of the Study

In this study, it was seen that the sample size was not sufficient to perform confirmatory factor analysis, and it is recommended that the scale be applied in larger sample groups and repeated in the findings of confirmatory factor analysis.

**Ethics Committee Approval:** Ethics committee permission (2014/287) was obtained from Gaziantep University Clinical Research Ethics Committee Presidency on September 22, 2014, institutional permissions were obtained from Gaziantep University Şahinbey Research and Application Hospital, Gaziantep Cengiz Gökçek Obstetrics and Pediatrics Hospital.

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