ORIGINAL RESEARCH ORİJİNAL ARAŞTIRMA

DOI: 10.5336/healthsci.2023-98331

Exploring the Eye Mindreading and Communication Skill Levels of Parents of Children with Autism Spectrum Disorder: A Preliminary Correlation Study

Otizm Spektrum Bozukluğu Olan Çocukların Ebeveynlerinin Gözlerden Zihin Okuma ve İletişim Beceri Düzeylerinin İncelenmesi: Bir Ön Korelasyon Çalışması

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ABSTRACT Objective: This study aimed to investigate the levels of emotion recognition and communication skills in parents of children with autism spectrum disorder (ASD) and assess the relation of ASD severity with emotion recognition and communication skills of parents. **Material and Methods:** Thirty parents of children diagnosed with Autism Spectrum Disorder who applied to the Child and Adolescent Psychiatry Clinic at Erciyes University Faculty of Medicine participated in the study. All the parents received the Communication Skills Inventory and Reading Mind in the Eyes Test. The severity of ASD was assessed with the Childhood Autism Rating Scale (CARS). This study employed a correlational survey approach. **Results:** When the mind-reading abilities through the eyes were compared between parents of children with autism and parents of typically developing children, a significant difference was observed among mothers' mind-reading abilities (p=0.031), while there was no significant difference among fathers' mind-reading abilities (p=0.257). When comparing the communication skills of parents, a significant difference was found among mothers in terms of emotional communication skills (p=0.006). Upon examining fathers, a meaningful difference was observed between fathers' emotional communication skills and behavioral communication skills (p=0.011, p=0.004).While a significant difference was identified between the severity of autism in children diagnosed with Autism Spectrum Disorder (ASD) and fathers' emotion recognition levels, no significant difference was found in emotion recognition levels among mothers in relation to the severity of autism (p=0.023, p=0.200). **Conclusion:** The possible effects of parents communication skills on the severity of ASD should be investigated in further studies. In conclusion, a training program for improving social skills could be useful for families, especially for fathers, who have children with ASD.

Keywords: Autism; reading mind in the eyes; communication skills; child; parent

ÖZET Amaç: Otizm spektrum bozukluğu (OSB) tanısı alan ve takip edilen çocuğa sahip ebeveynler ile sağlıklı çocuğa sahip ebeveynlerin duygu tanıma ve iletişim beceri düzeyleri arasında farklılık olup olmadığının değerlendirilmesi, bununla birlikte otizm şiddeti ile ebeveynlerin duygu tanıma ve iletişim becerilerinin incelenmesi amaçlanmıştır. **Gereç ve Yöntemler:** Erciyes Üniversitesi Tıp Fakültesi Çocuk ve Ergen Psikiyatri Polikliniğine başvuran, OSB tanısı alan ve takipli olan çocukların anne babalarından oluşan 30 ebeveyn katılmıştır. Kontrol grubu olarak sağlıklı çocuğa sahip olan 30 ebeveyn alınmıştır. Ebeveynlere İletişim Becerileri Envanteri ve Gözlerden Zihin Okuma testi uygulanmıştır. Otizm şiddeti Çocukluk Otizmi Derecelendirme Ölçeği (ÇODÖ) ile değerlendirilmiştir. Araştırmada ilişkisel tarama yöntemi kullanılmıştır. **Bulgular:** Otizmli ve sağlıklı çocuğa sahip ebeveynlerin gözlerden zihin okuma becerileri karşılaştırıldığında; annelerinin gözlerden zihin okuma becerileri arasında anlamlı bir farklılık bulunurken (p=0.031); babaların gözlerden zihin okuma becerileri arasında anlamlı bir farklılık bulunmamıştır (p=0.257). Ebeveynlerin iletişim becerileri karşılaştırıldığında; annelerin duygusal iletişim becerileri arasında anlamlı bir farklılık bulunmuştur (p=0.006). Babalar incelendiğinde; babaların duygusal iletişim becerileri ve davranışsal iletişim becerileri arasında anlamlı bir farklılık bulunmuştur (p=0.011, p=0.004). OSB tanısı alan ve takip edilen çocukların otizm şiddeti ile babaların duygu tanıma düzeyleri arasında anlamlı bir farklılık saptanırken; otizm şiddeti ile annelerin duygu tanıma düzeyleri arasında anlamlı farklılık bulunmamıştır (p=0.023, p=0.200). **Sonuç:** Ebeveynlerin iletişim becerilerinin OSB şiddeti üzerindeki etkileri daha fazla çalışmada araştırılmalıdır. Sonuç olarak, OSB'li çocuğu olan aileler ve özellikle babalar için sosyal becerileri geliştirmeye yönelik bir eğitim programı yararlı olabilir.

Anahtar Kelimeler: Otizm; gözlerden zihin okuma; iletişim becerileri; çocuk; ebeveyn

TO CITE THIS ARTICLE:
Ertaş EB, Demirci E, Özmen S. Exploring the eye mindreading and communication skill levels of parents of children with autism spectrum disorder: A preliminary correlation study. Turkiye Klinikleri J Health Sci. 2024;9(1):165-73.

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Peer review under responsibility of Turkiye Klinikleri Journal of Health Sciences.

Received: 05 Jun 2023 ***Received in revised form:*** 16 Oct 2023 ***Accepted:*** 09 Nov 2023 ***Available online:*** 27 Dec 2023

In early childhood, signs of deficits in social communication and engagement in repetitive behaviors become evident. It's essential to emphasize that parents are not the root cause of these challenges. Nevertheless, challenges in social interaction can strain parent-child relationships, and parental stress may adversely affect a child's development reciprocally. Conversely, similar to typically developing children, positive parental behavior can positively influence the development of children with autism spectrum disorder (ASD), highlighting the significant role parents play in various intervention approaches.[1]

The assessment of social comprehension has been explicitly associated with the Theory of Mind, which involves the capacity to ascribe mental states, such as beliefs, intentions, desires, pretense, and knowledge, to both oneself and others, while also comprehending that others possess beliefs, desires, intentions, and viewpoints distinct from one's own.[2.] The capacity to interpret and produce cues from the eye region and other facial expressions related to emotions and cognitive processes exhibits significant variability among individuals. When these cues deviate significantly from biological and cultural norms, they can lead to challenges in social interaction and communication.[3]

An indicative feature of the autism spectrum condition is the presence of atypical social cognitive processing. The process of discerning emotions through facial expressions plays a pivotal role in social interactions. The "Reading the Mind in the Eyes" task, often referred to as the "Eyes task," assesses the ability to infer mental states solely from the eye region of the face. This task encompasses both intricate emotion recognition and the initial phase of theory of mind, which involves attributing mental states to others. Adults with autism spectrum condition have been observed to exhibit impairments on the Eyes task when compared to neurotypical adults.[4,5]

The most important difficulty that individuals with autism experience are known as understanding the social world and adapting to it.[1,2]

Kanner examined parents who displayed traits of being unapproachable, showing limited emotional responsiveness, and exhibiting intelligence and obsessive characteristics.[6] Asperger argued that the resemblances between parents and their children were indicative of genetic factors. In parents of children with ASD, certain social skills issues such as inadequate emotional sensitivity, heightened sensitivity reactions, and atypical behaviors in hobbies and social communication have been noted.[7] Although genetic factors contribute to the development of ASD, its symptoms can be mitigated through behavioral interventions, including involvement of parents.[8] Communication and social difficulties are explained with the theory of mind in literature. Most of the individuals who had difficulty in communication experience some difficulties in establishing empathy and understanding what someone else thinks and feels.[9]

Research globally frequently focuses on assessing mind-reading abilities in individuals with ASD, yet studies on evaluating these skills and teaching theory of mind to individuals and families within the Autism Spectrum in Türkiye are limited. Our study aims to explore the potential relationship between the severity of autism and the communication skills and emotion recognition of parents, emphasizing the crucial role of the parent-child relationship in autism, a condition with no single option for etiology and treatment.

To assess parents' communication skills, a more detailed analysis has been conducted, focusing on three sub-domains: cognitive, emotional, and behavioral skills. It is of significant interest to understand how the difficulties in these skills impact the severity of autism.

In conclusion, a healthy parent-child relationship has a key role for the individual to have healthy interpersonal relationships. This study aimed to assess the communication skills of parents of children with ASD and evaluate whether these skills are related to the severity of ASD. Thus, it is aimed to take attention to possible additional interventions in communication and social difficulties to be made for children and families.

MATERIAL AND METHODS

Parents of 30 children with ASD were selected as the sample group and parents of 30 healthy children as

the control group. Data about the parents' communication skills and reading the mind in the eyes were obtained from the Communication Skills Inventory (CSI) and Reading the Mind in the Eyes Test (RMET). All the participants completed the Sociodemographic Information Form at the beginning of the study. The CARS, a behavioral rating scale, was used to assess the severity of ASD included in the study. Additionally, at the beginning of the study, an informed consent form was provided to all participants for completion.

This study obtained approval from the Erciyes University Clinical Research Ethics Committee (Decision number: 2015/400, Date: 28.08.2015). Comprehensive information regarding the study's objective and protocol was provided to all subjects and control participants. The procedures adhered to the ethical standards set by the responsible committee for human experimentation (institutional or regional) or complied with the principles outlined in the Helsinki Declaration of 1975 (as revised in 1983).

MEASURES

Tools Used İn The Study;

CSI

The CSI was developed and utilized by Balcı in the study.[10] The inventory in this version consisted of 70 items, and validity and reliability studies were conducted. Subsequently, the inventory was administered to a sample of 500 university students, and following a factor analysis, the number of items was reduced to 45. The inventory which was last shaped by Ersanlı and Balcı 14 consists of Likert-type questions.[11] It measures emotional, mental, and behavioral communication skills. The Cronbach's alpha value indicating the reliability of the scale is 0.72.

RMET

RMET which was developed by Baron-Cohen, translated into Turkish by Girli.[11] Girli and, provided by the Autism Research Center for the use of researchers is a mind-reading (cognitive empathy) test that measures cognition skills. The revised RMET including 36 items consists of the images from the eye region of actresses and actors. The original version of the test consists of 36 items, with four options provided for each question: 1 correct answer (target answer) and 3 incorrect answers (distractors). The translation of the test into Turkish was conducted by Girli and Tekin, while the reliability study was carried out by.[12,13]

DATA ANALYSIS

The data were analyzed using the IBM SPSS Statistics 22.0 (IBM Corp., Armonk, New York, USA) statistical software program. The distribution of the data normality was assessed with a Q-Q plot and Shapiro-Wilk normality test. Homogeneity of the variances was assessed with Levene's test. Descriptive statistics were expressed in mean±standard deviation ($\overline{X}$±SD) values. The two group comparisons were performed with the independent sample t-test relations between the numerical variables were assessed with Pearson's correlation analysis. The relationship between the categorical variables was assessed with the exact method of the chi-square test. $p<0.05$ was accepted as the statistically significant value.

RESULTS

The main research problem of the study, which focused on whether there is a significant difference in communication skills and emotion recognition levels between parents of children diagnosed with ASD and parents of typically developing children, was examined in detail. Additionally, it was assessed whether the severity of autism in children diagnosed with ASD and under follow-up differed based on the emotion recognition and communication skill levels of their parents.

As seen in Table 1, no statistically significant difference was found between the ages and genders of the children. Also, when the parents of children in both groups were compared in terms of sociodemographic variables no statistically significant difference was found between the length of the marriage, fathers' ages and educational levels, income levels, and mothers' ages and educational levels ($p>0.05$ for all). While there was no difference between educational levels of mothers of children in both groups, occupational status differed according to the health condition of the child. Mothers of healthy children participated in a profession more often.

TABLE 1: Comparison of healthy children and children with autism in terms of age and gender.

			Group		
			Child with autism	Healthy child	Total
Age of child	2-3 years	n	11	13	24
		(%)	36.7	43.3	40
	4-5 years	n	10	5	15
		(%)	33.3	16.7	25
	6 years and above	n	9	12	21
		(%)	30	40	35
Total			**30**	**30**	**60**
			100%	**100%**	**100%**
Gender of child	Male	n	22	21	43
		(%)	73.3	70	71.7
	Female	n	8	9	17
		(%)	26.7	30	28.3
Total			**30**	**30**	**60**
			100%	**100%**	**100%**

TABLE 2: Assessment of the difference between emotion recognition levels of parents of children with ASD and parents of healthy children.

		n	$\bar{X}$	t value	p value
Father's mind reading in the eyes	Having children with ASD	30	20.80	-1.144	0.257
	Having healthy children	30	22.03*		
Mother's mind reading in the eyes	Having children with ASD	30	20.60	-2.209	**0.031**
	Having healthy children	30	23.40*		

*High in parents with healthy children; ASD: Autism spectrum disorder.

As can be seen in Table 2, there was a significant difference between the fathers of healthy children and those of ASD in terms of the levels of reading the mind in the eyes ($\bar{X}$=22.0, p=0.047). Also, a significant difference was found between the mothers of healthy children and mothers of children with ASD in terms of the levels of reading the mind in the eyes ($\bar{X}$=23.40, p=0.031).

In accordance with Table 3, there was a significant difference between the mothers of healthy children and mothers of children with ASD in terms of emotional communication skills. There was a significant difference between the mothers of healthy children and mothers of children with ASD in terms of emotional communication skills. No significant difference was found between mothers in both groups in terms of mental and behavioral communication skills. On the other hand, the mean communication skills score of mothers of healthy children was higher than the mean score of mothers of children with autism ($\bar{X}$=57.16, p=0.214) ($\bar{X}$=56.40, p=0.006) ($\bar{X}$=57.6, p=0.957). A significant difference was found between the fathers of healthy children and fathers of children with ASD and followed up in terms of emotional and behavioral communication skills. The mean mental and behavioral communication skills score of fathers of healthy children was higher ($\bar{X}$=54.16, p=0.778) ($\bar{X}$=52.60, p=0.004).

As seen in the table, only the father's mind-reading ability (p=0.023) through the eyes and both the

TABLE 3: Assessment of the difference between communication skills of parents of children with ASD and parents of healthy children.

		n	X̄	t value	p value
Mental communication of mother	Having children with ASD	30	55.20	-1.256	0.214
	Having healthy children	30	57.16*		
Emotional communication of mother	Having children with ASD	30	51.06	-2.874	**0.006**
	Having healthy children	30	56.40*		
Behavioral communication of mother	Having children with ASD	30	57.50	-0.054	0.957
	Having healthy children	30	57.60*		
Mental communication of father	Having children with ASD	30	53.73	-0.283	0.778
	Having healthy children	30	54.16*		
Emotional communication of father	Having children with ASD	30	52.10	2.613	**0.011**
	Having healthy children	30	48.26		
Behavioral communication of father	Having children with ASD	30	57.06	2.981	**0.004**
	Having healthy children	30	52.60		

*High in parents with healthy children; ASD: Autism spectrum disorder.

TABLE 4: Correlation of CARS scores with scale points.

	CARS scores
Father's mind reading in the eyes	r=-0.414, p=0.023
Mother's mind reading in the eyes	r=-0.241, p=0.200
Emotional communication of mother	r=-0.382, p=0.043
Emotional communication of father	r=-0.421, p=0.020
Behavioral communication of father	r=-0.341, p=0.056

CARS: Childhood Autism Rating Scale.

mother's (p=0.043) and father's (p=0.020) emotional communication skills were negatively correlated with CARS scores.

In addition, when mothers were assessed, there was no significant difference between the ASD severity levels of children diagnosed with ASD and followed up, and the emotion recognition levels of mothers. However, the mean mind-reading scores through the eyes of mothers of children with mild to moderate ASD were higher than the mean scores of mothers of children with severe ASD ($\overline{X}$=20.80, $\overline{X}$=22.03). These results were similar to the findings in fathers ($\overline{X}$=20.60, $\overline{X}$=23.40). Mean emotional, behavioral, and mental communication skills scores of fathers of children with mild-moderate ASD were higher than the mean scores of fathers of children with severe ASD ($\overline{X}$=53.73, $\overline{X}$=54.16, $\overline{X}$=52.10, $\overline{X}$=48.26, $\overline{X}$=57.06, $\overline{X}$=52.60). In accordance with Table 4, a significant difference was observed between the severity of autism in children diagnosed with ASD and fathers' emotion recognition levels (p=0.023); however, no significant difference was found in emotion recognition levels among mothers in relation to the severity of autism(p=0.200).

DISCUSSION

The selection of participants was based on similar age and gender distribution. There were no statistically significant differences observed in terms of age and gender between the children with autism and the typically developing children included in the study.

Of the children in the group with autism, 36.7% were 2-3 years old. Similarly, 21 of the children in the healthy group were male and 43.3% were 2-3 years old. It was aimed with this similar matching to obtain similar effects of psychosocial factors on children and make a sound comparison depending on age and gender. No statistically significant difference was found between parents of healthy children and parents of children with autism in terms of age and educational level. There was also no statistically significant difference between families in both groups in terms of monthly income levels.

A statistically significant difference was observed in the occupational status of mothers between the group of mothers with typically developing children and the group of mothers with children diagnosed with autism. A higher proportion of mothers with typically developing children were employed, whereas a smaller percentage of mothers with children with autism were employed. While there was no difference between mothers' educational levels there was a difference in terms of occupational status, which may be because the child is dependent on a caregiving mother and continuous insufficiencies that cannot be fixed or changed may cause difficulties by limiting the functions of families.[14]

While there was a significant difference between mothers of healthy children and mothers of children who were diagnosed with ASD and followed up in terms of emotional communication skills there was no significant difference between the mothers mental and behavioral communication skills. On the other hand, the mean communication skills score of mothers of healthy children was higher than the mean score of mothers of children with autism. According to the results obtained from the assessment of fathers' communication skills, a significant difference was found between the fathers of healthy children and fathers of children who were diagnosed with ASD and followed up in terms of emotional and behavioral communication skills. Mean mental communication skills score of fathers of healthy children was higher, which is consistent with the findings in literature in terms of often observing social interaction problems such as non-verbal behavioral deficits, insufficiency in emotional sensitivity, difficulty in maintaining relationships with friends, and unusual behaviors in individuals with a child with autism.[15]

In addition to these psychological responses to parenting a child with ASD, the observation of a parent displaying emotional distance and manifesting their own social deficits supports the idea of a genetic basis for autism.[16]

In the study, there was a significant difference between the mothers of healthy children and mothers of children who were diagnosed with ASD and followed up in terms of the levels of reading the mind in the eyes. Mean mind reading through the eyes score of mothers of healthy children was higher than the mean score of mothers of children with autism. In several studies performed with the theory of mind, defects in solving a mental condition were observed in the relatives of ASD patients.[8]

The number of studies on fathers of children who have been diagnosed with ASD and followed up is low in literature. No significant difference was found between fathers of healthy children and fathers of children who were diagnosed with ASD and followed up in terms of levels of reading the mind in the eyes. However, the mean mind reading through the eyes score of fathers of healthy children was higher than the mean score of fathers of children with autism. It is generally known in the literature that ASD patients and their parents have defects in recognizing complicated mental conditions.

In a related study, the children were presented with a still face paradigm executed by each parent 1 month apart.[17] During the still-face episode, the children with ASD were distressed and increased their social gaze toward their parents. They used simpler emotion regulation strategies than the typically developing children, including physical and verbal self-soothing with various repetitive behaviors. The mothers and fathers of children with ASD showed more positive affect before and after the still-face and more social gaze after the still-face episode compared with the parents of the typically developing preschoolers. The authors hypothesized that this was indicative of the great parental regulatory effort in the moment and throughout development required for children with ASD.[1]

A significant positive correlation was found between mothers' emotional and behavioral communication skills and mind-reading ability through the eyes when the levels of emotion recognition and communication skills of parents of children who were diagnosed with ASD and followed up were assessed. As the emotional and behavioral communication skills of mothers increase their skills of reading the mind in the eyes increase as well. In addition, there was a significant positive correlation between the behavioral and emotional communication skills of mothers and the mental communication skills of mothers. When verbal communication and

non-verbal communication were compared it was observed that non-verbal communication had great power. It is predicted that about two-thirds of social conditions experienced are deduced from non-verbal clues.[18] The verbal and behavioral communication skills of families with their children were parallel with the social interaction they formed with their children. There was also a significant positive correlation between behavioral and emotional communication skills of mothers. As the behavioral skills of mothers increase their emotional communication skills increase as well. No significant correlation was found between fathers' communication skills and levels of reading the mind in the eyes. There was a significant correlation between behavioral and mental communication skills of fathers, which is similar to the correlation in mothers. There was also a significant positive correlation between the behavioral and emotional communication skills of fathers. The inability of fathers of children with autism to interpret non-verbal clues of the child is parallel to fathers' inability to fully use verbal communication skills.

In the study, a significant difference was found between the ASD level of children who were diagnosed with ASD and the followed-up and emotion recognition levels of fathers. Mean mind reading through the eyes scores of fathers of children with mild-moderate ASD was higher than the mean scores of fathers of children with severe ASD. When the mothers were assessed while no significant difference was found between ASD level of children who were diagnosed with ASD and followed up and emotion recognition levels of mothers mean mind reading through the eyes scores of mothers of children with mild-moderate ASD were higher than mean scores of mothers of children with severe ASD, which was similar to the results on fathers. This can be explained by the limitation in empathy skills of the relatives of individuals with ASDs.

Insufficiencies in the child's emotional development and expression of emotion can decrease the empathy between the mother and child. Most of the studies assert that as symptoms of the child become more severe stress of the family increases more. Moreover, as negative characteristics of the child increase, the family becomes more isolated from their social life, which shortly means the family becomes "autist" as well.[19] According to the results, no significant difference was found between the ASD level of children who were diagnosed with ASD and followed up and emotional, behavioral, and mental communication skills of mothers when ASD level and communications skills were compared. However, as the level of communication skills decreased the severity of ASD increased and communication skills scores were lower compared with the mothers of healthy children. When the fathers were assessed no significant difference was found between the ASD level of children who were diagnosed with ASD and followed up and emotional, behavioral, and mental communication skills of fathers. Mean emotional, behavioral, and mental communication skills scores of fathers of children with mild-moderate ASD were higher than the mean scores of fathers of children with severe ASD. Social isolation of children with ASD and their families is like a cycle which is the reason and result of each other at the same time. As the negative characteristics of a child increase, the family isolates themselves from the social life more, and the isolated behaviors of the family increase the ASD level of their child.

As seen in the results, only the father's mind reading ability ($p=0.023$) and emotional communication skills of both mothers ($p=0.043$) and fathers ($p=0.020$) were negatively correlated with CARS scores. A series of studies on families of children with autism and twins have shown that communicative and social deficiencies in autism are inherited.[20] Another finding that supports this view is that the families of autistic children have an increased rate of social difficulties, mood and anxiety problems compared to the general population.[21] Mild autism-like features seen in some of the relatives of individuals with autism indicate that these behavioral characteristics constitute the structure of the broad autism phenotype and that autism-like genetic structure is found in relatives without autism.[7] When autism and similarities between behavioral characteristics of autistic children and their parents are assessed it is observed in literature that parents of autistic children exhibit social difficulties, communication problems, prob-

lems in language use, and similar but mild stereotypical behaviors with their children.[22,23]

The verbal and behavioral communication skills that parents establish with their children parallel the social interaction they engage in with their children. A positive correlation has also been found between mothers' behavioral communication skills and emotional communication skills. As mothers' behavioral communication skills increase, their emotional communication skills also increase in the same direction. In a study where parents of autistic and typically developing children were asked to create stories, it was observed that the parents of autistic children were weaker in creating stories compared to the control group parents. Although the length of stories from both groups was similar, it was determined that the stories of parents with autistic children were less complex and less consistent. When examining the relationship between fathers' communication skills and mind-reading abilities through the eyes, no significant relationship was found. Similar to mothers, a significant relationship was found between fathers' behavioral communication skills and mental communication skills. Moreover, a positive correlation was also found between fathers' behavioral communication skills and their emotional communication skills.

According to research on child development, there is a statistically significant relationship between the level of children's early developmental skills and the extent of interaction with their parents. The responsiveness of parents plays a crucial role in their children's development. If parents exhibit appropriate levels of "responsive" interaction behaviors, especially during the first five years of life, they can contribute to their cognitive, language, and socio-emotional development.[24]

The data obtained in the study are limited to the information provided by parents in the scales and the personal information questionnaire. In the research, a one-to-one matching in terms of socio-demographic data was not conducted between the parents of children diagnosed with ASD and parents of healthy children. Further studies conducted with a larger sample are necessary.

CONCLUSION

In a conclusion, especially for parents of children with ASD, a training program aimed at improving social skills could be beneficial. A follow-up study can be conducted to determine the long-term effectiveness of a communication skills training program for families. Furthermore, the impact of parents' communication skills and emotion recognition levels on the severity should be investigated with a larger sample.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Elif Bilge Ertaş, Esra Demirci;* ***Design:*** *Elif Bilge Ertaş, Esra Demirci;* ***Control/Supervision:*** *Elif Bilge Ertaş, Esra Demircii Sevgi Özmen;* ***Data Collection and/or Processing:*** *Elif Bilge Ertaş;* ***Analysis and/or Interpretation:*** *Elif Bilge Ertaş, Esra Demirci;* ***Literature Review:*** *Elif Bilge Ertaş;* ***Writing the Article:*** *Elif Bilge Ertaş;* ***Critical Review:*** *Elif Bilge Ertaş;* ***References and Fundings:*** *Elif Bilge Ertaş;* ***Materials:*** *Elif Bilge Ertaş;* ***Other:*** *Elif Bilge Ertaş.*

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