

## The Effect of Mindful Parenting-Based Telepsychology on Behavioral Symptoms of ADHD Children during Covid-19 Outbreak

Fatemeh Asarian<sup>1</sup>, Mahdi Salehi<sup>2</sup>, Melika Zalbagi Darestani<sup>2</sup>, Amir Asadi<sup>3</sup>, \* Mohammad Mahdi Heidari<sup>2,4,5</sup>, Habibollah Rahimi<sup>6</sup>

<sup>1</sup> Department of Psychiatry, Faculty of Medicine, Kashan University of Medical Sciences, Kashan, Iran.

<sup>2</sup> Student Research Committee, Faculty of medicine, Kashan University of Medical Sciences, Kashan, Iran.

<sup>3</sup> Psychiatry and Behavioral Sciences Research Center, Addiction Institute, Mazandaran University of Medical Sciences, Sari, Iran.

<sup>4</sup> Infectious Diseases Research Center, Kashan University of Medical Sciences, Kashan, Iran.

<sup>5</sup> Department of Pediatrics, Faculty of Medicine, Kashan University of Medical Sciences, Kashan, Iran.

<sup>6</sup> Department of Biostatistics and Epidemiology, Faculty of Health, Kashan University of Medical Sciences, Kashan, Iran.

### Abstract

**Background:** Attention Deficit/Hyperactivity Disorder (ADHD) is one of the most common psychiatric disorders that cause major complications in children, and it is essential to identify the best treatment method especially during COVID-19 pandemic. Therefore, the aim of this study was to discuss the effects of mindful parenting-based telepsychology on behavioral symptoms of ADHD children during COVID-19 outbreak.

**Methods:** This randomized clinical trial was conducted on parents with ADHD children. All mothers underwent eight 45-min-sessions of mindful parenting-based telepsychology, administered once a week. Child Behavior Checklist (CBCL) was evaluated before, immediately after, and 2 months after the intervention.

**Results:** We did not find significant differences in the following subscales of CBCL: anxious/depressed, depressed, somatic complaints and thought problems, after and 2 months after the intervention between the two groups ( $P > 0.05$ ). While, after the intervention, social problems ( $11.65 \pm 3.03$  vs.  $14.55 \pm 1.93$ ,  $P = 0.001$ ), attention problems ( $9.65 \pm 2$  vs.  $11.25 \pm 1.8$ ,  $P = 0.034$ ), rule-breaking behavior ( $14.15 \pm 2.15$  vs.  $17.35 \pm 2.85$ ,  $P = 0.002$ ), aggressive behavior ( $14.25 \pm 2.19$  vs.  $19.75 \pm 3.66$ ,  $P < 0.001$ ), and total score of CBCL ( $90.55 \pm 5.56$  vs.  $106.5 \pm 8.81$ ,  $P < 0.001$ ) were found to be significantly lower in the intervention group as compared to the control group; and they remained significantly lower in the intervention group, after a 2-month follow up ( $P < 0.05$ ).

**Conclusion:** Mindful parenting-based telepsychology significantly improves symptoms in children with ADHD from the parents' point of view. This type of training can also lead to an improvement in parent-child relationships, and so can be suggested as necessary for parents.

**Key Words:** Attention Deficit Hyperactivity Disorder (ADHD), COVID-19 pandemic, Mindful parenting-based telepsychology.

\* Please cite this article as: Asarian F, Salehi M, Zalbagi Darestani M, Asadi A, Heidari MM, Rahimi H. The Effect of Mindful Parenting-Based Telepsychology on Behavioral Symptoms of ADHD Children during Covid-19 Outbreak. *Int J Pediatr* 2024; 12 (01):18461-18473. DOI: [10.22038/ijp.2024.77117.5414](https://doi.org/10.22038/ijp.2024.77117.5414)

### \*Corresponding Author:

Mohammad Mahdi Heidari, Student Research Committee, Faculty of medicine, Kashan University of Medical Sciences, Kashan, Iran. Email: [heidari-m@kaums.ac.ir](mailto:heidari-m@kaums.ac.ir)

Received date: Dec.26,2023; Accepted date: Jan.28,2024

## 1- INTRODUCTION

By January 2020, an outbreak of the new coronavirus illness COVID-19 has been declared a Public Medical Crisis of Global Importance. The World Health Organisation (WHO) has issued a warning about the likelihood of COVID-19 spreading to other countries. The WHO declared COVID-19 to be a pandemic (1-4). The COVID-19 global health emergency has had a wide-ranging impact on individuals all around the world. While adults were more likely to experience the most severe health repercussions, the pandemic affected children and adolescents in varied ways, which were due to school and activity closures, mandating children and adolescents to stay at home (5-9).

Children and adolescents with Attention Deficit Hyperactivity Disorder (ADHD) may be more exposed to the consequences of social isolation and may influence the symptomatology of children and adolescents with ADHD in the context of the pandemic (10). A recent analysis found that lockdown had a mild psychological impact on children with neurodevelopmental issues (11). According to studies on the treatment of ADHD children, more emphasis is placed on combined drug and non-drug treatments (12). Among the psychological treatments, behavioral training is more important for parents in order to reduce the behavioral symptoms in ADHD children (13). By implementing cognitive-behavioral interventions in the natural environment of the child's life, parents can play a significant role in their treatment (14). For this purpose, parents can benefit from sufficient information in the field of knowing ADHD and understanding their behaviors and the causes of child's behavioral problems. Therefore, parent training is one of the most common and effective methods of therapy that researchers have confirmed to be effective

on various aspects of children's behavior (15). Therefore, given the need for physical distance during COVID-19 pandemic, all ADHD-related services such as face-to-face support are not possible; so, tele psychological approaches are needed more than ever. In this way, the necessity of providing medical services and remote health care services (Telemedicine) has been emphasized (16-18).

The existing limited research studies suggest that telemedicine has the potential to expand clinical services to ADHD patients (17). Telemedicine has been used in several medical specialties with favorable results and is also an affordable method. However, its use in the context of ADHD is still unclear and needs further evaluation (17); thus, in our research, we reviewed and analyzed the effects of mindful parenting-based telepsychology on behavioral symptoms of ADHD children during COVID-19 pandemic. It will help to formulate policies on controlling behavioral symptoms of ADHD among children during pandemics for pediatric psychiatry and public health specialists.

## 2- MATERIALS AND METHODS

### 2-1. Design

This randomized clinical trial was conducted in the Pediatric Psychiatry Department of Kargarnejad Hospital, center of Iran from May 2021 to October 2021. The behavioral symptoms of ADHD patients receiving mindful parenting-based telepsychology (intervention group) were compared to patients receiving traditional treatment (control group).

### 2-2. Inclusion and Exclusion Criteria

Inclusion criteria encompassed children referred to Pediatric Psychiatry Department with a diagnosis of ADHD (based on the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) and research diagnostic criteria

administered by experienced pediatric psychiatrists) before the onset of COVID-19 pandemic, signed a consent form to participate in the study (by parents), aged between 5-12 years, received regular drug therapy using risperidone or Ritalin, their mothers had at least a diploma degree, and participated in three sessions of mindful parenting-based telepsychology. Exclusion criteria included children or parents with a diagnosis of intellectual disability (IQ < 90 which was previously documented in medical files), had sensory deficit, concurrent bipolar or psychotic disorders, chronic medical illness; there was a change in the dose of medicine received by the child; aged below 5 or more than 12 years; their mothers lacked proper communication facilities and/or aged more than 50 years; or dissatisfied to continue their participation in the study. We also excluded patients with incomplete data.

### 2-3. Participants

The study flowchart is shown in **Fig. 1**. Fifty patients with a diagnosis of ADHD, who had been diagnosed by Pediatric Psychiatry specialists, were included, based on their clinical and paraclinical findings and inclusion and exclusion criteria. The sample size was evaluated using the parameters of Behbahani et al.'s study (19) by the use of the formula below, and the number 18 was obtained.

### 2-4. Procedure

The participants were randomly allocated in two groups using a block randomization procedure with matched subjects in each block based on sex and age. In order to eliminate bias, we expanded exclusion criteria and tried to match both intervention and control groups based on demographic features.

Forty patients completed the study; 20 from the intervention group and 20 from the control group. After obtaining informed consent, eligible patients were enrolled. Mothers were invited to the

training classes. We included mothers who had the facilities of virtual communication using a smartphone owned by themselves and had Instagram software, and the ability to use it. Their names' list was coded and they were randomly placed in two control and experimental groups. The participants were given information about the research and the number of sessions, the length of each session, the method of conducting the session, their random placement in the experimental and control groups, the confidentiality of the information, and the right to withdraw from the research at any time even during the study. In this study, the trainings were administered at a specific time on an Instagram page through live seminars by an expert in pediatric clinical psychology, which was coordinated with the mothers during the briefing session and were presented in the form of 8 sessions of 45 minutes once a week (summarized in **Fig. 2**). These sessions were conducted interactively with mothers, and at the end of the sessions, in addition to answering the mothers' questions, their presence during the session was ensured by the questions asked by the psychologist and the project manager. The Child Behavior Checklist (CBCL) was completed by mother before, after and two months after classes. The control group received routine treatments (medications) and consultations (behavior therapy, cognitive behavior, speech therapy, neuroscience) for ADHD, which were also performed for the intervention group.

### 2-5. Instrumentation

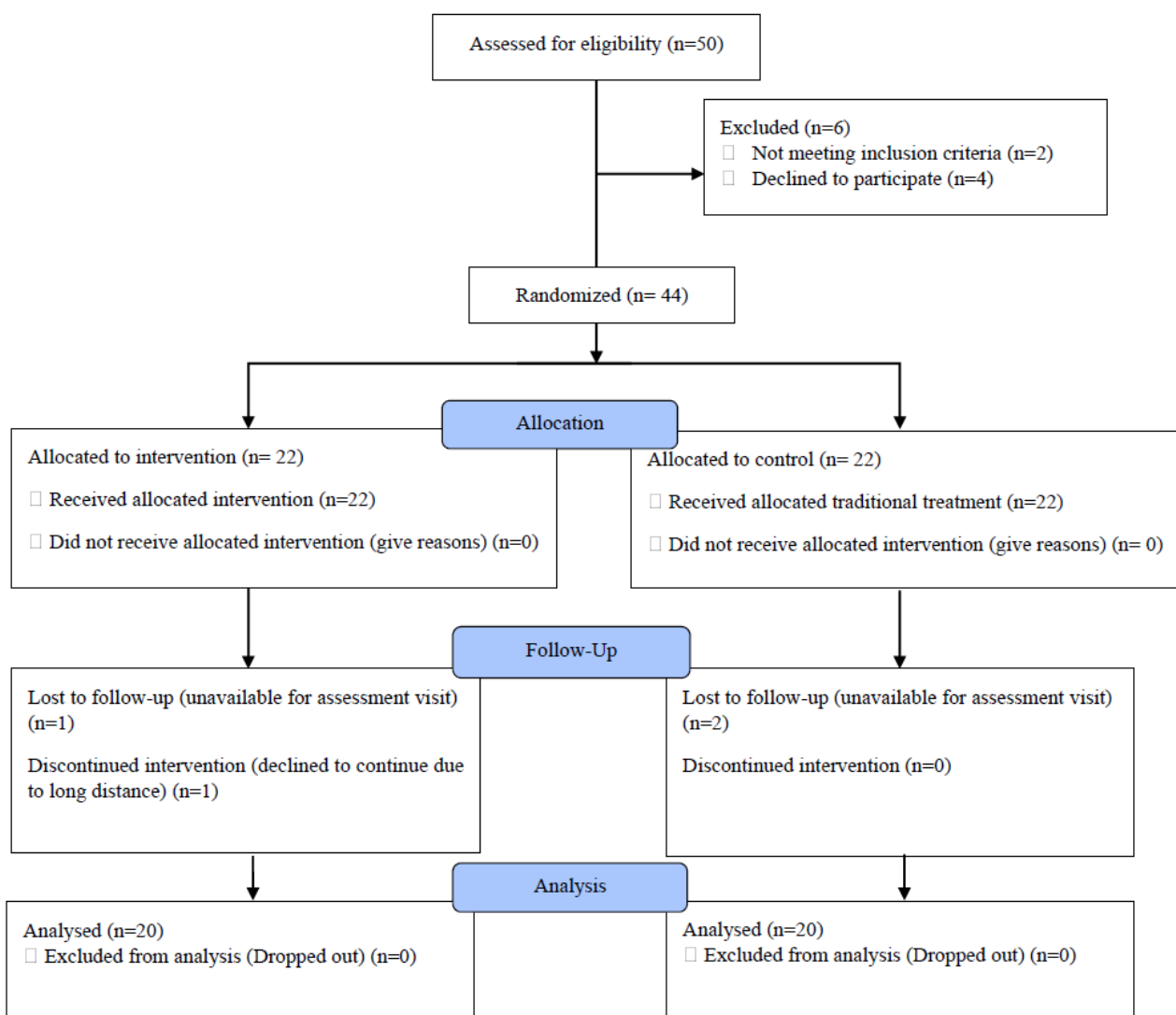
**a) Child Behavior Checklist (CBCL):** CBCL is used to measure somatic, behavioral, and emotional functioning, as well as social competence in children aged 6 to 18 years old (20, 21). It is divided into two major domains: 1) Checklist for Problems, and 2) Social Competence. The Problem Checklist has 112 items divided into three subscales: a) broad-band

internalizing and externalizing difficulties, b) eight narrow-band syndromes, and c) scales based on the Diagnostic and Statistical Manual of Mental Disorders (DSM). The second category, social competence, consists of seven items covering three areas: social interactions, physical activities, and self-reported academic achievement. Each assertion is

assigned a score of 0 (not true), 1 (slightly or occasionally true), or 2 (extremely true or frequently true). This questionnaire has 8 subscales including anxious/depressed, depressed, somatic complaints, social problems, thought problems, attention problems, rule-breaking behavior, and aggressive behavior.

$$n = \frac{(Z_{1-\frac{\alpha}{2}} + Z_{\beta})^2 \times (S_1^2 + S_2^2)}{(\bar{X}_1 - \bar{X}_p)^2} \quad Z_{1-\frac{\alpha}{2}} = 1.96 \quad Z_{\beta} = 0.84$$

X1 = 128, X2 = 110.4, S1 = 17.6, S2 = 18.5



**Fig. 1:** Study flowchart (CONSORT format)



**Fig. 2:** The agenda of the meetings of the intervention group during 8 sessions

Cronbach's alpha of this questionnaire was obtained by Minaei et al. in the Iranian population for external behavioral disorders 0.78 and for internal behavioral disorders 0.82 (22). However, we did not evaluate the reliability and validity of CBCL in our study due to the small sample size.

## 2-6. Data analysis

Data were analyzed and reported only for patients who completed the trial. Statistical analysis of data was performed using SPSS version 22 software (SPSS Inc., Chicago, IL, USA). The results were described by central and peripheral indicators such as mean and standard deviation or median and mode. IQR and its minimum and maximum were also determined and displayed with graphs and related tables. In addition to the total score obtained in each of the subgroups, the

result of the study was also reported independently. Analytical analyses were done by Chi-square and independent t-tests and the intervention effect was assessed using One-way repeated measure ANOVA during the test and after the 2-month follow-up. The two tailed p-value < 0.05 was considered significant.

## 3- RESULTS

In this study, 20 ADHD children participated in the intervention group (15 boys; age  $8.9 \pm 1.86$  years old) and 20 in the control group (14 boys; age  $8.65 \pm 2.11$  years old). We did not observe significant differences between the two groups in terms of age ( $P=0.693$ ), gender ( $P=0.723$ ), child's educational levels ( $P=1$ ), mother's educational levels and job ( $P=0.752$ , 1, respectively), family history of ADHD ( $P=0.744$ ) and having concomitant autoimmune symptoms ( $P=1$ ) (**Table 1**).

**Table-1:** Demographic features of the participants in the intervention and control groups

Variables		Intervention (n=20)	Control (n=20)	P-value
Age (Years)		$8.9 \pm 1.86$	$8.65 \pm 2.11$	0.693*
Sex (Male)		15 (75 %)	14 (70 %)	0.723**
Family history of ADHD		7 (35 %)	8 (40%)	0.744***
Autoimmune symptoms		1 (5%)	0	1**
Child's educational levels	Preschool	3 (15 %)	4 (20 %)	1**
	elementary School	17 (85 %)	16 (80 %)	
Mother's educational levels	diploma	10 (50 %)	11 (55 %)	0.752***
	academic	10 (50 %)	9 (45 %)	
Mother's job	Housewife	17 (85 %)	16 (80 %)	1**
	Employed	3 (15 %)	4 (20 %)	

\*Independent t test, \*\* Fisher exact test, \*\*\* Chi-square test

Furthermore, the total score of CBCL and all its subscales did not differ between the two groups before the intervention ( $P_1 > 0.05$ ), however, we observed high levels of ADHD symptoms based of CBCL before the intervention which may be related to the pandemic of COVID-19 outbreak. Moreover, we did not find significant differences in some of the

subscales including anxious/depressed, depressed, somatic complaints and thought problems, immediately after and 2 months after the intervention between the two groups ( $P_1 > 0.05$ ). While, after the intervention, we found that social problems ( $11.65 \pm 3.03$  vs.  $14.55 \pm 1.93$ ,  $P_1=0.001$ ), attention problems ( $9.65 \pm 2$  vs.  $11.25 \pm 1.8$ ,  $P_1=0.034$ ), rule-breaking

behavior ( $14.15 \pm 2.15$  vs  $17.35 \pm 2.85$ ,  $P_1=0.002$ ), aggressive behavior ( $14.25 \pm 2.19$  vs.  $19.75 \pm 3.66$ ,  $P_1<0.001$ ), and total score of CBCL ( $90.55 \pm 5.56$  vs.  $106.5 \pm 8.81$ ,  $P_1<0.001$ ) were significantly lower in

the intervention group as compared to the control group, which remained significantly lower in the intervention group after a 2-month follow up ( $P_1<0.05$ ) (**Table 2**).

**Table-2:** CBCL findings before, immediately after the intervention and after a two-month follow up

Variables		Intervention (n=20)	Control (n=20)	P-value <sub>1</sub>	P-value <sub>2</sub> ***
Anxious/Depressed	Before	$16.9 \pm 3.86$	$16.8 \pm 3.63$	0.933*	0.485
	After	$12.8 \pm 2.41$	$13.6 \pm 2.98$	0.357*	
	Two months later	$12.45 \pm 2.52$	$13.25 \pm 3.38$	0.403*	
Depressed	Before	$11.35 \pm 3.08$	$11.2 \pm 2.26$	0.862*	0.604
	After	$7.45 \pm 1.27$	$7.9 \pm 2.22$	0.438*	
	Two months later	$7 \pm 1.58$	$7.4 \pm 2.13$	0.506**	
Somatic complaints	Before	$12.2 \pm 2.69$	$11.35 \pm 2.73$	0.321**	0.633
	After	$8 \pm 1.27$	$7.75 \pm 2.26$	0.753*	
	Two months later	$7.2 \pm 2.28$	$7.3 \pm 2.71$	0.9*	
Social problems	Before	$18.6 \pm 2.25$	$18.1 \pm 2.07$	0.47*	0.016
	After	$11.65 \pm 3.03$	$14.55 \pm 1.93$	0.001**	
	Two months later	$11.15 \pm 2.87$	$13.05 \pm 2.54$	0.033**	
Thought problems	Before	$20.55 \pm 5.44$	$20.3 \pm 4.07$	0.807*	0.253
	After	$12.6 \pm 2.52$	$14.35 \pm 4$	0.108*	
	Two months later	$12.2 \pm 2.23$	$14.05 \pm 3.5$	0.054*	
Attention problems	Before	$15.45 \pm 2.18$	$15.1 \pm 1.8$	0.584*	0.034
	After	$9.65 \pm 2$	$11.25 \pm 1.8$	0.012**	
	Two months later	$8.7 \pm 2.49$	$10.7 \pm 1.92$	0.007**	
Rule-Breaking Behavior	Before	$24.8 \pm 3.51$	$23.8 \pm 2.91$	0.334*	0.002
	After	$14.15 \pm 2.15$	$17.35 \pm 2.85$	<0.001*	
	Two months later	$13.3 \pm 1.83$	$16.35 \pm 1.95$	<0.001*	
Aggressive behavior	Before	$25.45 \pm 2.94$	$25.3 \pm 3.18$	0.878*	<0.001
	After	$14.25 \pm 2.19$	$19.75 \pm 3.66$	<0.001**	
	Two months later	$13.8 \pm 1.85$	$18.75 \pm 4.1$	<0.001**	
Total score of CBCL	Before	$145.3 \pm 12.45$	$141.95 \pm 6.44$	0.294*	<0.001
	After	$90.55 \pm 5.56$	$106.5 \pm 8.81$	<0.001**	
	Two months later	$85.8 \pm 5.44$	$100.85 \pm 7.91$	<0.001*	

\* Independent T Test, \*\* mann-Whitney U Test, \*\*\* Repeated Measure Anova

In total, according to the repeated measurements over time, the changes in CBCL total score and social problems, attention problems, rule-breaking behavior and aggressive behavior subscales were significantly different between the two studied groups ( $P_2<0.05$ ). (**Table 2**) By

evaluating data based on multivariate analysis of variance (MANOVA), we observed that social problems, attention problems, rule-breaking behavior, aggressive behavior and total score of CBCL had significant changes in the intervention group as compared to the

control group ( $P < 0.05$ ). MANOVA showed that the groups had the least differences with each other in social problems while they had the most differences in aggressive behavior and total score of CBCL.

#### 4- DISCUSSION

The results of our study showed that after the intervention and 2 months after the end of the intervention, social problems, attention problems, rule-breaking behavior, aggressive behavior, and total score of CBCL were significantly lower in intervention group as compared to the control group, which indicates that mindful parenting-based telepsychology during COVID-19 pandemic has significant effects on behaviors of ADHD children based on parents opinion.

ADHD is one of the most common reasons for children referring to psychologists and psychiatrists (23). Studies have shown that effective parenting and healthy family relationships play an important role in minimizing the effects of ADHD (24). Conscious parenting is one of the newest approaches to raising children with ADHD. The present study was one of the first studies of its kind in Iran that evaluated the effectiveness of mindfulness parenting training in reducing the clinical symptoms of children with ADHD.

The results of a meta-analysis on parenting stress among parents of children with ADHD showed that these parents experienced higher levels of stress than parents of normal children (25). Another study showed that the most important mechanism of conscious parental action is the control of parental psychopathology and stress in the child-parent relationship (26, 27).

The current study showed that conscious parenting training through clinical techniques has been able to improve parent-child relationships, prevent extreme reactions of parents to their children's

abnormal behaviors, reduce the challenges of the child and parents, and thus reduce the child's behavioral symptoms. This is consistent with the findings of another study showing the effectiveness of mindful parenting in reducing symptoms in children with ADHD (28, 29).

Emotional awareness is defined as the practice of moment-to-moment awareness (27). Alternatively, through mindfulness, parents become aware of their moment-to-moment emotional state without trying to change or prevent it (26). Parents can manage their stress through self-regulation in parenting relationships (30), through the use of mindfulness skills (such as 3-minute breathing space meditation) (31) to manage anger and display positive and negative emotions (26). Moreover, mindfulness enables parents to improve their performance indirectly by reducing avoidance of emotions and increasing self-regulation, and this affects the performance of children with ADHD (30, 31). Also, training parents with mindful parenting-based telepsychology through creating an open and receptive environment in parenting, reduces biased attention to negative aspects of children, and increases parents' acceptance of themselves and their children (30). Consequently, parent education can increase parent-child interactions and reduce parenting stress.

In a study performed by Zergar et al., it was concluded that mindful parenting has shown its effectiveness in various areas such as increasing the satisfaction of caregivers, improving family functioning, parenting skills of parents, and reducing children's behavioral problems (32). Although in our study, a limited number of variables were evaluated and the only basis of the study was the improvement of the behavior of children with ADHD, in accordance with the findings of the aforementioned study, it was also found in our study that parental education has a



significant effect on the improvement of children's behavior. Especially in our study, it was found that the biggest impact was on the child's behavior, which included aggression and rule-breaking behavior. In a research performed by Fazli et al., it was reported that the educational method of mindful parenting, along with drug treatments, reduces children's behavioral problems, especially the risky behaviors of children with ADHD and the stress of mothers' parenting, but in this study, it was found that children's thinking and attention was not affected (33). The findings of the mentioned study regarding the impact of mindful parenting on reducing children's high-risk behaviors are consistent with our study. But regarding the lack of impact of mindful parenting on children's attention, it is against the findings of our study. In our study, it was found that mindful parenting has an effect on children's attention, and it had a small and insignificant effect on their thinking, which may be due to the difference in sample size.

Previous research has shown that stress causes parents to overreact to the negative behaviors of children with ADHD, thereby exacerbating the clinical symptoms of this disorder. They may selectively pay attention to their negative and positive behaviors (34). Accordingly, they may act in a punitive and impulsive manner that may directly increase children's negative behaviors. This type of parenting process can increasingly perpetuate negative transactional interactions and children's behavioral problems (34).

In our study, the parents reported improvements in attention and ADHD symptoms in their children. This effect may be related to the reduction of parental stress, which is reflected in the reduction of ADHD symptoms. Low levels of parental stress lead to relaxation, reduced parent-child challenge, and a receptive parenting stance. As a result, parents might

underestimate and simultaneously affect their children's ADHD symptoms and behavior problems. In fact, the parents in the present study reported a reduction in their children's problematic characteristics and ADHD symptoms. This is consistent with the findings of another study that indicated the effectiveness of conscious parents in reducing behavioral problems and attention performance of children (35).

Moreover, we found that mindful parenting-based telepsychology had the most impact on social problems, attention problems, rule-breaking behavior, and aggressive behavior of children with ADHD which showed that mindful parenting-based telepsychology can influence all aspects of ADHD. Similarly, different studies had the same results. A study performed by Singh et al. showed that mindful parenting increases social behavior and decreases aggression in children with developmental disabilities (36). In another study performed by the same author, it was demonstrated that mindful parenting decreases self-injury, noncompliance, and aggression in children with autism (37). However, the samples of these studies differ from ours, but all studies revealed that mindful parenting affects behavior problems especially aggression and social problems.

#### **4-1. Limitations of the study**

Our study had some limitations. First, we did not evaluate the reliability and validity of CBCL in our study. Second, we did not evaluate the state of infection, symptoms before COVID-19 outbreak, and symptoms related to the level of immunity and antibody.

#### **5- CONCLUSIONS**

Our results revealed that mindful parenting-based telepsychology significantly improves symptoms in children with ADHD from the parents' point of view. So, it can be concluded that this type of training is necessary for

parents; it can improve their quality of life in the future, through improving their relationship with their children. However, further studies with larger sample sizes and more variables including stress, economical status, and father-related variables are required.

## 6- ETHICAL CONSIDERATIONS

The study received ethics approval from the Ethics Committee of Kashan University of Medical Sciences (IR.KAUMS.MEDNT.REC.1401.157); and all participants gave written informed consent. Moreover, it has been registered in IRCT with the code of IRCT20210712051858N1.

## 7- ACKNOWLEDGMENTS

This study was financially supported by Kashan Medical Sciences University, Isfahan, Iran. We gratefully acknowledge the dedicated efforts of the investigators, the coordinators, and the volunteers who participated in this study.

## 8- CONFLICTS OF INTEREST

None.

## 9- REFERENCES

1. Qian X, Ren R, Wang Y, Guo Y, Fang J, Wu ZD, Liu PL, Han TR; Members of Steering Committee, Society of Global Health, Chinese Preventive Medicine Association. Members of Steering Committee, Society of Global Health, Chinese Preventive Medicine Association. Fighting against the common enemy of COVID-19: a practice of building a community with a shared future for mankind. *Infect Dis Poverty* 2020; 9(02):8–13.
2. Soltani-Zangbar MS, Hajivalili M, Daneshdoost D, Ghadir S, Savari G, Zolfaghari M, Aghebati-Maleki L, Oloufi S, Nouri N, Amini N, Mehdizadeh A, Ghasemi Moghadam H, Mahmoodpoor A, Ahmadian Heris J, Yousefi M. SARS-CoV2 infection induce miR-155

expression and skewed Th17/Treg balance by changing SOCS1 level: A clinical study. *Cytokine*. 2023 Sep; 169:156248. doi: 10.1016/j.cyto.2023.156248. Epub 2023 Jun 8. PMID: 37307689; PMCID: PMC10247889.

3. Mahmoodnia L, Asgari Savadjani S, Mostafavi L, Sotoudehnia Korani S, Mohammad Alizadeh F, Chenarani Moghadam MS, Jahantigh HR, Neshat S, Shirbacheh A, Baharani J, Masomi R, Golestani Hotkani Z. IgA vasculitis nephritis (Schönlein-Henoch purpura with nephritis) following COVID-19 vaccination. *J Nephropathol*. 2023; 12 (2):e21447. DOI: 10.34172/jnp.2023.21447.

4. Masjedi Esfahani, M., Talari, H., Azadbakht, J., Heidari, M. M., Salehi, M., Soltani, B., Nazemi, S., Ghasemi Adl, M., Tabatabaei, S. M. H. A Comparative Evaluation of the Clinical Course, Laboratory Data and Chest CT scan Findings in Pediatric Patients with Covid-19 and Their Prognostic Value in Disease Outcome Estimation. *International Journal of Pediatrics*, 2023; 11(10): 18327-18339. doi: 10.22038/ijp.2023.74419.5366.

5. Nonweiler J, Rattray F, Baulcomb J, Happé F, Absoud M. Prevalence and associated factors of emotional and behavioral difficulties during COVID-19 pandemic in children with neurodevelopmental disorders. *Children*. (2020) 7:128. doi: 10.3390/children7090128.

6. Waite P, Pearcey S, Shum A, Jasmine R, Patalay P, Creswell C. How did the mental health symptoms of children and adolescents change over early lockdown during the COVID-19 pandemic in the UK? *J Child Psychol Psychiatry*. (2021) 1:e12009. doi: 10.1111/jcv2.12009.

7. Global Prevalence of Depressive and Anxiety Symptoms in Children and Adolescents during COVID-19: A Meta-analysis | *Adolescent Medicine | JAMA*

- Pediatrics | JAMA Network. Available online at: <https://jamanetwork.com/ezpum.biu-montpellier.fr/journals/jamapediatrics/fullarticle/2782796> (accessed September 29, 2021).
8. Bignardi G, Dalmaijer ES, Anwyl-Irvine AL, Smith TA, Siugzdaite R, Uh S, Uh S, Astle DE. Longitudinal increases in childhood depression symptoms during the COVID-19 lockdown. *Arch Dis Child*. (2020) 106:791–7. doi: 10.31219/osf.io/v7f3q.
  9. Ford T, John A, Gunnell D. Mental health of children and young people during pandemic. *BMJ*. (2021) 372:n614. doi: 10.1136/bmj.n614.
  10. Purper-Ouakil D, Wohl M, Michel G, Mouren MC, Gorwood P. (Symptom variations in ADHD: importance of context, development and comorbidity). *Encephale*. (2004) 30:533–9. doi: 10.1016/S0013-7006(04)95467-X.
  11. Purper-Ouakil D, Kerbage H. Enfants et al. Adolescents au Cours De la Crise Sanitaire. *La Presse Médicale Formation*. (2021) 2:259–66. doi: 10.1016/j.lpmfor.2021.06.012.
  12. Caye A, Swanson JM, Coghill D, Rohde LA. Treatment strategies for ADHD: an evidence-based guide to select optimal treatment. *Molecular psychiatry*. 2019; 24(3):390-408.
  13. Rowland AS, Skipper BJ, Rabiner DL, Qeadan F, Campbell RA, Naftel AJ, Umbach DM. Attention-Deficit/Hyperactivity Disorder (ADHD): Interaction between socioeconomic status and parental history of ADHD determines prevalence. *Journal of Child Psychology and Psychiatry*. 2018; 59(3):213-22.
  14. Bögels S, Restifo K. Mindful parenting: A guide for mental health practitioners: Springer; 2013.
  15. Torvik FA, Eilertsen EM, McAdams TA, Gustavson K, Zachrisson HD, Brandlistuen R, Gjerde LC, Havdahl A, Stoltenberg C, Ask H, Ystrom E. Mechanisms linking parental educational attainment with child ADHD, depression, and academic problems: a study of extended families in The Norwegian Mother, Father and Child Cohort Study. *Journal of Child Psychology and Psychiatry*. 2020; 61(9):1009-18.
  16. Bernocchi P, Bonometti F, Serlini M, Assoni G, Zanardini M, Pasotti E, Guerrini S, Scalvini S. Telehealth and Telecare: A Real-Life Integrated Experience in the COVID-19 Pandemic. *Telemedicine and e-Health*. 2021.
  17. Spencer T, Noyes E, Biederman J. Telemedicine in the Management of ADHD: Literature Review of Telemedicine in ADHD. *Journal of attention disorders*. 2020; 24(1):3-9.
  18. Fogler JM, Normand S, O’Dea N, Mautone JA, Featherston M, Power TJ, Nissley-Tsiopinis J. Implementing group parent training in telepsychology: Lessons learned during the COVID-19 pandemic. *Journal of pediatric psychology*. 2020; 45(9):983-9.
  19. Behbahani M, Zargar F, Assarian F, Akbari H. Effects of mindful parenting training on clinical symptoms in children with attention deficit hyperactivity disorder and parenting stress: Randomized controlled trial. *Iranian journal of medical sciences*. 2018; 43(6):596.
  20. Achenbach T, Edelbrock C. The child behavior checklist manual. Burlington, VT: The University of Vermont; 1991.
  21. Achenbach TM. The classification of children's psychiatric symptoms: a factor-analytic study. *Psychol Monogr*. 1966; 80(7):1–37. doi: 10.1037/h0093906.
  22. Minaei a. Adaptation and standardization of child behavior checklist, youth self-report, and teacher's report

- forms. *Journal of exceptional children* (research on exceptional children). 2006; 6(1 (19)).
23. Sadock BJ, Ruiz P. *Synopsis of psychiatry behavioral sciences clinical psychiatry*. 11th ed. Alphen aan den Rijn: Wolters Kluwer; 2013. pp. 443–61.
24. Heath CL, Curtis DF, Fan W, McPherson R. The association between parenting stress, parenting self-efficacy, and the clinical significance of child ADHD symptom change following behavior therapy. *Child Psychiatry Hum Dev*. 2015; 46:118–29. doi: 10.1007/s10578-014-0458-2.
25. Theule J, Wiener J, Tannock R, Jenkins JM. Parenting stress in families of children with ADHD: A meta-analysis. *J Emot Behav Disord*. 2013; 21:3–17. doi: 10.1177/1063426610387433.
26. Townshend K. Conceptualizing the key processes of Mindful Parenting and its application to youth mental health. *Australas Psychiatry*. 2016; 24:575–7. doi: 10.1177/1039856216654392.
27. Duncan LG, Coatsworth JD, Gayles JG, Geier MH, Greenberg MT. Can mindful parenting be observed? Relations between observational ratings of mother-youth interactions and mothers' self-report of mindful parenting. *J Fam Psychol*. 2015; 29:276–82. doi: 10.1037/a0038857.
28. van der Oord S, Bogels SM, Peijnenburg D. The Effectiveness of Mindfulness Training for Children with ADHD and Mindful Parenting for their Parents. *J Child Fam Stud*. 2012; 21:139–47. doi: 10.1007/s10826-011-9457-0.
29. Lo HH, Wong SY, Wong JY, Wong SW, Yeung JW. The effect of a family-based mindfulness intervention on children with attention deficit and hyperactivity symptoms and their parents: design and rationale for a randomized, controlled clinical trial (Study protocol) *BMC Psychiatry*. 2016; 16:65. doi: 10.1186/s12888-016-0773-1.
30. Duncan LG, Coatsworth JD, Greenberg MT. A model of mindful parenting: implications for parent-child relationships and prevention research. *Clin Child Fam Psychol Rev*. 2009; 12:255–70. doi: 10.1007/s10567-009-0046-3.
31. Bogels SM, Lehtonen A, Restifo K. Mindful Parenting in Mental Health Care. *Mindfulness* (N Y) 2010; 1:107–20. doi: 10.1007/s12671-010-0014-5.
32. Zargar F, Bagherian R, Sararoudi. Mindful Parenting: The Role of Third Wave Behavior Therapies in Parenting. *Journal of Research in Behavioural Sciences*. 2016; 13(4):587-94.
33. Fazli n, Sajjadian i. The Effectiveness of Mindful Parenting Education on Child Behavior's Problems and Parenting Stress among Mothers with Attention-deficit Hyperactivity Disorder. *Knowledge & Research in Applied Psychology*. 2016; 17(3 (65)):-.
34. Pakdaman SN. Susan Bögels and Kathleen Restifo: Mindful Parenting: A Guide for Mental Health Practitioners. Springer, New York, 2014, 328 pp. *Mindfulness* 2014; 5:467–70. doi: 10.1007/s12671-013-0256-0.
35. van der Oord S, Bogels SM, Peijnenburg D. The Effectiveness of Mindfulness Training for Children with ADHD and Mindful Parenting for their Parents. *J Child Fam Stud*. 2012; 21:139–47. doi: 10.1007/s10826-011-9457-0.
36. Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, J., Curtis, J. W., Wahler, R. G., McAleavey K.M. (2007). Mindful parenting decreases aggression and increases social behavior in children with developmental disabilities. *Behavior Modification*, 31, 749– 771.
37. Singh, N. N., Lancioni, G. E., Winton, A. S. W., Fisher, B. C., Wahler, R. G.,

McAleavey, K., et al. (2006b). Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. *Journal of Emotional and Behavioral Disorders*, 14, 169–177.