



The Evaluation of Parenting Styles of Children with Attention Deficit/ Hyperactivity Disorder

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Parenting has an important role in improving the performance of children with ADHD and in their families, this study will create awareness about parenting styles among parents addressing differences in parenting styles and improving the quality of child mental health.

Objective: This study was intended to evaluate the different parenting styles of parents having children with ADHD and healthy children. It also aimed to find out any relationship between the socio-demographic variables of children and parents with the parenting style of the diseased child.

Methodology: This was a case-control study. The study was conducted in the Department of Psychiatry, Sylhet MAG Osmani Medical College, Sylhet during the period from September 2020 to August 2022. ADHD was diagnosed using DSM-5 and confirmed by a consultant psychiatrist. A total of 60 parents of children (ADHD=30, Healthy=30) were interviewed who fulfilled the enrollment criteria. Semi-structured questionnaire for socio-demographic variables and a Bangla Parenting Style and Dimension Questionnaire (PSDQ) were used for assessing parenting style. The data analysis was conducted utilizing the one-way analysis of variance (ANOVA) method, followed by post-hoc comparisons using the Bonferroni correction.

Results: The predominant parenting style found to be applied to children with ADHD was authoritative (56.67%), followed by 26.67% authoritarian parenting and 16.33% permissive parenting style. Among the parents of healthy children, 53.33% were authoritative, 23.33% were authoritarian and permissive. There was a statistically significant association of parenting styles with education level and occupation. ADHD children's parents who studied up to the primary level had a significantly higher authoritarian score and (authoritarian $p = 0.005$) and the normal children's parents who studied up to the secondary level had a significantly higher authoritarian score (authoritarian $p = 0.007$). A significant association was found in the authoritarian domain in parents who were housewives ($p = 0.032$). Individuals within 6-9 years age range exhibit significantly higher scores in the authoritative domain ($p=.001$). Both boys and girls groups exhibit a considerably higher score in the authoritative domain ($p=.003$, $p=.001$).

Conclusion: The fact that parenting styles influence ADHD may appear to be a burden, but it can also be an opportunity to change one's life. Solutions like parent training programs can provide skills and strategies as well as help build resilience in parents to manage the challenging behavior of children with ADHD.

Keywords: ADHD; healthy children; parenting styles.

1. INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is a prevalent child psychiatric condition, ranking second in terms of frequency and being widely recognized [1]. The disease under consideration is characterized by a constant pattern of attention deficit, hyperactive, and impulsive conduct, with a greater severity observed in younger children and those at similar developmental stages [2]. Children diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD) commonly exhibit a range of disruptive behaviors. This disease is additionally linked to issues such as obstinacy, noncompliance with parental authority, behavioral challenges, and cognitive impairments in children. In addition, ADHD not only affects the child alone but can affect their closest social contexts and their family context mostly [3].

According to a survey report in 2009, ADHD prevalence in Bangladesh is 1% [4]. A meta-analysis in India found the prevalence of ADHD

among children and adolescents to be 7.1% [5]. Despite being one of the most studied psychiatric disorders, the exact cause of ADHD is still unknown [6]. Genetic factors play an important role in that ADHD tends to run in families and has a heritability rate of 74% [7].

In a meta-analysis, it has been reported that behavioral parenting therapy is an effective intervention to improve children's behavior, parenting behavior, and parental perception of children with ADHD [8]. Previous studies found that maladaptive parenting styles can exacerbate both children's ADHD symptoms and their psychological adjustment [9]. In contrast, it is frequently noted that families of children with ADHD often experience poor familial circumstances and employ parenting approaches that are less than optimal [3].

Baumrind introduces the parenting style as parents controlling performance, divided into

three styles authoritative, authoritarian, and permissive [10]. The author established the classification of these parenting styles by considering two fundamental factors: demandingness and responsiveness [11]. The concept of responsiveness refers to the level of interest and engagement exhibited by parents towards their children's activities, as well as their deliberate efforts to promote individuality by providing support for their emotional needs [10]. On the other hand, parental control/demandingness refers to the parental action for the socialization of the child, shaping of the child's activity, and modification of their behavior. Baumrind's model of parenting is directly related to child behavior [12], social competence, school performance [13], and emotional adjustment [14] in children and adolescents.

According to Baumrind (1991), the authoritative parenting style involves parents exerting appropriate control over their children while simultaneously respecting their individuality and fostering the development of societal values. Additionally, parents who adopt this style maintain a high level of emotional closeness with their children. The authoritarian parenting style is characterized by parents placing a strong emphasis on exerting control over their children and prioritizing obedience to their directives [10]. This approach involves the utilization of direct punishment tactics [15]. The permissive parenting style is characterized by a low level of parental control, wherein parents indulge their children [10]. Parents tend to set low expectations for their children and employ lenient boundaries when it comes to regulating their children's conduct [15].

This has led to an interest in exploring the relationships and interactions between families and children living with ADHD. Additionally, parenting has an important role in improving the performance of children with ADHD and in their families, this study will create awareness about parenting styles among parents addressing differences in parenting styles and improving the quality of child mental health.

2. MATERIALS AND METHODS

This case-control study was conducted in two groups, parents of children with ADHD (n = 30) and parents of healthy children (n = 30). The study was implemented in the Department of Psychiatry, Sylhet MAG Osmani Medical College

Hospital, from 1st September 2020 to 31st August 2022. Patient and control groups in terms of age and gender were not significantly different. The exclusion criteria were parents with major psychiatric disorders and children with other psychiatric and medical co-morbidity.

The parents of the child were requested to participate in a survey, which included a pre-designed semi-structured questionnaire to gather socio-demographic and pertinent information. Additionally, they were asked to complete the Bangla Parenting Style and Dimension Questionnaire (PSDQ). The PSDQ Bangla is a self-report questionnaire that is completed by parents. It consists of 35 items that are categorized into three domains. Specifically, there are 20 items in the authoritative domain, 9 items in the authoritarian domain, and 6 items in the permissive domain.

2.1 Authoritative Parenting

Authoritative parents endeavor to guide their child's actions in a logical and problem-focused manner. The authors of the study promote the use of verbal communication and emphasize the importance of explaining the rationale for their approach to the youngster [11]. The expectations of individuals are closely linked to the competence of their offspring [16].

2.2 Authoritarian Parenting

Authoritarian parents attempt to shape, control, and evaluate a child's behavior and attitudes of the child following a set of standards of conduct, usually an absolute standard formulated by a higher authority. They value obedience as a virtue and favor punitive, forceful measures to cut down self-will at points where the child's actions and beliefs conflict with what they think is right conduct" [11]. Those parents do not give support and courage and believe that what they say should be accepted by the child as the truth. Although these parents have shortcomings in childcare, they have the attitudes of the highest level of parental control [16].

2.3 Permissive Parenting

Permissive parenting is characterized by a parental approach that aims to be non-punitive, accepting, and affirming towards a child's inclinations, wishes, and activities. They exhibit a limited number of expectations around household obligations and the maintenance of orderly

conduct. Parents facilitate the child's self-regulation to the greatest extent feasible, refrain from exerting excessive control, and discourage adherence to externally imposed norms [11]. While those parents have higher capabilities related to childcare, they have lower competencies to control their children's behaviour [16].

The parents were assessed and assigned a numerical value representing their performance on each of the three characteristics of parenting. The scores for each parenting style were derived by computing the mean of the items, with higher scores indicating a greater level of endorsement for that particular parenting style. The Cronbach's alpha coefficient for the PSDQ Bangla was determined to be 0.84, indicating a satisfactory level of internal consistency. The Cronbach's alpha coefficient for the authoritative domain was found to be 0.95, whereas the authoritarian domain had a coefficient of 0.88, and the permissive domain had a coefficient of 0.78.

All data were recorded systematically in a tabulation sheet. The data underwent manual processing, and statistical analysis was conducted using SPSS (Statistical Package for Social Science) version 25 for Windows. The quantitative data were summarized using measures of central tendency, specifically the mean, and measures of dispersion, specifically the standard deviation. The qualitative data were summarized using frequency and percentage measures. One-way ANOVA test was used to compare the mean and post-hoc comparison was done with Bonferroni adjustment. A p-value of < 0.05 was considered statistically significant.

3. RESULTS

This was a case-control study conducted in the Department of Psychiatry, Sylhet MAG Osmani Medical College Hospital, Sylhet with a view to finding out different parenting styles among 30 children with ADHD and 30 healthy children. Among the parents of ADHD children, 56.67% of the parents were predominantly authoritative, 26.67% were predominantly authoritarian, and 16.67% were predominantly permissive parents as per the responses. Among the parents of healthy children, 53.33% were authoritative, 23.33% were authoritarian and permissive. Despite having a predominance of a particular parenting style, each parent practices two types

of parenting styles in them, but in a minor portion (Fig. 1).

In this study, the parents of children with ADHD ranged in age from 24 to 53, while the parents of children in good health ranged in age from 26 to 45. There was no discernible statistical correlation between age and parenting style (Table 1).

In this study, among the parents of ADHD children, 20% were fathers, and the rest 80% were mothers. Among the parents of healthy children, 33.3% were fathers and 66.7% were mothers. There was no significant relation was found (Table 2).

Here Table 3 shows that the ADHD children's parents who studied up to the primary level had a significantly higher authoritarian score and (authoritarian $p = 0.005$) and the normal children's parents who studied up to the secondary level had a significantly higher authoritarian score (authoritarian $p = 0.007$).

Table 4 demonstrates an association of parenting style with the occupation of participants. Most of the participants were housewives 56.7% and 20% were service holders who had ADHD children. There was no significant association in this group. Of the parents who had healthy children, 53.3% were housewives and 13.3% were service holders. A significant association was found in the authoritarian domain in parents who were housewives ($p = 0.032$).

Table 5 shows that most of the (73.3%) participant's monthly family income was >20000 taka. 23.3% family's income was between 10000-20000 taka who had ADHD children. The parents of healthy children, the most (66.7%) family's income was >20000 taka. No association was noted between parenting styles with income.

Table 6 demonstrates an association between parenting style and family history of psychiatric illness among parents of ADHD children and healthy children. In 36.7% of cases, a history of psychiatric illness ran in the family of the respondent and 63.3% of parents had no history of family psychiatric history in ADHD children. In the case of healthy children, 10% had a history of psychiatric illness and the rest (90%) did not. Here, those having a family history of psychiatric illness had no significant difference in comparison to the other group.

The data shown in Table 7 illustrates the correlation between parenting style and the age of children diagnosed with ADHD, as well as those who are considered healthy. Approximately 67% of children diagnosed with ADHD and 83.33% of typically developing children aged 6-9 years were included in the study. The results indicate that individuals within this particular age range exhibit significantly higher scores in the authoritative domain ($p=.001$).

Table 8 presents the correlation between parenting style and the gender of the children. A majority of children diagnosed with ADHD (60%) and a significant proportion of typically developing youngsters (67%) were male. The results indicate that both groups exhibit a considerably higher score in the authoritative domain ($p=.003$, $p=.001$).

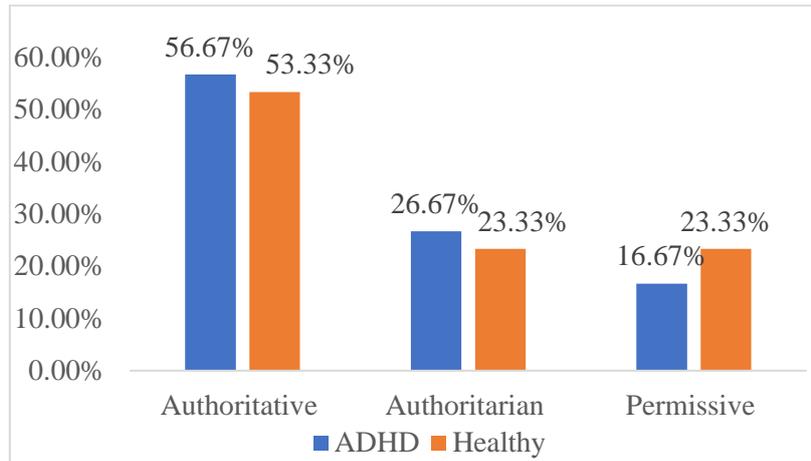


Fig. 1. Distribution of predominant parenting style among participants (n=60)

Table 1. Association between parenting style and age (n=60)

Characteristics	Total Frequency (%)	Authoritative Mean \pm SD	Authoritarian Mean \pm SD	Permissive Mean \pm SD
ADHD				
24 – 33	16 (53.3%)	3.67 \pm 0.69	3.01 \pm 0.76	2.81 \pm 0.43
34 – 43	11 (36.7%)	3.70 \pm 0.59	3.13 \pm 1.39	3.59 \pm 2.58
44 – 53	3 (10.0%)	3.85 \pm 0.82	3.0 \pm 0.29	3.11 \pm 0.82
p-value		0.912	0.953	0.484
Healthy				
26-35	17 (56.7%)	3.54 \pm 0.69	2.87 \pm 0.68	3.18 \pm 0.43
36-45	13 (43.3%)	3.7 \pm 0.55	2.61 \pm 0.45	3.21 \pm 0.49
p-value		0.446	0.247	0.854

Table 2. Association between parenting style and gender of parents (n=60)

Characteristics	Total Frequency (%)	Authoritative Mean \pm SD	Authoritarian Mean \pm SD	Permissive Mean \pm SD
ADHD				
Father	6 (20%)	3.48 \pm 0.61	2.85 \pm 0.38	2.56 \pm 0.63
Mother	24 (80%)	3.75 \pm 0.65	3.11 \pm 1.09	3.27 \pm 1.75
p-value		0.358	0.582	0.339
Healthy				
Father	10 (33.3%)	3.52 \pm 0.56	2.87 \pm 0.59	3.1 \pm 0.52
Mother	20 (66.7%)	3.66 \pm 0.67	2.70 \pm 0.61	3.25 \pm 0.41
p-value		0.571	0.47	0.403

Table 3. Association between parenting style and education level (n=60)

Characteristics	Total Frequency (%)	Authoritative Mean ±SD	Authoritarian Mean ±SD	Permissive Mean ±SD
ADHD				
Primary	6 (20%)	3.37±0.79	4.07±1.51	3.06±0.58
Secondary	13 (43%)	3.70±0.67	3.03±0.59	3.64±2.33
Graduate	11 (37%)	3.88±0.50	2.53±0.59	2.56±0.35
p-value		0.309	0.005*	0.267
Healthy				
Primary	5 (16.7%)	3.31±0.88	2.95±0.42	3.2±0.54
Secondary	15 (50%)	3.57±0.64	3.00±0.62	3.31±0.44
Graduate	10 (33.3%)	3.8±0.44	2.30±0.34	3.03±0.40
p-value		0.281	0.007*	0.336

Table 4. Association between parenting style and occupation (n=60)

Characteristics	Total Frequency (%)	Authoritative Mean ±SD	Authoritarian Mean ±SD	Permissive Mean ±SD
ADHD				
Service	6 (20.0%)	3.86±0.60	2.56 ±.49	2.56±0.25
Business	1 (3.30%)	4.20±0.00	1.78±0.00	2.83±0.00
Housewife	17 (56.7%)	3.65±0.64	3.42±1.12	3.49±2.05
Others	6 (20%)	3.59±0.80	3.06±.99	2.72±0.72
p-value		0.764	0.100	0.588
Healthy				
Service	4 (13.3%)	3.57±0.63	2.55±0.52	3±0.13
Business	3 (10%)	4.11±0.17	2.07±0.27	3.33±0.16
Housewife	16 (53.3%)	3.52±0.64	3.02±0.61	3.14±0.58
Others	7 (23.3%)	3.64±0.74	2.57±0.36	3.25±0.48
p-value		0.554	0.032*	0.74

Table 5. Association between parenting style and Income (n=60)

Characteristics	Total Frequency (%)	Authoritative Mean ±SD	Authoritarian Mean ±SD	Permissive Mean ±SD
ADHD				
<10000	1 (3.3%)	3.15±0.00	4.22 ±0.00	2.83±0.00
10000-20000	7 (23.3%)	3.32±0.78	3.60±1.55	3.02±0.57
>20000	22 (73.3%)	3.84±0.57	2.83±0.67	3.17±1.86
p-value		0.124	0.092	0.963
Healthy				
<10000	2 (6.7%)	3.62±0.67	3.05±1.1	3.08±0.11
10000-20000	8 (26.7%)	3.33±0.76	2.73±0.47	3.14±0.43
>20000	20 (66.7%)	3.7±0.57	2.74±0.62	3.23±0.49
p-value		0.326	0.788	0.847

Table 6. Association between parenting style and family history of psychiatric illness (n=60)

Characteristics	Total Frequency (%)	Authoritative Mean ±SD	Authoritarian Mean ±SD	Permissive Mean ±SD
ADHD				
Present	11 (36.70%)	3.66±0.75	3.36 ±1.31	3.85±2.50
Absent	19 (63.30%)	3.72±0.60	2.88±0.73	2.71±0.44
p-value		0.836	0.200	0.061
Healthy				

Characteristics	Total	Authoritative	Authoritarian	Permissive
	Frequency (%)	Mean ±SD	Mean ±SD	Mean ±SD
Present	3 (10%)	3.58±0.73	2.90±0.048	3.33±0.55
Absent	27 (90%)	3.6±0.61	2.71±0.64	3.15±0.41
p-value		0.869	0.453	0.34

Table 7. Association between parenting style and age of the children (n=60)

Characteristics	Total	Authoritative	Authoritarian	Permissive
	Frequency (%)	Mean ±SD	Mean ±SD	Mean ±SD
ADHD				
6-9	20 (67%)	3.96 ±0.50	3.16 ±1.13	3.21±1.94
9-12	10 (33%)	3.18 ±0.60	2.86 ±0.64	2.97 ±0.59
p-value		0.001*	0.443	0.705
Healthy				
6-9	25 (83.33%)	3.44±0.59	2.77±0.58	3.08±0.33
9-12	5 (16.67%)	3.6±0.45	2.51±0.35	3.11±0.39
p-value		0.346	0.147	0.754

Table 8. Association between parenting style and gender of the children (n=60)

Characteristics	Total	Authoritative	Authoritarian	Permissive
	Frequency (%)	Mean ±SD	Mean ±SD	Mean ±SD
ADHD				
Boy	18 (60%)	3.90 ±0.50	3.21 ±1.18	3.31±2.09
Girl	12 (40%)	3.39 ±0.74	2.82±0.58	2.87 ±0.59
p-value		0.003*	0.304	0.468
Healthy				
Boy	20 (67%)	3.96 ±0.50	3.16 ±1.13	3.21±1.94
Girl	10 (33%)	3.18 ±0.60	2.86 ±0.64	2.97 ±0.59
p-value		0.001*	0.443	0.705

4. DISCUSSION

The findings of the current study indicate that authoritative parenting was the most commonly observed parenting style among parents of children with ADHD, with a prevalence rate of 56.67%. This was followed by the authoritarian parenting style, which was observed in 26.67% of the participants. Conversely, the permissive parenting style was the least expressed, with a prevalence rate of 16.67%. In a study conducted by Kaunang et al. (2016), it was observed that the parenting style most commonly employed by parents of children with ADHD was the democratic (authoritative) approach, accounting for 95.24% of cases. This was followed by the permissive style at 3.34% and the authoritarian style at 1.42% [17]. According to Moghaddam et al. (2013), it was discovered that parents of children diagnosed with ADHD in Iran exhibit the highest average score in the authoritative domain of parenting, as measured by the PSDQ scale [18].

The study revealed that ADHD children's parents who studied up to the primary level had a

significantly higher authoritarian score (authoritarian $p = 0.005$) and the normal children's parents who studied up to the secondary level had a significantly higher authoritarian score (authoritarian $p = 0.007$) whereas El-Deen et al. (2021) found a significant association between ADHD children with higher education of parents and positive parenting [22]. Parents with higher education may be better able to manage their children's behavior by better understanding the nature of ADHD.

In addition, Arafat and Shah (2022) found the predominant parenting style in Bangladesh among 6-16-year-old children was authoritative parenting (85%) [19]. So, the present study among ADHD children may also reflect the parent's ideology about parenting style in general with some deviation due to symptom presentation of the disease. Whereas, when the perception of children regarding parenting style was interviewed by Bhuiyan et al. (2020), in Dhaka among normal adolescent people found the majority, 40.0% of parents followed permissive style, 25.8% authoritative and 25.3%

followed authoritarian parenting based on Perceived Parenting Style Scale [20]. Contrary to our current finding, Karbalaei et al. (2016), in their analysis showed parents with ADHD applied the Authoritarian parenting style significantly more than normal parents [21].

The current study showed a significant association between parents with education and authoritarian parenting style. Authoritarian parenting styles were mostly applied by parents of ADHD children with education ($p= 0.005$) and healthy children with education found significant $p=0.007$, whereas El-Deen et al. (2021) found a significant association between ADHD children with higher education of parents. In the present study, it was found that most of the participants were housewives 56.7% and 20% were service holders who had ADHD children. There was no significant association in this group. Of the parents who had healthy children, 53.3% were housewives and 13.3% were service holders. A significant association was found in the authoritarian domain in parents who were housewives ($p = 0.032$) in the healthy group and not significant ($p=0.10$) in the ADHD group. According to the study conducted by El-Deen et al. (2021), a minority of dads (27.1%) held professional occupations, while a majority of mothers (64.6%) were engaged in domestic duties as housewives. Additionally, a significant proportion of the families (45.8%) belonged to the middle social class [22]. The results of this study contradicted the findings of Malek and Amiri (2012), who regarded maternal employment as a predictor variable for ADHD [23]. In a study conducted by Al-Hamed et al. (2008), it was determined that there was no significant correlation between the occupation of fathers and the occurrence of Attention Deficit Hyperactivity Disorder (ADHD) in their children. Furthermore, the present study's results do not yield statistically significant evidence concerning the association income status with parenting style. This finding contradicts the findings of El-Deen et al.'s (2021) study, which demonstrated a positive relationship between ADHD children with fathers and mothers engaged in professional employment and positive parenting practices [22].

The present investigation revealed that 36.67% of the participants in the ADHD group reported having a familial background of psychiatric disorders. This finding is consistent with the research conducted by Dahab et al. (2019), where a majority of the individuals examined

(80%) had a family history of psychiatric issues [24]. The prevalence of Attention-Deficit/Hyperactivity Disorder (ADHD) among second-degree relatives of children diagnosed with ADHD was found to be approximately 21% in an exploratory study (Faraone et al., 1994). As in this study, psychiatric illnesses of parents were excluded. It is well known that a significant portion of ADHD parents have ADHD in their offspring due to genetic heritability. Because the parents of ADHD children with psychiatric illness were already excluded from the study, the total burden of family psychiatric illness for ADHD children is also brought down to a lower percentage. In another study, there were no such exclusion criteria [25].

Approximately 67% of children diagnosed with ADHD and 83.33% of typically developing children aged 6-9 years were included in the study. The results indicate that individuals within this particular age range exhibit significantly higher scores in the authoritative domain ($p=.001$). This finding aligns with the findings of Dahab et al. (2019), who observed that a majority of the groups examined fell between the age range of 6 to 9 years old (61%) [26]. A majority of children diagnosed with ADHD (60%) and a significant proportion of typically developing youngsters (67%) were male. The results indicate that both groups exhibit a considerably higher score in the authoritative domain ($p=.003$, $p=.001$). This finding aligns with the research conducted by Skogli et al. (2022), which indicated that males have a higher prevalence of attention deficit hyperactivity disorder compared to males in clinical populations [27].

The main strength of this study was that it is the first study in Bangladesh as per the researcher's knowledge in this arena. It has provided an in-depth view of the existing practice of predominant parenting style that parents apply to their children living with ADHD and some significant relationship of parenting style with the socio-demographic variable of both child and parent.

5. CONCLUSION

While biology drives ADHD, parenting choices profoundly influence the symptoms. The results of this case-control study suggest that children who were diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD) were mostly exposed to an authoritative parenting

style, whereas authoritarian and permissive parenting styles were shown to be less common. Parents around the world may be advised to behave authoritatively, but in some cultural contexts, authoritarian and permissive parenting is to some extent acceptable. Skillful parenting often comes from recognizing the current parenting style. Alongside medication, parenting strategy can be the missing component of a holistic approach to managing children with ADHD. Thus, optimizing parent-child interaction may benefit both the parent and the child. Certain interventions like parent training programs should be promoted on a large scale to boost parents' sustained and reasonable behavior towards their children and alleviate impairment in children with ADHD in the long run.

CONSENT

As per international standards or university standards, patient(s) written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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