

The Impact Of Parental Style On Quality Of Life In Children With Attention Deficit Hyperactive Disorder

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Abstract

Background: Attention deficit- hyperactive disorder (ADHD) is one of the most common neurodevelopmental and psychiatric disorders of childhood. Quality of life (QOL) is a multidimensional measure of the overall condition of a human life, both physical and psychosocial. Parenting styles describe the behavior of the parent towards the child and may be classified in many different ways.

Objective: To correlate the role of parenting style in the quality of life in children with ADHD.

Methodology: This cross- sectional was conducted on fifty children who were diagnosed ADHD according to the diagnostic and statistical fifth edition criteria. Quality of life was assessed using the Pediatric quality of life 4.0 Generic Core Scale, parental style was assessed using Alabama parental questionnaire. All patients were subjected to the Stanford Binet fifth edition to assess their intelligent quotient. ADHD rating scale IV- SC and Child behavior checklist were also applied.

Results: There was statistical significance between parental style and QOL in children with ADHD. Correlation between QOL and parenting styles, total QOL score showed high significant positive correlation in positive parenting and involvement with ($p= 0.000$) and ($p= 0.001$) respectively. while it showed negative correlation with poor monitoring, inconsistent discipline and corporeal punishment parenting styles with ($P=0.006$), ($P=0.003$) and ($P=0.003$).

Conclusion: Parenting style is a significant factor in QOL in ADHD. QOL is an important treatment goal in children with ADHD, early family interventions, particularly those focusing on parenting style, should be considered.

Keywords: ADHD, Parental style, Quality of life, QOL.

تأثير نمط السلوك الأبوي على جودة نوعية الحياة لدى الأطفال المصابين باضطراب فرط الحركة ونقص الانتباه

المقدمة: اضطراب فرط الحركة ونقص الانتباه هو اضطراب عصبي نمائي يتميز بنقص في الانتباه، تشتت: اندفاعية وفرط في الحركة. هذا الاضطراب هو حالياً السبب الشائع ل إحالة الأطفال إلى الأطباء النفسيين، وهو ما يمثل حوالي (30- 50%) منها لهذا السبب، يعتبر واحداً من مشاكل الصحة العامة الأكثر خطورتها كما يسبب التعامل مع هذا الاضطراب حملاً اقتصادياً كبيراً للأطفال والعائلات، وكذلك للمجتمع. ويعاني افراد اضطراب فرط الحركة ونقص الانتباه هو ليس فقط من أعراض عدم الانتباه، وفرط النشاط، والاندفاعية، ولكن

الهدف: دراسة أسلوب الوالدين في الأطفال الذين يعانون من اضطراب نقص الانتباه فرط النشاط الحركي، وتقييم تأثير أسلوب الوالدين في نوعية الحياة في الأطفال الذين يعانون من اضطراب نقص الانتباه فرط النشاط الحركي.

نوع الدراسة: دراسة وصفية

المرضى: أجريت هذه الدراسة على خمسين طفلاً من المصابين باضطراب فرط الحركة ونقص الانتباه من الجنسين الذين يترددوا على عيادة الطب النفسي بمركز ذوى الاحتياجات الخاصة، جامعة عين شمس. لكل طفل من المشتركين في الدراسة الي: التاريخ الطبي الشامل مع التركيز على أعراض اضطراب فرط الحركة ونقص الانتباه، فحص اكلينيكي شامل، واستبيان الحالة الاجتماعية والمالية، والقياسات النفسية (مقياس فرط الحركة ونقص الانتباه ADHD Rating Scale IV- SC، مقياس مستوى الذكاء Stanford Binet fifth edition مقياس Child behavior Checklist PedsQL 4.0 Generic Core Scales مقياس نوعية الحياة Alabama Parenting Questionnaire مقياس نوعية النمط الأبوي).

النتائج: تم فحص خمسين طفلاً من المصابين بنقص الانتباه وفرط الحركة واطهرت النتائج وجود علاقة احصائية بين النمط الأبوي وجوده نوعية الحياة في الأطفال المصابين بداء فرط الحركة ونقص الانتباه.

الكلمات المفتاحية: فرط حركة/ نقص انتباه- نمط أبوي- جودة نوعية الحياة.

Introduction:

Attention deficit hyperactive disorder (ADHD) is a neuro developmental disorder defined by impairing levels of inattention, disorganization, and/or hyperactivity- impulsivity (American Psychiatric Association, DSM5, 2013).

ADHD is a common reason for the referral of children to medical and mental health professionals, representing approximately 30%- 50% thereof. For this reason, it is considered one of the most serious public health problems and it causes great economic harm to the children and families dealing with this disorder, as well as to society (Matza et.al., 2005).

ADHD individuals suffer not only from symptoms of inattention, hyperactivity, and impulsivity, but often show losses in various contexts, including motor skills, academic performance, school behavior, peer relations, and family functioning. This indicates a great loss in many parameters of quality of life (QoL), mainly due to psychosocial health, directly influencing the well- being of their subjects. Usually these difficulties persist into adulthood, damaging the daily routine and decreasing self- esteem (Goulardins et.al., 2011).

According to the World Health Organization, Quality of life is defined as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad concept incorporating the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of the environment (WHOQOL, 1995).

Parenting styles describe the behavior of the parent towards the child and may be classified in many different ways. Acceptance and rejection is one dichotomous example of parenting style in which acceptance is characterized by behaviors of warmth, support, nurturing, and affection towards the child and rejection is a style of withdrawal or the absence of love towards the child (Gallarín and Alonso- Arbiol, 2012).

The relationship between parenting practices and various dimensions of wellbeing and adolescents' psychosocial outcomes has been widely studied. There is consensus about the major influence that parental behaviors and attitudes exert on psychosocial adjustment, health and academic achievement (Braza et.al., 2015).

Aim Of The Study:

1. Assess parental style in children with attention deficit hyperactive disorder.
2. Assess the quality of life in children with attention deficit hyperactive disorder.

Subjects And Methods:

The present study is a cross- sectional study that included fifty children of both sexes who were diagnosed with ADHD, according to DSM V diagnostic criteria and recruited from the outpatient clinic of Center Of Special Needs, Institute of Postgraduate Childhood Studies, Ain Shams University during the period from February. 2016 till August, 2018.

(The Impact Of Parental Style On Quality ...)**Inclusion Criteria:**

- ✘ Age: 5- 10 years old.
- ✘ Sex: both sexes were included.
- ✘ ADHD children who lives with their parents.
- ✘ Average IQ (90- 110) children.

Exclusion Criteria:

ADHD children with any other neurodevelopmental disorder (e.g. Autism).

Ethical Aspects:

Ethical considerations according the instructions of the scientific research ethical committee in the Institute of Postgraduate Childhood Studies and Ain Shams University will be taken (IPGCS, 2014).

1. An informed written consent will be obtained from caregiver of each patient.
2. Verbal consent of each ADHD child.

Methods:

All children were be subjected to:

1. History taking: full medical and Psychiatric history sheets.
2. Full Medical Examination.
3. Psychological Assessment:
 - a. ADHD assessment using ADHD Rating Scale- IV, the Arabic version completed by the caregiver. It includes 18 items; 9 for inattention symptoms and 9 for symptoms of hyperactivity and impulsivity. It was conducted by a trained psychologist.
 - b. IQ test using Stanford Binet Intelligence Scale V5, the Arabic version (Janzen et.al., 2004).
 - c. Child Behaviour Checklist (CBCL): The CBCL is a behavior checklist for children from 4 to 18 years of age (quoted from Achenbach, 1991).
4. PedsQL 4.0 Generic Core Scales: The 23- item PedsQL 4.0 Generic Core Scales encompass
 - a. Physical functioning (eight items)
 - b. Emotional functioning (five items).
 - c. Social functioning (five items).
 - d. School functioning (five items). The mean is computed as the sum of the items divided by the number of items answered in the Emotional, Social, and School Functioning Scales (quoted from Varni, et.al., 2001).
5. Alabama Parenting Questionnaire:
 - a. Parents completed the Alabama Parenting Questionnaire. The instrument includes 42 items, each rated on a Likert scale from 1 (never) to 5 (always), conceptually relating to six domains: involvement, positive parenting, poor monitoring
 - b. Supervision, inconsistent discipline, corporal punishment, and other discipline practices. . There is both a parent form and a child form (ages 6- 18 years old) (quoted from Shelton et.al., 1996).

Results:

Total number of fifty (n=50) ADHD diagnosed children of both sexes

were enrolled in this study. Thirty seven males (74%) and 13 females (26%) with mean age 10.94± 12.26 SD and range 6- 95, while there mean IQ was 96.08± 4.68 SD and range 90- 105 as shown in table (1).

Table (1) Age, sex and IQ in our ADHD studied group

		Total No. = 50
Sex	Female	13 (26.0%)
	Male	37 (74.0%)
Age	Mean± SD	10.94± 12.26
	Range	6- 95
IQ	Mean± SD	96.08± 4.68
	Range	90- 105

Quantitative analysis of QOL scores in our study group (n= 50) is shown in table (2). It showed that mean total score of QOL is 49.86± 8.14SD, mean physical score is 69.48± 8.27 SD, mean emotion score 39.42± 10.97 SD, mean social score 14± 11.2 SD, mean school score 13± 12.82 SD and mean psychosocial score 47.23± 7.69 SD

Table (2) Table shows the mean, and range of QOL in ADHD studied group

Quality of life (QOL)		Total No. = 50
Total Score	Mean± SD	49.86± 8.14
	Range	33.5- 66.3
Physical	Mean± SD	69.48± 8.27
	Range	50- 87.5
Emotion	Mean± SD	39.42± 10.97
	Range	20- 60
Social	Mean± SD	14± 11.2
	Range	0- 35
School	Mean± SD	13± 12.82
	Range	0- 55
Psychosocial	Mean± SD	47.23± 7.69
	Range	30.5- 65.5

Sd= Standard Deviation.

As shown in table (3), positive parenting mean score 15.54± 6.43 SD in parent proxy questionnaire and 15.2± 6.49 SD in child proxy questionnaire, while involvement score mean is 22.38± 9.15 SD and 15.2± 6.49 SD in parent and child questionnaires respectively. Mean poor monitoring scale is 25.18± 6.65 SD and 21.6± 7.64 SD in parent and child questionnaires respectively, While inconsistent discipline mean score is 19.5± 6.1 SD and 23.52± 5.4 SD in parent and child questionnaires respectively. Corporeal punishment mean score is 11.22± 3.14c SD and 13.76± 1.74 SD on parent and child questionnaires respectively

Table (3) Shows the mean, and range of Alabama parenting style scores in ADHD studied group

Alabama Parenting Questionnaire		Total No. = 50
Positive Parenting		
Parent	Mean± SD	15.54± 6.43
	Range	6- 27
Child	Mean± SD	12.6± 6.29
	Range	6- 24
Involvement		
Parent	Mean± SD	22.38± 9.15
	Range	10- 37
Child	Mean± SD	15.2± 6.49
	Range	10- 33
Poor Monitor		
Parent	Mean± SD	25.18± 6.65
	Range	10- 40

Alabama Parenting Questionnaire		Total No. = 50
Child	Mean± SD	21.6± 7.64
	Range	10- 42
Inconsistent Discipline		
Parent	Mean± SD	19.5± 6.1
	Range	9- 30
Child	Mean± SD	23.52± 5.4
	Range	9- 30
Corporeal Punish		
Parent	Mean± SD	11.22± 3.14
	Range	6- 15
Child	Mean± SD	13.76± 1.74
	Range	7- 15

Sd: Standard Deviation

As regards correlation between QOL and ADHD scales, Qol total score revealed negative high significant correlation between total scores and inattentive type, hyperactive/ impulsive type and combined type (p=0.000). However it showed non significant correlation in ODD and peer relation scales. Physical scale did not reveal significant correlation in any of ADHD variants except in hyperactive/ impulsivewhere it showed negative significant correlation with (p= 0.025). Emotion scale of QOL revealed high significant negative correlation in inattentive with (p= 0.001) while it showed significant negative correlation in hyperactive/ impulsive and combined type t scores with (p= 0.016) and (p= 0.015) respectively. Social scale revealed high significant negative correlation in both inattentive and Hyperactive/ impulsive type with (p= 0.000) and (p= 0.001) respectively. It also showed significant negative correlation with combined, scales with (p= 0.012). School scale revealed high significant negative correlation in inattentive, hyperactive/ impulsive and combined (p= 0.000), (p= 0.001), (p= 0.000).

Psychosocial scale revealed high significant negative correlation in inattentive, hyperactive/ impulsive, combined with (p= 0.000) in all scales.

As regards correlation between Alabama parenting questionnaire and ADHD, significant negative correlation between positive parenting in inattentive and combined type with (p= 0.021) and (0.016) respectively as regard parent version questionnaire. However positive parenting showed high significant negative correlation in inattentive and combined types with (p= 0.004) and (p= 0.001) respectively and significant negative correlation in hyperactive/ impulsive type with (p= 0.029) as regard child version questionnaire.

Involvement scale showed highly significant negative correlation with inattentive type with (p= 0.002) and significant negative correlation in hyperactive/ impulsive and combined types with (p= 0.021) and (p= 0.019) respectively as regard parent version questionnaire. However it showed high significant negative correlation in inattentive type with (p= 0.007) and significant negative correlation in hyperactive/ impulsive type with (p= 0.012). Poor monitoring scale, it showed no significance in ADHD subgroup scales.

Inconsistent discipline scale showed high significant positive correlation in inattentive type with (p= 0.009) and significant positive

correlation in combined type with ($p= 0.021$) as regards parents version questionnaire. While it showed significant positive correlation in combined type with ($p= 0.041$) as regard child version questionnaire.

Corporeal punishment scale showed significant positive correlation in hyperactive/ impulsive, combined and peer relation scales with ($p= 0.010$), ($p= 0.019$) respectively as regards parents version questionnaire. While it showed high significant positive correlation in inattentive and hyperactive/ impulsive types with ($p= 0.007$) and ($p= 0.005$) respectively.

As regards correlation between QOL and parenting styles, total QOL score showed high significant positive correlation in positive parenting and involvement with ($p= 0.000$) and ($p= 0.001$) respectively. While it showed negative correlation with poor monitoring, inconsistent discipline and corporeal punishment parenting styles with ($p= 0.006$), ($p= 0.003$) and ($p= 0.003$). Emotion QOI score showed high significant positive correlation in positive parenting and involvement with ($p= 0.000$) and ($p= 0.006$) respectively. while it showed negative correlation with poor monitoring, inconsistent discipline and corporeal punishment parenting styles with ($p= 0.000$), ($p= 0.005$) and ($p= 0.043$). Physical scale QOL did not show any significant correlation. Social QOI score showed high significant positive correlation in positive parenting and involvement with ($p= 0.017$) and ($p= 0.032$) respectively. While it showed negative correlation with inconsistent discipline and corporeal punishment parenting styles with ($p= 0.000$) and ($p= 0.000$) respectively.

School QOI score showed high significant positive correlation in positive parenting and involvement with ($p= 0.011$) and ($p= 0.044$) respectively. While it showed negative correlation with poor monitoring, inconsistent discipline and corporeal punishment parenting styles with ($p= 0.000$), ($p= 0.008$) and ($p= 0.000$) respectively. Psychosocial Qol score showed high significant positive correlation in positive parenting and involvement with ($p= 0.001$) and ($p= 0.004$) respectively. While it showed negative correlation with inconsistent discipline and corporeal punishment parenting styles with ($p= 0.000$) and ($p= 0.003$) respectively.

Discussion:

Results of the present study showed that QOL total scores according to PedsQOL questionnaire are generally low in the study group. Also, emotion, social, school and psychosocial scores are of low values.

This agreed with Silva et.al. (2014) who compared the QoL in patients with 46 treatment naïve ADHD patients and 26 healthy control groups. Total QoL scores equaled 49.78 ± 10.73 in the ADHD group and 92.89 ± 32.97 in the healthy control group ($p < 0.001$). In all domains investigated, there was a statistically significant difference between the ADHD vs. healthy control groups, with lower QoL ratings in the ADHD group. These findings indicate that the QoL parameter has important implications regarding impairment caused by ADHD. Greater awareness about QoL and recognition of how this is affected in ADHD individuals can help to promote a change in the approach to the care of those patients, thus improving adherence and persistence of patients with their treatment (Murlany and Coghill, 2018).

However, the present study the physical score was high, this could be correlated to the fact that ADHD children do not suffer a physical disability that may interfere with their everyday life and its quality.

Silva et.al. (2014) did not study the QoL in each ADHD variant unlike our study which used the ADHD rating scale to assess the QOL in each variant such as inattentive type, hyperactive/ impulsive type, combined type, ODD and peer relation scales. QoL assessment in the current study group revealed negative high significant correlation between total scores and inattentive type, hyperactive/ impulsive type and combined type. However it showed non significant correlation in ODD and peer relation scales.

Physical scale in QoL questionnaire revealed only significant negative correlation in hyperactive/ impulsive type ($p= 0.025$), while it showed no significant correlation in other ADHD types investigated by ADHD rating scale. Emotion scale revealed high significant negative correlation in emotion and peer relation t scores, while it showed significant negative correlation in hyperactive/ impulsive and combined type t scores. It showed no significant correlation in ODD. Social scale revealed high significant negative correlation in both inattentive and Hyperactive/ impulsive type. It also showed significant negative correlation with combined, ODD and peer relation scales.

It has been widely documented that children with symptoms of ADHD are more likely to show social impairment in several areas, including peer relationships, relationships between siblings, and parent-child relationships as we postulated in our hypothesis. Studies reported that young people with ADHD tended to have fewer friends and experience intense difficulty in having a relationship with the opposite sex, leading to a poor QoL that will clearly jeopardize their future career, family, social, and academic prospects, as well as all other interfaces in the life of any individual (Martényi et.al., 2009).

School scale revealed high significant negative correlation in inattentive, hyperactive/ impulsive, combined, ODD and peer relation scale. For the evaluation of the scholar function, we can see the huge impact that this dimension has on the lives of these children and the effects it can generate in other domains. All of this is consistent with the literature, pointing to a correlation between ADHD and poor academic performance (Varni and Burwinkle, 2006).

Psychosocial scale revealed high significant negative correlation in inattentive, hyperactive/ impulsive, combined, ODD and peer relation scale.

In congruency, Marques et.al. (2013) studied forty- five children with ADHD compared with normal group. The ADHD group showed impairments in all QoL domains in the children's self- reports, with significant differences compared with the controls as being evident in the following areas: social functioning, school functioning, psychosocial health, and total score with the condition directly interfering in their well-being, socialization, and self- esteem, in addition to academic skills and learning abilities.

Additionally, Klassen et.al. (2004) showed that ADHD had a significant impact on multiple domains of HRQL in children and adolescents. Specifically when compared with normative data, children with ADHD had more parent- reported problems in terms of emotional-behavioral role function, behavior, mental health, and self- esteem. No differences were found for aspects of physical health as our results showed. Ahnemark et.al. (2018) suggested that patients with ADHD experience reduced QoL, and supported the conclusion that the manifestations of ADHD are associated with considerable disease burden. Lopez et.al. (2018) evaluated the HRQoL in ADHD tby using KIDSCREEN- 52 questionnaire in which ADHD cases have significantly worse HRQoL than controls on psychic well- being, mood, relationship with parents and friends, school environment, and social acceptance. They also stated that there is a moderate significant correlation between greater intensity of ADHD symptoms and worse HRQoL scales.

Grünwald and Schlarb (2017) assessed health- related QoL using the German "4 Questionnaire for Measuring Health- Related QoL in Children and Adolescents" (KINDL) and found a clinically significant reduced QoL in ADHD children, concerning all scales of the KINDL, was observable. KINDL is a validated questionnaire with six subscales composed of 24 items: physical well- being, emotional well- being, self-esteem, family, friends, and school.

As regards parental style, it was assessed by using the Alabama parental style questionnaire. In our study we assessed the parental style in ADHD subgroups using ADHD rating scale. Our results showed significant negative correlation between positive parenting in inattentive and combined type as regard parent version questionnaire. However positive parenting showed high significant negative correlation in inattentive and combined types significant negative correlation in hyperactive/ impulsive types as regard child version questionnaire. Involvement scale showed highly significant negative correlation with inattentive type) and significant negative correlation in hyperactive/ impulsive and combined types respectively as regard parent version questionnaire. However it showed high significant negative correlation in inattentive and significant negative correlation in hyperactive/ impulsive type. This negative correlation can be contributed to the fact that parents of children with ADHD do not have the awareness of positive parenting and involvement with their children and this was also observed by the researcher during clinical examination and applying the questionnaire.

As regard poor monitoring scale, it showed no significance in ADHD subgroup scales except for peer relation scale in which it showed negative significant correlation. T his could be contributed to the fact that our study group was limited to ages (5- 10) years old where this group age is still monitored by their parents in their daily life. Our results agreed with Ellis and Nijj (2009), who studied the parental style using alabama questionnaire in ADHD children and their results showed that inconsistent discipline was associated with ADHD combined type. Low involvement was associated with ADHD regardless of subtype, however

they used the parent proxy version only, unlike our study we used both the child and parent version.

There has been much less research on the association of positive parenting behavior (e.g., positive reinforcement, involvement, warmth) and ADHD. High quality parenting is known to be inversely associated with ADHD (Richards et.al., 2014). Also intervention studies have generally shown that improving parental behaviors (e.g., consistency, discipline, warmth) are associated with reductions in ADHD symptoms (Haack et.al., 2017).

Similarly, Li (2018) studied a sample of kindergarten children (N= 201) and their parents, who completed questionnaires about their parenting practices, their child's behaviors and participated in an observed parent- child play task in the laboratory. They divided the parenting styles into global positive parenting (positive parenting and involvement scales) and negative parenting (inconsistent discipline, poor monitor and corporeal punishment scales), their result showed significant negative correlation between positive parenting and ADHD while negative parenting was significant positive correlated with ADHD symptoms. Studies involving families of children with ADHD have demonstrated a lesser degree of parental warmth and a higher degree of parental depression, anxiety, stress, as well as inconsistent and hostile parenting when compared to controls Cussen et.al. 2012).

As regards the correlation between the parenting style and quality of life in children with ADHD, positive parenting scale showed high significant positive correlation in both parent and child proxy questionnaire and total scores in QOL, high significant positive correlation in emotion in parent proxy and significant positive correlation in child proxy. Therefore, according to previous studies on parenting style of ADHD parents, this style of parenting can lead to worsening of ADHD symptoms, so improving parenting styles with family therapy, behavioral parent training, education programs in schools, and teaching coping skills can improve quality of life and relationships in families with ADHD children.

Conclusion:

The consensus that improving QOL is an important treatment goal in children with ADHD mandates measures and treatment strategies that enhance this goal. This study demonstrates that parenting style is not only a significant factor in QOL in children with ADHD, but is the only known factor to impact on psychosocial aspects of QOL, emphasizing the overwhelming importance of parenting style on the well being of these children.

Recommendation:

Family directed interventions be instituted early in the course of the treatment program of the child with ADHD, particularly those focusing on parenting style.

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