

Role Of Behaviour Therapy Programmes In Decreasing Child Abuse In Children With Attention Deficit Hyperactivity Disorder

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Summary

Background: Attention Deficit Hyperactivity Disorder (ADHD) is a neurological condition that involves problems with inattention and hyperactivity- impulsivity that are developmentally inconsistent with the age of the child; Three subtypes of the disorder have been described: inattentive, hyperactive- impulsive, and combined types. Research indicates that children with many of the symptoms of ADHD are at greater risk of being abused than those children without these behaviours. An important non- medical approach used in treating children with ADHD is known as behaviour therapy.

Aims of the study: To assess the incidence and type of abuse in ADHD children and to evaluate the effect of behaviour management programmes on decreasing features of child abuse.

Methods: Intervention study, 30 ADHD children aged from 8 to 12 years, were subjected to battery of assessment that includes, scales of child abuse, IQ assessment and detection of behaviour problems of the children through scale of behavioural and emotional disorder. Then enrolment of children in behaviour modification programme through individual tailored programme. Reassessment after 6 months for the entire study group by the same scales used before.

Results: high incidence of child abuse was recorded with significant improvement after behaviour therapy and parental counselling.

Conclusions: ADHD children are more prone to child abuse (physical, psychological and neglect). Significant improvement in degrees of abuse in addition to behavioural problems of the children after applications of behavioural modification programmes.

Key words: ADHD, behaviour, child abuse

دور برامج العلاج السلوكي في خفض الاساءة عند الاطفال المصابين باضطراب فرط الحركة وضعف الانتباه

الخلفية: اضطراب فرط الحركة وضعف الانتباه اكثر امراض الطفولة النفسية شيوعا. وتشير التقديرات الى اصابة حوالي (3-7) % من الاطفال في سن المدارس. العلامات الرئيسية للاضطراب وجود نقص في الانتباه وفرط حركة وانذفاعية لا تتناسب مع عمر الطفل. كما اوضحت بعض الدراسات ان هؤلاء الاطفال، اكثر عرضة لحدوث اساءة اكثر من الاطفال الاخرين. لا يوجد تدخل منفرد للعلاج، إنما هي منظومة متكاملة تشمل التدخل الدوائي والعلاج السلوكي. **المنهجية:** الدراسة اجريت على عينة من الاطفال المترددين على عيادة الاطفال، مستشفى الصحة النفسية بالعباسية المصابين بفرط الحركة ونقص الانتباه، خلال الفترة من اول يونيو 2009 حتى اخر مايو 2010 واحضعت لبرامج تعديل السلوك.

المرحلة الاولى مراجعة لاعراض اضطراب فرط الحركة ونقص الانتباه، مطابقة مع ما جاء بالدليل التشخيصي والاحصائي الرابع للاضطرابات النفسية والعقلية للجمعية الطبية للطب النفسي. قياس الاساءة الوالدية والأهمال (للطفل) قياس الاساءة الوالدية (لوالدين) قياس المشكلات السلوكية للأطفال وهو موجه للوالدين. قياس معامل نكاه الأطفال.

المرحلة الثانية ادماج الاطفال في برامج لتعديل السلوك عمل برنامج يناسب كل حالة ز جلسات ارشاد للوالدين مرة شهريا.

المرحلة الثالثة اعادة تقييم الحالات بنفس المقاييس السابق ذكرها بعد ستة أشهر من جلسات تعديل السلوك.

النتائج: أظهرت النتائج أن 72,3% من الأطفال هم من الذكور و26,7% من الإناث. وكانت هناك إساءة كبيرة على الأطفال، التي كانت غير مرتبطة بجنس الأطفال ومستوى تعليم الآباء والأمهات. وكان هناك تأثير كبير من برامج تعديل السلوك، من خلال انخفاض في إساءة الوالدين للأطفال، وتغيير طريقة معاملتهم لأطفالهم.

التوصيات: التوعية بأهمية ودور العلاج السلوكي في تحسين اعراض اضطراب فرط الحركة وضعف الانتباه عند الاطفال حيث ان تعديل السلوك هو حفظ السلوك الإيجابي للطفل وخلق علاقة افضل بينه وبين والديه، بالتالي خفض الاساءة الموجهة اليه.

Introduction:

ADHD is the most commonly studied and diagnosed psychiatric disorder in children, affecting about 3 to 5 percent of children globally and diagnosed in about 2 to 16 percent of school- aged children. It is a chronic disorder with 30 to 50 percent of those individuals diagnosed in childhood continuing to have symptoms into adulthood. The term 'ADHD symptoms' is used to refer to the combination of hyperactive, impulsive and inattentive symptoms. (Nair, 2006) ADHD has three subtypes: Predominantly hyperactive- impulsive, most symptoms (six or more) are in the hyperactivity- impulsivity categories. Predominantly inattentive. The majority of symptoms (six or more) are in the inattention category and Combined hyperactive- impulsive and inattentive. Six or more symptoms of inattention and six or more symptoms of hyperactivity-impulsivity are present. Most children have the combined type of ADHD (Rader, 2009).

Epidemiology And Gender Difference:

ADHD's global prevalence is estimated at 3 to 5 percent in people under the age of 19. There is, however, both geographical and local variability among studies. Children in North America appear to have a higher rate of ADHD than children in Africa and the Middle East. In Egyptian studies (Olwya et. al, 1993) found that the prevalence of ADHD in primary schools was 3.4% with a male to female ratio of 4:1. The core behaviours of ADHD are typically present from before the age of 7 years, but at all ages presentation as a problem is very variable. ADHD occurs two to four times more commonly in boys than girls (male to female ratio 4:1 for the predominantly hyperactive type vs. 2:1 for the predominantly inattentive type) (Sayal et al., 2002).

Causes Of ADHD:

Scientists are not sure what causes ADHD, although many studies suggest that genes play a large role. ADHD probably results from a combination of factors.

- ✘ Genes. Researchers are looking at several genes that may make people more likely to develop the disorder.. Learning about specific genes could also lead to better treatments. (Khan& Faraone, 2006).
- ✘ Environmental factors. Studies suggest a potential link between cigarette smoking and alcohol use during pregnancy and ADHD in children. In addition, to high levels of lead (Braun et. al, 2006)
- ✘ Brain injuries. Children who have suffered a brain injury may show some behaviour similar to those of ADHD.
- ✘ Food additives. Recent British research indicates a possible link between consumption of certain food additives like artificial colours or preservatives, and an increase in activity. (McCann, et. al, 2007)

Diagnosis:

Diagnosis is currently based on criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM- IV), which lists nine behavioural characteristics (essentially "word pictures") for the inattentive type and nine behavioural characteristics for the hyperactive- impulsive type (APA,2000).

Additionally, symptoms must be: chronic (present for 6 months), maladaptive, functionally impairing across two or more contexts, inconsistent with developmental level and differentiated from other mental disorders.

Treatment Of ADHD

There are both pharmacological and non- pharmacological treatments for ADHD for both children and adults. Pharmacological approaches to treatment are the most common. There are also non- pharmacological treatments, which

includes parent and teacher training in effective behaviour- management techniques aimed at reducing the problem behaviours associated with ADHD. (Berger, et. al, 2008)

Pharmacological Approaches:

- ✘ Stimulants Methylphenidate (MPH) and amphetamine (AMP): Stimulant drugs are the most widely studied class of drugs for ADHD. MPH and AMP significantly reduce the core symptoms of ADHD in approximately 70% of children. Clinically relevant doses of both MPH and AMP result in significant increases in extracellular dopamine levels. Adverse effects include decreased appetite, sleep disturbance, headaches, stomach aches, drowsiness, irritability, tearfulness, mildly increased blood pressure and pulse (Hannestad,et. al,2010).
- ✘ Nonstimulants Atomoxetine (Atx): ATX is a non- stimulant agent, a norepinephrine reuptake inhibitor that is approved for use in the treatment of ADHD
- ✘ Guanfacine, Clonidine: Selective alpha- 2A- adrenergic receptor agonist that were initially developed as an antihypertensive agents.
- ✘ Behavioural Approaches: Behavioural approaches have the common goal of modifying the physical and social environment to alter or change behaviour. They are used in the treatment of ADHD to provide structure for the child and to reinforce appropriate behaviour. . In general, these approaches are designed to use direct teaching and reinforcement strategies for positive behaviours and direct consequences for inappropriate behaviour. Behavioural strategies are used most commonly when parents do not want to give their child medication; also can be used in conjunction with medicine and can be applied in a variety of settings including school, home, and the community; Behavioural strategies may be the only options if the child has an adverse reaction to medication. (Pelham& Fabiano, 2001).

Child Abuse:

Child maltreatment constitutes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power. (Krug et al., 2002).

Consequences Of Child Maltreatment

It is well documented that children who have suffered abuse or neglect are more likely to experience adverse outcomes throughout their life, manifested through poorer physical and or mental health status; issues with development of relationships with peers and adults later in life; high risk health behaviour; and behavioural problems, including aggression and adult criminality (American Academy of Paediatrics, 2007).

Child Abuse And ADHD:

The behavioural sequelae of child abuse and the symptoms and outcomes of children with attention- deficit/hyperactivity disorder (ADHD) share many features, including aggression and externalizing behaviour, depression, and cognitive difficulties (Ethier, et. al,2004) (Ford et al. 2000) examined the relationship between trauma exposure and both ADHD and oppositional defiant disorder (ODD). Trauma was strongly linked to ODD: 45-73% of the ODD sample had been exposed to physical maltreatment, and 18-31% had been sexually maltreated. In contrast, 25% of the ADHD children were exposed to physical abuse and 11% exposed to sexual abuse. comorbidity of

ADHD and disruptive behaviour disorders may be a particularly strong correlate of abuse histories. (Hinshaw, 2002) reported that abused girls in a community sample were significantly more likely than controls to be diagnosed with inattentive- type ADHD, and especially combined- type ADHD. Behaviour Therapy

Behaviour therapy or behaviour modification has emerged as the treatment for ADHD with greatest promise as an alternative to medication. The goal of behaviour therapy is to increase the frequency of desirable behaviour by increasing the child's interest in pleasing parents and by providing positive consequences when the child behaves. Inappropriate behaviour is reduced by consistently providing negative consequences when such behaviour occurs. Psychologists recommend that the first step in behavioural treatment should be to enhance the amount of positive feelings between parent and child. (Smith, et. al, 2006).

Treatment Strategies:

The behaviour therapist's role in treatment is to teach parents and teachers to change their behaviour and restructure the environment to facilitate improvement in the referred child

Parent And Teacher Training

After initial assessment and in series of sessions held separately with parents at the clinic and with the teacher at school, the therapist works with them to develop detailed programs designed to modify the child's problematic behaviours. The general procedures employed include:

1. Praise and social reinforcement for appropriate behaviour, and ignoring for minor inappropriate behaviours.
2. Environmental restructuring (Premack contingencies).
3. Token reinforcement
4. Time out from positive reinforcement (brief isolation) (Chroni, et. al., 2004)

Subjects And Methods:

This study was conducted on ADHD children attending "child psychiatry clinic" in "Abassia Mental Hospital", in the period between first of June, 2009 till the end of May, 2010 with age range between 8-12 years. They were about 150 children diagnosed according to DSM IV criteria, Only 30 children were attending regularly behavioural management programme sessions and their parents were cooperative returning signed questionnaires.

- ✎ Inclusion Criteria: Age: (8- 12) years, Males and females, IQ more than 90, ADHD children diagnosed according to DSM IV criteria, All children on Ritalin tablets average (5- 20) mg /day. Regular attendance of behavioural management programme sessions more than 20 sessions.
- ✎ Exclusion Criteria: Children suffering from chronic medical diseases, Children suffering from other psychiatric disorders, Children who are not showing signs of child abuse. Children who did not attend regularly the behavioural management programme sessions.

All cases were subjected to:

- ✎ Full history taking, thorough medical examination, confirming the diagnosis of ADHD using DSMIV criteria.
- ✎ Battery Of Assessment:
 1. Scales of child abuse
 - a. Scale of child abuse& neglect (Baza, 2005) which is directed to the child, in (22) items for the mother& the same for the father. It consists of three parts measuring physical& psychological

abuse plus child neglect (health wise& education wise).

- b. Scale of parental child abuse (Elzoghbi, 2004) which is directed to the parents in the form of questions about the different life situations, how they treat their child. It comes in (57) items.
2. Intelligence Quotient assessment by Stanford Binet IV (Meleika, 1998).
 3. Assessment of behaviour problems of the children through using the Scale of Behavioural and Emotional disorder. (Baza,2001) Which consists of (21) items, each item has (3) options according to the presence and severity of the problem, it is given a score from (1- 6).
 - ✎ Enrolment of children in behaviour modification programme through individual tailored programme designed according to the most annoying behaviours problems and modified according to individual's personality, type of reinforces and response to technique used. Programme's duration was 6 months, with 1 weekly session, lasting for (60- 90) minutes
 - ✎ Parental counselling sessions 2hr/month.
 - ✎ Reassessment after 6 months for the entire study group by the same scales used before.

Statistical Methods:

Data were collected and tabulated. Statistical Package for Social Science (SPSS) program version 17.0 was used for data analysis. Mean and standard deviation (SD) were estimates of quantitative data while frequency and percentage were estimates of qualitative data. Differences in clinical and biochemical characteristics were tested by Paired and un- paired Student's t test for quantitative data and by chi- square test for non- parametric (qualitative) data. A two- sided P value <0.05 was considered statistically significant.

Results:

This study involved (30) children attending "Child psychiatry clinic" in "Abassia Mental Hospital", with age between (8- 12) year. They were all diagnosed ADHD, including (22) males 73.3% and (8) female 26.7% as shown in figure (1)

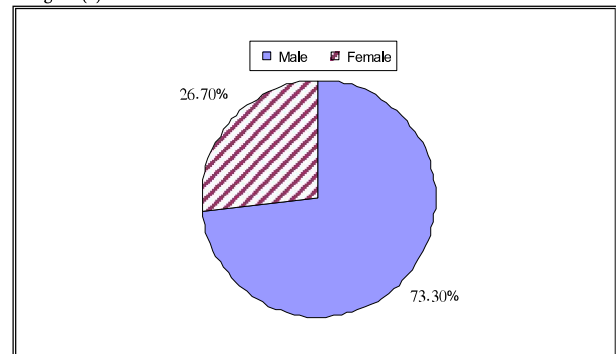


Figure (1) Sex of the studied group

As shown in table (1) and figure (2) the diagnosis of the study group was, hyperactive inattentive (14 children, 46.7%), hyperactive (10 children, 33.3%) and inattentive (6 children, 20%).

Table (1) shows distribution of type of ADHD in the study group

ADHD	Number	Percent
Hyperactive Inattentive	14	46.7%
Hyperactive	10	33.3%
Inattentive	6	20%

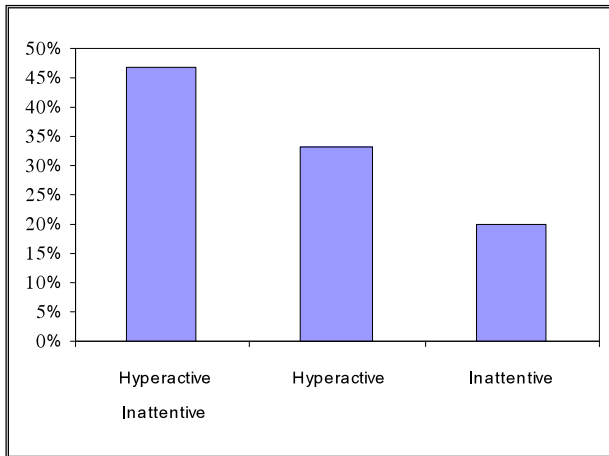


Figure (2) type of ADHD in the study group

As shown in table (2) and figure (3) results demonstrate that it was statistically significant difference between males & females as regard type of ADHD diagnosis as (11) males (50%), and (3) females (37.5) hyperactive inattentive, also (10) males (45.5%) and no females were diagnosed hyperactive, and (5) females, but only one male were diagnosed inattentive.

Table (2) Comparison of type of ADHD and gender of study group

Gender \ ADHD	Male	Female	P Value
Hyperactive nattentive	11 (50)	3 (37.5)	0.001*
Hyperactive	10 (45.5)	0	
Inattentive	1 (4.5)	5 (62.5)	

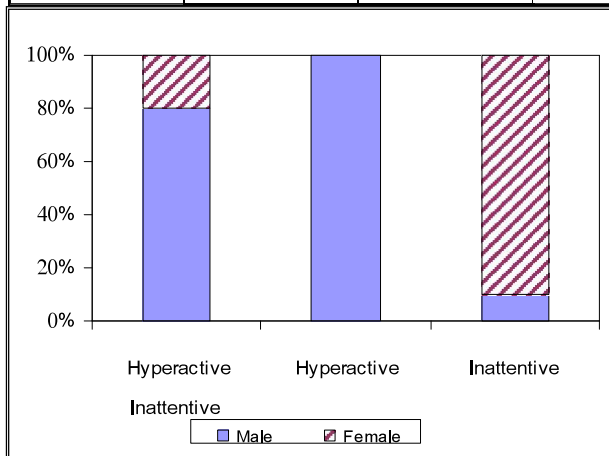


Figure (3) Sex and type of ADHD

As shown in table (3) physical abuse from father before therapy was 25.6 ± 12.2 and after therapy was 19.5 ± 7.1 , which were statistically significant (P value 0.001) the same was true as regard mother.

Table (3) Physical abuse from father and mother before and after therapy

	Father Before	Father After	P Value
Mean SD	25.6 ± 12.2	19.5 ± 7.1	0.001*
Min- Max	7- 58	4- 32	
	Mother Before	Mother After	P Value
Mean SD	17.5 ± 11.9	13.4 ± 9.3	0.009*
Min- Max	4- 49	1- 46	

*P value <0.05 is considered significant

As shown in table (4) psychological abuse from father before therapy was (30.3 ± 15.2) and after therapy was (24.03 ± 11.7), which were statistically significant (P value 0.001). The same was true as regard mother.

Table (4) Psychological abuse from father and mother before and after therapy

	Father Before	Father After	P Value
Mean SD	30.3 ± 15.2	24.03 ± 11.7	0.001*
Min- Max	3- 60	4- 46	
	Mother Before	Mother After	P Value
Mean SD	22.6 ± 14.6	18.7 ± 10.4	0.02*
Min- Max	2- 60	2- 43	

As regard to psychological problems of the children, before and after behaviour therapy, as shown in table (5). Mean SD of the psychological problems was (48.6 ± 30.2) before therapy and was (33.3 ± 18.2) after therapy which were statistically significant.

Table (5) Psychological problems of the study group, before and after behaviour therapy

	Before	After	P Value
Psychological Problems			
Mean SD	48.6 ± 30.2	33.3 ± 18.2	0.000*
Min- Max	17- 150	15- 109	

As regard to the way of parental treatment, there were two attitudes, positive lovely one and negative not preferable. As shown in table (6) the positive attitude before therapy was (40.5 ± 5.5) and after therapy was (42.5 ± 4.8), negative attitude before therapy was (64.1 ± 15.8) and after therapy was (54.2 ± 8.04). All results were statistically significant.

Table (6) Parental way of management of the study group

Positive Attitude			
Mean SD	40.5 ± 5.5	42.5 ± 4.8	0.03*
Min- Max	27- 49	35- 55	
Negative Attitude			
Mean SD	64.1 ± 15.8	54.2 ± 8.04	0.000*
Min- Max	37- 99	30- 71	

Discussion:

The prevalence rates of ADHD indicate a higher frequency in males than females. According to the DSM- IV, the male to female ratios range from 2: 1 to 9: 1 depending on subtype and referral source (APA, 2000). In the current study, boys were 73.3% and girls 26.7% with male to female ratio was, 2.8: 1. In Egypt previous studies reported almost nearly the same results, as in (Oiwya & Abo- Elnoor, 2009) who found male to female ratio was 3.4: 1, with almost the same results in (Farid M. et. al, 2009). The age range in this study is (8- 12) years which represent the average age for detection of ADHD, perhaps due to this represent the early school age with presence of structured school settings, as stated by (Kaplan, et. al.,2004). The current study showed a significantly higher impairment of boys in hyperactivity (45.5%) of boys, whereas (62.5%) of girls were found to be significantly high score in inattention. These results are also in line with those of (Bongers et al, 2004). In the current study child abuse was reported significantly from both parents, (physical, psychological) This is in agreement with (Ford et al.,2000) as he found that 25% of the ADHD children were exposed to physical abuse and 11% exposed to sexual abuse. Thus, comorbidity of ADHD and disruptive behaviour disorders may be a particularly strong correlate of abuse histories. Research indicates that for many children the best way to mitigate symptoms of ADHD is the use of a combined approach, and so decrease child abuse. Researchers found that the combined medication/behaviour treatment work significantly better than behavioural therapy alone (MTA cooperative Group, 1999a, 1999b). This is in agreement with results in our study which show statistically significant, improvement in child abuse after behavioural therapy. On the other hand the psychological problems of the children have been found to improve significantly after behaviour therapy. Behavioural

parent training has a long, successful history as a treatment for children with ADHD. The efficacy of parent training in treating ADHD has been evaluated in at least 28 published studies (for a review). (Chronis, Chacko, Fabiano, Wymbs & Pelham, 2004) This comes in agreement with finding in the current study, as it was found that, As regard the way that parents are treating their children, there were two attitudes: positive lovely one which was significantly increased after behavioural management sessions and negative harmful attitude which was significantly decreased after behavioural management and monthly parental guidance.

Recommendations:

1. Behaviour modification programmes are of great importance in improving the outcome of ADHD children, create a precise management of different problems in the daily life of the children and their families, increase awareness of parents of the importance of this type of therapy is a must.
2. Increase awareness in media, schools and other public foundations that are caring about children, more understanding the problem of ADHD disorder in which the child cannot control himself due to the nature of the disorder, to decrease child abuse especially corporal abuse.

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