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Behavioral parent training among preschool child with attention-deficit/hyperactivity disorder

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Attention deficit hyperactivity disorder (ADHD) is a childhood disorder-affecting children worldwide and has a major burden on the child, parents and all family members. Study the effect of behavioral parent training improving concentration and social interaction among their preschool children having attention deficit/hyperactivity disorder. Sample was "convenient sample" selected during follow-up visits to the special needs care centre affiliated to the postgraduate studies institute Ain Shams University, Cairo, Egypt. Parents caring for children with ADHD who meet inclusion criteria during the study period. Sample size:60 parents. The result demonstrates that there is a statistical significant difference between pre- and post- counseling intervention (T-test = *-19.017 & P < 0.05) as regard learning child with ADHD attention and concentration skills are upgraded from (13.3 % & 18.3%) in pre intervention to (50% & 31.7%) in the post intervention respectively. Behavioral parent training significantly improves level concentration and social interaction among preschool child with Attention-Deficit/Hyperactivity.

Keywords: Behavioral parent training, Attention-Deficit/Hyperactivity Disorder.

INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is the most prevalent childhood and early adolescent Neuro- behavioral disorder. It is a neurological disorder involving attention and hyperactivity issues that are developmentally compatible with the child's age. This neurodevelopmental disorder is defined by hyperactivity, impulsiveness and carelessness. (Panevsk A., et al., 2014).

It is typically 4 times more prevalent in males than in females, with an estimated 50% of children diagnosed with ADHD still having adult symptoms. (Polanczyk, et al., 2015). ADHD pre-school kids are at higher danger of being placed in special education courses and are using more special needs facilities, Chronis-Tuscano, et al., (2010).

Attention, Deficit Hyperactivity Disorder preschoolers often have trouble paying attention and constantly shifting attention. They are easily distracted, forgotten, and impulsive; have trouble waiting for their turn; interrupt others; or say things that are tactless (Ann A., et al., 2016). These preschoolers show a particular trend towards aggression of safety risks, expulsion from their pre-school setting, and high injury rates). They have poorer performance of daily operations with significant social skills problems (Linda. J., Pfiffner & Haack.I., 2015); And greater propensity for complaining, teasing, interrupting, lying, showing aggression, not helping others or sharing, and not contributing to group discussions than children typically develop, (Maier, A., et al., 2014) . Parents can create maladaptive and

counterproductive parenting policies over time to address these issues (Maier, A., et al 2014). Consequently, effective treatment for ADHD must include working directly with parents to modify their parenting behaviors to increase their children's positive outcomes. (Emuella F., et al 2016).

Modifying bad parenting practices effectively is significant, as bad parenting is one of the strongest predictors of adverse long-term results in kids with behavioral issues (Caci, H., et al 2014). Behavioral parent training (BPT) is one of the most efficient ways of changing parenting and treating ADHD, (Emuella F., et al 2016)

Lori Rosenberg et al (2015) and Rosenberg et al (2015) believed that early strategies for identifying and intervening, including parent-training programs, could potentially alter the underlying bases of negative development pathways. In several variants of parent training programs, preschoolers with ADHD showed important improvements. Behavioral parent training (BPT) is a well-established ADHD treatment generally associated with significant improvements in the functioning of children, parents and families, Chronis-Tuscano, et al., (2010). This study aimed to assess the effect of Behavioral parent training to improve concentration and social interaction among their preschool children having Attention Deficit/Hyperactivity Disorder.

MATERIALS AND METHODS

Sixty parents from the special needs care center affiliated to the postgraduate studies institute. For parents caring for children with ADHD, the inclusion criteria were:

- Had an ADHD diagnosed child. These children had the criteria as follows:
3-5 years of pre-school age.
Sex: sex (men and women)
- Free from other neurological disorders or chronic or disabled physical diseases (by inspecting the chart of patients).
- Regularly attended the above-mentioned setting.
- Level of education for parents (can read and write at least).
- Parents who provide the child with direct care (nuclear family).

Tools of data collection:

It was split into two components, as follows:

Tool1: it was split to two parts:

Part1: Socio demographic traits of children suffering from ADHD's studied parents. It involves

descriptive information on the era of the parent, sex, number of kids, marital status, occupation, level of education, monthly earnings, issues faced by ADHD parents.

Part 2: Features of children with ADHD studied. It involves a description of the child, gender, order, etc. Physical growth, disability level,

Tool 2: As Pre-/post-test checklist to evaluate the practical skills of the parent of children with ADHD. It involves two parts:

Part 1: 9 statements on social interaction abilities.

Part 2: 6 statements on attention and concentration abilities)

Scoring for each statement as following: (0 = no, 1 = Sometimes, 2 = yes).

Description of the behavioral parent training:

Behavioral parent training intervention was carried out in the form of sessions; each with regard to its content is different from each other. The sessions were developed by the researcher based on literature review and were designed to increase the awareness of the disease among parents. Thus, child prosperity and feeling supported and empowered by parents through education and training can be an effective way to help parents learn how to shape their children's behaviors and how to give care and concentration to their children with ADHD (the program will take place at 12 sessions, twice a week at 60 minutes).

Fieldwork:

To clarify the objective of the research, the investigator approached the sitting managers as well as the administrative employees. "Parents" subjects have been notified that, in relation to home operations, they will have behavioral parent training intervention sessions. Data were gathered through parent interviews. This study's data collection was conducted between August 2018 and December 2018.

For the setting ' stated before ' in the morning, two days of the week data were gathered.

Each parent was interviewed and assessed two times before interventions to obtain baseline data and after implementing interventions to assess the effectiveness of implementing interventions for the parents.

Each parent was surveyed separately from session 1 to 10 to discuss the practical method of caring for their ADHD kids, then from 11 to 12 to discuss and enhance their caring patterns in organizations. In some meetings, the investigator encouraged other parents with kids with ADHD older than the sample area to be a role model and

assist them by offering them their caring and coping patterns experiences.

The researcher frequently repeated the program sessions each session started by summary about that was given through the previous session & objectives of the new, taking into consideration using simple language to be suit the educational level of parents also gave homework reminders to ensure the parents is remembering information and skills learned during the session.

Fourth: Evaluation phase:

Upon completion of the intervention sessions, the parents were subjected to a post-test to assess the results of the procedures using the same pre-test format.

The statistical process used in the analysis included:

- Non-significant (NS) if P value > 0.05
- Significant (S) if P value < 0.05
- High significant (HS) if P value < 0.01-

RESULTS

All the patients involved in the study have been continued the study until the end of it. None refused or withdrawn.

Subject characteristics:

Table 1, Illustrates that 71.7% of kids with ADHD were male in less than three quarters. Nearly three fifths of them 58.3 percent of their age ranged from 3-4 years, average age ± 4.08 years, with regard to the development of the child, 81.7% of them were normal. Nearly one third of them were ranked 31.7 percent as the family's second kid. Lastly, almost half of them were 48 months old when ADHD was diagnosed with 48.3 percent.

Table.(2),shows that slightly over half of the mother's age ranged from 26 to 34 years (51.7 percent). Nearly three-fifths of them (58.3 percent) of father age ranged from 31 to 41 years of age.Nearly one-third (31.7%) of mother's schooling was secondary, while almost half (43.3%) of father's schooling was college. Home wives were the largest percentages of women (86.7%).

Table 1: Distribution of children with ADHD based on their disability features.

| Children's characteristics | Total No. of children = 60 (100%) | |
|---|-----------------------------------|------|
| | No | % |
| Gender : | | |
| male | 43 | 71.7 |
| female | 17 | 28.3 |
| Child Age (years): | | |
| 3 > 4 | 35 | 58.3 |
| 4 > 5 | 25 | 41.7 |
| Mean ± 4.08 SD 0,73 | | |
| Childs's physical growth: | | |
| Normal | 49 | 81.7 |
| Abnormal | 11 | 18.3 |
| Birth order: | | |
| Only | 13 | 21.7 |
| First | 17 | 28.3 |
| Second | 19 | 31.7 |
| Third | 10 | 16.7 |
| Fourth | 1 | 1.7 |
| Child's age in years when ADHD diagnosed (by months): | | |
| 24 months | 5 | 8.3 |
| 30 months | 6 | 10.1 |
| 36 months | 20 | 33.3 |
| 48 months | 29 | 48.3 |

Table 2: Socio demographic traits of children with ADHD parents'.

| Item | Total No. of parents = 60 (100%) | |
|------------------------------------|----------------------------------|------|
| | No | % |
| Mothers' age (years): | | |
| 22 > 26 | 13 | 21.6 |
| 26 > 34 | 31 | 51.7 |
| 34 > 40 | 16 | 26.7 |
| Mean ± 30.9 SD 4.9 | | |
| Fathers' age (years): | | |
| 24 > 31 | 12 | 20.0 |
| 31 > 41 | 35 | 58.3 |
| 41 > 49 | 13 | 21.7 |
| Mean ± 36.7 SD 5.9 | | |
| Mothers' educational level: | | |
| Write and read | 14 | 23.3 |
| Secondary education | 19 | 31.7 |
| Moderate education | 16 | 26.7 |
| University education | 11 | 18.3 |
| Fathers' educational level: | | |
| Secondary education | 12 | 20 |
| Moderate education | 22 | 36.7 |
| University education | 26 | 43.3 |
| Mothers occupation: | | |
| Working | 8 | 13.3 |
| House wives | 52 | 86.7 |

Table (3), this table shows that the majority of caregivers (91.7 percent) were mothers. Most parents (88.3%) do not have enough monthly income. Less than three-quarters of households (71.7%) had an adverse psychiatric / mental disease family history. Parents ' largest percentages (96.7%) have adverse ADHD family

history. Most parents (86.7%) did not attend ADHD education classes.

Table(4), This table notes that the majority of children's issues faced by parents in caring for their children with ADHD were concentration disruption, attention

disruption, and accident (91.7%, 63.3) respectively, whereas only about one-third (30%) of them were faced with ADHD stereotypes.

Table 3: Distribution of studied caregivers according to characteristics of children suffering from ADHD.

| Families characteristics | Total No. of parents = 60 (100%) | |
|--|----------------------------------|----------------------------------|
| | Items | Total No. of parents = 60 (100%) |
| Caring person : | | |
| Mothers | 55 | 91.7 |
| Fathers | 2 | 3.3 |
| Others | 3 | 5 |
| Family size: | | |
| Three | 11 | 18.3 |
| Four | 26 | 43.3 |
| Five | 15 | 25 |
| Six | 7 | 11.7 |
| Seven | 1 | 1.7 |
| Monthly income: | | |
| Adequate | 7 | 11.7 |
| Not adequate | 53 | 88.3 |
| Family history of psychiatric: | | |
| Positive | 17 | 28.3 |
| Negative | 43 | 71.7 |
| Consanguinity : | | |
| Yes | 4 | 6.7 |
| No | 56 | 93.3 |
| Family history of ADHD: | | |
| Positive | 2 | 3.3 |
| Negative | 58 | 96.7 |
| Educational attendance courses on ADHD: | | |
| Yes | 8 | 13.3 |
| No | 52 | 86.7 |

Table 4: Problems of children that parents face when they care for their children with ADHD

| Problems facing parents during caring for their children with ADHD | Total No. of parents = 60 (100%) | |
|--|----------------------------------|------|
| | No | % |
| Attention disturbance | 38 | 63.3 |
| Movement of stereotypes | 18 | 30 |
| Disruption of concentration | 55 | 91.7 |
| Accident | 34 | 56.7 |
| Self-injury | 30 | 50 |
| Anger | 25 | 41.7 |
| Hard during the meal | 35 | 58.3 |
| Resistance to adjust | 24 | 40 |

Table 5: Comparison of the caring abilities of parents concerning their children's attention and concentration with ADHD before and after interference:

| Attention and concentration skills | Before intervention | | | After intervention | | | T-test |
|--|---------------------|------|--------------|--------------------|------|--------------|------------|
| | Yes % | No % | Some-times % | Yes % | No % | Some-times % | |
| Grasping child attention for something for long period | 13.3 | 60 | 26.7 | 50 | 13.3 | 36.7 | ** -7.8071 |
| Giving positive reinforcement | 26.7 | 33.3 | 40 | 40 | 1.7 | 58.3 | ** -5.167 |
| Giving clear guidance and steps in particular skills training | 15 | 36.7 | 48.3 | 25 | 10 | 65 | ** -4.2839 |
| Use the activity timetable to help children follow their daily routine | 3.3 | 78.3 | 18.3 | 21.7 | 1.7 | 76.7 | ** -11.339 |
| Encourage children to exercise certain plays that help to focus (construction blocks, drawing photos and images of similarities) | 18.3 | 35 | 46.7 | 31.7 | 10 | 75 | ** -4.8424 |
| Capture child attention by continuously tapping on his / her shoulders and call him / her by name | 16.7 | 31.7 | 51.7 | 25 | 8.3 | 66.7 | ** -4.1131 |
| Total | | | | | | | ** -19.017 |

Table (5): Shows that there are significant statistical variations between pre- and post-intervention (T-test = *-19.017 & P < 0.05). As regards teaching children with ADHD attention and concentration abilities as (Increasing child attention for a long time & Encouraging children to practice some concentrate-aiding plays) are increased from (13.3% & 18.3%) in pre-intervention to (50% & 31.7%) in post-intervention.

DISCUSSION

Attention-deficit / hyperactivity disorder (ADHD) is a very significant condition due to its elevated incidence, persistence in adult life, and negative results extending beyond the person impacted. Bringing a child with ADHD into the globe has life-changing consequences and permanent impacts for both the child and his or her parents. Parents of children with ADHD generally experience important extra problems as if parenting is not already demanding and stressful enough. It can be extremely arduous and difficult as well as rewarding to raise a child with ADHD. A big body of literature has looked at problems related to parenting a child with special needs, paying particular attention to stress, resources, and coping, (Maier, A., et al., . . .) With regard to the gender of the kids studied, the current research shows that less than three

quarters of kids with ADHD were males, this may be because there is a genetic factor that can affect boys more than women. These results were endorsed by Panevska A, (2014), who discovered that 30% to 70% of those diagnosed in adolescence with continuing symptoms ranged from 1.35 to 2.25 million children. Male incidence exceeds females by a proportion of 4 to 1.

This research examined the efficacy of BPT for children with ADHD while also investigating the impacts of acute stimulant medication on pre- and post-BPT parent-child relationships. Most parents reported enhancements in the severity and amount of issues with child conduct and were satisfied with BPT. For the majority of parents, twice-weekly scores showed reductions in severity and amount of BPT child behavior issues. These results contrast previous studies (Chronis-Tuscano et al., 2011 ; Harvey et al., 2003 ; Sonuga-Barke et al. 2002), suggesting that kids with ADHD do not benefit from BPT, although one study indicated that all results, e.g. positive parenting, were not negatively influenced by parental ADHD (Chronis-Tuscano et al., 2011). Our findings are compatible with studies showing that BPT is a well-established treatment for children with ADHD (Fabiano et al., 2009 ; Pelham and Fabiano 2008) Given the elevated heritability of ADHD, a significant percentage of parents with ADHD were probably included in

these past BPT research (Chronis et al., 2003).

Parents with ADHD were correlated with maladaptive parenting and bad reaction to child behavioral therapy, although mild symptoms in some research did not limit these advantages. Chronis-Tuscano A., et al., 2016, there is a mix of evidence as to the degree to which ADHD therapy of parents affects the conduct or parenting of children. Some studies discovered that therapy of mothers increases their perception of parental practices, reduces adverse parental speech during non-homework assignments, and decreases inappropriate conduct reported by children (Sonuga-Barke EJ et al., 2012).

Parent behavioral training (PBT) is suggested in preschool children as the first-line treatment of ADHD. Data indicate that stimulants such as methylphenidate (MPH) are less effective and more common in this population cause side effects (Charach A, et al., 2013&Lange AM, et al., 2016).

In each session, new strategies are taught. It was discovered to be efficient in decreasing child behavioral issues as assessed by parents when parents experience parental stress reduction. These results were also replicated in foreign countries, but not in pre-school children. It was discovered to be as efficient in decreasing behavioral issues in school-age children in Finland as programs for parenting. Compared to ADHD symptoms, it is more constantly efficient at decreasing comorbid conduct and social functioning (Thorell LB, et al., 2009)

In the assessment, no account was taken of the severity of child ADHD or parental disease, distinct parent interventions were introduced in each research, and the surveys included comorbid behavior or disorders of opposition and not ADHD alone. A more standardized program of parental intervention may be warranted, although all have demonstrated comparable effectiveness (Coates J, et al., 2014). In addition, training in conduct management has been shown to be efficient in enhancing the efficacy of parents (Ostberg, A.-M, et al., 2012)

Concerning the era of kids with ADHD, the current research disclosed that nearly three fifths of them, their age ranged from 3 to 4 years, may be due to the signs and symptoms of ADHD that the parents found close this era. This finding is consistent with Mahmoud et al, (2009) who found that the largest proportion of kids with ADHD ranged from 3 to 5 years of age. Because of the growth of children, most of them had normal

physical growth compared to normal values respectively in relation to the ages of their peers. This research agreed with Mansour, (2010), who reported that nearly two-thirds of studied children's physical measurements were normal. On the other side, this outcome is contradicted by Hyman, & Levy, (2009), who discovered children with ADHD to weigh more and have greater body mass index. The results of the present study showed that under this study, the highest percentage of caregivers of the parents were mothers and a minority were fathers.

This represents that, particularly in early childhoods, the mothers can tolerate the duty of caring for these children. It also represents the powerful emotional connections between mothers and their children that make children more readily react to mothers than fathers. Because of this, mothers respond more patiently than parents to the conduct of children. This outcome was backed by a latest research Mansour, (2010), who noted that mothers were more than three-fourths of parents, while fathers were minorities.

In addition, Altieri, et al., (2010) discovered all family care providers to be female in accordance with the past consequence, Mahmoud, (2009) was noted that, despite latest modifications in social thinking about the position of females in the family, the impacts of care-giving positions are extremely gendered, with females offering most care to disabled family members, an estimated 85% of care is supplied by females .

Regarding the family history of the present study's ADHD outcomes showed that the largest proportion of parents had an adverse family history of ADHD and were not family relatives, this may show that consanguinity does not play a significant part in the ADHD disorder. This outcome contradicted Coonrod and Stone (2010), which presented a genetic etiology associated with the severity of ADHD among children attending health centers and special college. Based on the results of this research, most parents do not have sufficient monthly revenue. This may be due to parents having to spend portion of their revenue on care and monitoring their children with ADHD, as well as generally reducing or stopping working hours to care for their children. In order to receive care, parents must spend many hours. It should be noted that in some areas or towns the services and cares may be accessible.

This finding is in line with Ahmad et al., (2010), who reported that housewives were the

majority of ADHD child mothers. Most parents have not attended ADHD education classes. As disclosed by the present research, this outcome has been agreed with Mansour, (2010) who confirmed that most parents have not attended prior ADHD-related training program. In this context, (Coonrod & Stone, (2010) stressed that parents need precise data and preparation to care for their ADHD-affected children. The current research, attention and concentration disruption, motion & hyperactivity stereotypes, impulsive, hard meal time, sleep disturbance and accidents pointed to the issues experienced by the parent. In addition, the findings of the present research showed that only nearly one-third of parents faced ADHD behavioral issues with self-injury from their children. This outcome was endorsed by a latest research by Emuella Flood et al., (2016), who noted that this neuro-developmental disorder is described by key characteristics of hyperactivity, impulsiveness and inattention. In order to satisfy the diagnostic requirements for ADHD, functional impairment must also be present they also agreed with this finding (Setyawan, J., et al., 2015, 2011) that children with ADHD are experiencing the following difficulties: inattention having trouble focusing, forgetting instructions, Moving from one assignment to another without doing anything, impulsive – speaking about the top of others, having a ' brief fuse, ' being predisposed to accident over activity – continual restlessness and fidgeting .

This finding also agrees (Caci, H., et al., 2014) that parent training in behavioral therapy has effectively altered children's conduct with ADHD. A typical program seeks to enhance the knowledge of the child's conduct by the parents or caregivers and teach them abilities to cope with ADHD's behavioral challenges. Programmed provide particular command methods, strengthen adaptive and positive social behavior, and reduce or eliminate inappropriate behavior, (American Academy of Pediatrics, 2011).

CONCLUSION

From the previous discussion of these results and according to reports of researches in the field related to the present study, it could be concluded behavioral parent training considerably increases concentration level and social interaction with attention-deficit hyperactive disorder among pre – schoolchildren.

RECOMMENDATIONS:

Based on the findings of the present study, th

e following suggestions can be derived from the research hypothesis:

1. Continuous health education and counseling programs are needed to enhance the coping patterns of parents to care for their ADHD children by recognizing the significance of follow-up care.
2. Services provided to ADHD children and their parents must be based on real assessments in order to recognize real requirements and provide adequate equipment to satisfy those requirements
3. Develop free ADHD education resources for parents, educators and Learners.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

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AUTHOR CONTRIBUTIONS

All authors have read and agreed to the content and the publication of this paper.

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