

 <p>INNOVATIVE JOURNAL IÖNKIVT</p>	<p>Contents lists available at www.innovativejournal.in</p> <p>INTERNATIONAL JOURNAL OF NURSING DIDACTICS</p> <p>Homepage: http://innovativejournal.in/index.php/ijnd</p>	 <p>IJND ISSN: 2231-5454</p>
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Psycho-Educational Intervention for Parents Having Children with Attention Deficit Hyperactivity Disorder

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DOI: <https://doi.org/10.15520/ijnd.v9i04.2527>

Abstract: Background: Attention-deficit/hyperactivity disorder (ADHD) is the most common psychiatric disorder of childhood that can profoundly affect the academic achievement, well-being, and social interactions of children. Therefore, this study aimed to evaluate the effect of applying a psycho educational intervention for Parents Having Children with Attention Deficit Hyperactivity Disorder. A quasi-experimental research design [pretest -posttest] was conducted at the Psychiatric out patient's clinic at El Ahrar Hospital at Zagazig City. The instruments used for data collection were parents socio-demographic and clinical data sheet, parents' knowledge about ADHD, parental caregivers positive and negative attitudes toward ADHD child, in addition to parent caregiver practices toward their ADHD children. Forty eight subjects were participated in this study and were chosen according to the inclusion criteria. **Results:** revealed that there was a statistical significant improvement of knowledge, practice, attitudes of the parents before and after psycho-educational program. **Conclusion:** the implementation of psycho-educational intervention for the parents of children with ADHD was effective in improving their knowledge, practice, and attitudes towards ADHD. **Recommendation:** Conduct more developed programs in the study settings for more improvements. Nurses should exert more effort to support the parents of children with ADHD, and they need training to be able to do this.

Keywords: ADHD; Psycho-educational Intervention; Knowledge; practice; attitude.

INTRODUCTION

Children are the most vulnerable people in any culture that relies primarily on adult persons for becoming well-being, so government, communities, schools, and parents, seek to protect them ⁽¹⁾. Unfortunately, any type of mental disorder can have a negative impact on the cognitive development and learning of children, which may include very high costs to both the individual and the culture ⁽²⁾.

Attention-deficit/hyperactivity disorder (ADHD) is the most common psychiatric disorder of children that can have a profound impact on many dimensions such as well-being, academic achievement, and social interactions of children ⁽³⁾.

ADHD is mentioned in (DSM-5), as a disorder that associated with at least 6 symptoms of inattention and/or at least 6 symptoms of hyperactivity and impulsivity; these symptoms should be severe enough to interfere with functioning, should occur in at least two settings, such as school and home, and must have an age of onset before 12 years of age; the diagnosis can be specified as a predominantly inattentive, predominantly hyperactive/impulsive, or combined presentation ⁽⁴⁾.

Up till now, no single factor has been specified as the clear reason of this disorder. However, it is considered to be a result of complex interactions between factors like genetic, environmental and neurological one ⁽⁵⁾.

ADHD places a significant burden on families ^[6]; previous research had identified many parental factors that interfere with the parent-child relationship and increase the risk of parental stress. These include low confidence in parenting abilities, low perceived attachment with the child, certain health problems, restricted role (i.e., the level at which the parental role is restricting their freedom and their ability to keep their own identity), depression, anxiety, and spouse involvement (i.e., level of emotional and active support from co-parent) ^[7].

Parents with ADHD child play the most serious role in making the decision to start treatment sessions for their children ^[8]. The treatment may include many forms, such as Psycho-education which is defined as a specific therapeutic program that focus on didactic communication of information and providing children and families with many coping skills. It may be patient-focused, parent-focused, or school-focused; also it is a cornerstone and the basis of ADHD treatments ^[9].

The primary goals for parent's interventions are (1) to educate parents about the nature and function of disruptive child behaviors, (2) to improve parent effectiveness for preventing, managing and correcting problem behaviors, (3) to improve child behavioral compliance, and (4) increase family harmony and wellbeing ^[8].

Nurses should be an integral part of the awareness raising process about ADHD by improving the delivery service model for affected children and their families ^[10]; the nurse can assess the global impact of the child's mental health disorder on the child's social functioning, education, as well as family life. Moreover, the risk for harm to self or others, and the potential for abuse or neglect are also serious elements of the assessment. A family history of mental health disorders should also be ascertained ^[11].

Furthermore, nurses help parents understand the rationale of the diagnostic process, the treatment process, and the importance of follow-up to re-evaluate their child's condition and ensure that the diagnosis and treatment are appropriate over time. Ultimately, nurses also help families understand and cope with the inevitable uncertainties ^[12].

Aim of the study:

The aim of the study was to evaluate the effect of applying a psycho educational intervention for Parents Having Children with Attention Deficit Hyperactivity Disorder.

Hypothesis:

Psycho-educational intervention enhances knowledge, attitude, and practice of parents with ADHD children.

SUBJECTS AND METHOD

Design:

A quasi experimental design was used.

Setting:

The study was carried out at the outpatient psychiatric clinic at El-Ahrar Hospital affiliated to the Ministry of Health (MOH), at Zagazig city

Study subjects:

A total sample of 48 parents with children diagnosed with ADHD was recruited to participate in this study.

They were chosen according to the following inclusion criteria:

1. Providing care and Living with the child in the same dwelling.
2. Regular attendance to the psychiatric outpatient clinic.
3. Verbal acceptance taking part in the program.

Exclusion criteria:

4. Illiterate subjects.
5. Having psychiatric disorders
6. Subjects who involved in other similar studies or training courses.

Tools for data collection:

Tool (1): Parents Socio demographic and Clinical Data Sheet: It was developed by the researcher, including data such as parent education, family size, as well as the family history of ADHD.

Tool (2): Parents' knowledge about ADHD: This tool was developed by Mourad, (2004) ^[13], in Arabic language to assess parents' knowledge about ADHD. It included 7 questions about definitions, causes, manifestations, associated features, associated disturbances, treatment and caring for children with ADHD. The maximum score for each question is 2 and the minimum score is zero, arranged

at the following: Correct/complete answer= 2 degrees. Correct/incomplete answer= 1degree. Incorrect answer= zero. The total score was calculated according to the following: Good is > 75% of the total knowledge score, (> 11 degrees). Fair is from 60-75% of the total knowledge score, (9-10 degrees). Poor < 60% of the total score, (0-8 degrees).

Tool (3): Parental caregivers positive and negative attitudes toward ADHD child: This tool was developed by Mourad, (2004) ^[13], to assess positive and negative attitudes toward ADHD child. It included 30 questions assessing parent caregiver's expectation regarding child behaviors in daily living activities. With the answers either "Yes" or "No"; answer with Yes= 1 degree & No= 2 degrees, except in the reverse questions numbers 2, 9, 12, 15, 16, 20, 21, 23, 29 answer with yes= 2 & No= 1.

The total score was accounted according to the following:

- Positive attitude is $\geq 60\%$ of the total score, (≥ 36).
- Negative attitude is < 60% of the total attitude score, (0-35).

Tool (4): Parents caregiver practices toward their ADHD children: This tool was developed by Mourad, (2004) ^[13], which included 46 questions to assess parent practices toward their ADHD children (action taking by parent caregivers when dealing with their ADHD in daily activities related to inattention, hyperactivity & impulsivity).

Total scores were accounted according to the following:

- Unsatisfactory is < 60% of the total practice score, (< 83 degrees)
- Satisfaction is about 60 -75 % of the total practice score, (83-104 degrees).
- Highly satisfactory is > 75 % of the total practice score, (105-138 degrees).

METHOD

- 1- An official permission was obtained using proper channels of communication. This was done through letters addressed from the Dean of the Faculty of Nursing, Mansoura University explains the aim and procedures of the study and asking for cooperation to the director of Outpatient Clinics of Al Ahrar hospital.
- 2- Informed consent was obtained from the participants.
- 3- A pilot study was done on ten percent of the participants to ensure the clarity, applicability and feasibility of the study tools, and necessary modifications were done.
- 4- The researcher met with the parents, introduced herself and explained the purpose of the study to obtain their consent to participate in the study and gain their cooperation and confidence.
- 5- The participants were interviewed individually before applying the planned program to collect the baseline data using all the study tools.
- 6- The researcher started to fill-out the questionnaire from parents. The researcher read and explained each item to them and recorded their responses to each item. This interview took about 25 to 30 minutes.
- 7- The program consisted of a theoretical background of ADHD, such as definition, signs and symptoms, etiology and types, complications and co-morbidity,

medical treatment and precautions associated with medication, related side effects and behavioral therapy and strategies of behavioral modification. In addition to parental attitudes, and practice that included the reactions of parents to child diagnosis and changes that affect the family, and the problems resulting from the disorder such as the financial, behavioral, educational, medical and family problems. It also addressed the basic requirements for parents to maintain physical and emotional equilibrium, and the methods that can help the parents in facing stressful situations, in addition to some useful instruction for better dealing with their children. These instructions to avoid behavioral problems inside and outside the home, how to improve the child's academic performance and decrease hyperactive behavior, and how to deal with stubborn, nervous and isolated child .

- 8- The intervention was implemented in the form of 10 sessions. The duration of each session ranged between thirty minutes to forty-five minutes. The program was implemented in small homogeneous groups in the outpatient clinic; each group consisted of 5-10 parents according to their attendance, also, the groups were formed based on their mutual problems. The sessions were administered twice per week for each group. They were held on Saturdays, and Wednesdays.
- 9- The program was implemented through various teaching methods as short lectures, group discussions, brain storming, demonstration, re-demonstration, and role-play. The teaching media included power-point presentations and a handbook.
- 10- Each session was started with a summary about what was given through the previous session and the objectives of the new one to make sure that family caregivers recognize the program content, taking into consideration the use of simple language to suit the educational level of caregivers. Motivation and reinforcement techniques as praise and recognition were used during the session to enhance participation and learning.

- 11- The researcher designed an illustrative booklet in a simple Arabic language to be distributed to parents.

Evaluation phase:

- Immediately after the program. Evaluation was done to assess the impact of the program.

Ethical considerations:

An approval from the Research Ethical Committee of the Faculty of Nursing, Mansoura University was obtained. Parents' informed consent to voluntarily participate in the study was obtained after explanation of the research aim. Parents were reassured that they have the right to drop out the study at any stage without any negative consequences. They were reassured that the collected data would be treated with confidentiality and it would be used only for the purpose of the research. Parents' privacy was respected.

Statistical analysis:

Data entry and statistical analysis had been done by SPSS 20.0 statistical software package. Cronbach alpha coefficient had calculated for assessing the reliability of the developed tools through their internal consistency. Qualitative categorical variables were compared using a chi-square test. Statistical significance had been considered at p-value <0.05.

RESULTS

Table (1) shows that (39.6 %) of the fathers and (50.0%) of the mothers had secondary education. Meanwhile, 39.6% and 35.4%, respectively, of fathers and mothers had university education. Although, about (72.9 %) of the study subjects reported no separation of the children from one or both of their parents, about (62.5%) of the study subjects reported that there were continuing problems between parents at home. Moreover, only (37.50%) of the subjects had a positive family history with ADHD, while, (62.50%) of them had a negative family history of ADHD.

Table (1): Socio demographic characteristics of parents in the study subjects (n=48).

Family characteristics	Frequency	%
Father's level of education		
Primary	10	20.8
Secondary	19	39.6
University	19	39.6
Mother's level of education		
Primary	7	14.6
Secondary	24	50.0
University	17	35.4
Presence of continuing problems between parents at home		
No	18	37.5
Yes	30	62.5
The child's separation from one or both of his parents		
No	35	72.9
Yes	13	27.1
Causes of separation		
Divorced	8	16.7
Death	0	0.00
Traveling	5	10.4
Non	35	72.9
Family history of ADHD		

Positive	18	37.50%
Negative	30	62.50%

Table (2): shows parents' knowledge about ADHD throughout the pre & post intervention. The table reveals that before the intervention, the majority of the study subjects (75.0% & 70.8%) didn't know the causes and the definition of ADHD respectively, but after the intervention, these percentages were decreased to (0.0% & 2.1%) respectively, with statistically significant improvement ($p < 0.001$).

Concerning parenting ways of caring with children having ADHD, the table demonstrates that the percentage of parents who were knowing these ways of caring, raised from 29.2% of the pre-intervention phase to 79.2% at the post-intervention phase, with statistically significant improvement ($p < 0.001$).

Table 2: Comparison between Pre and post interventions regarding parents' knowledge about ADHD (n=48).

Knowledge	Pre-intervention						Post-intervention						Chin square test	P value
	Incorrect		Incomplete correct		Completely correct		Incorrect		Incomplete correct		Completely correct			
	No	%	No	%	No	%	No	%	No	%	No	%		
Definition of ADHD	34	70.8	7	14.6	7	14.6	1	2.1	7	14.6	40	83.3	54.28	<0.001*
Causes of ADHD	36	75.0	5	10.4	7	14.6	0	0.0	19	39.6	29	60.4	57.61	<0.001*
Signs and symptoms of ADHD	13	27.1	21	43.8	14	29.2	0	0.0	11	22.9	37	77.1	26.49	<0.001*
Behavioral problems related to ADHD	27	56.3	3	6.3	18	37.5	2	4.2	6	12.5	40	83.3	30.89	<0.001*
Psychological problems related to ADHD	29	60.4	6	12.5	13	27.1	0	0.0	7	14.6	41	85.4	43.59	<0.001*
Treatment of ADHD	25	52.1	15	31.3	8	16.7	0	0.0	13	27.1	35	72.9	42.09	<0.001*
Ways of caring with children having ADHD	31	64.6	3	6.3	14	29.2	2	4.2	8	16.7	38	79.2	38.83	<0.001*

(*) Statistically significant at $p < 0.05$

Figure (1): reveals statistically significant totally improvements in the parents' attitudes regarding ADHD at ($p < 0.001$) in the post-intervention phase. Overall, the total positive attitudes of the parents increased from 35.4% of the pre phase to 89.6% after the intervention.

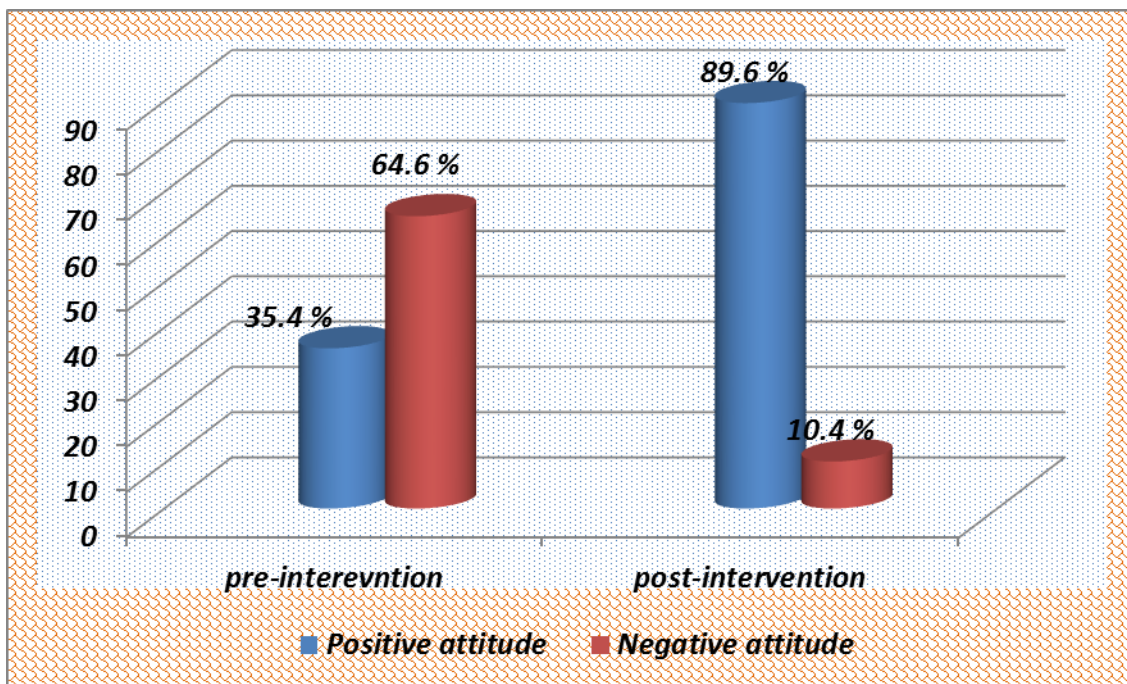


Figure 1: Total negative and positive attitude of the parents during pre and post intervention (n=48)

Figure 2: illustrates the score of parents' practices toward their ADHD children before and after the intervention. The figure reveals statistically significant totally improvements in the parents' practices regarding ADHD at ($p < 0.001$) in the post-

intervention phase. Overall, the percent of parents that feel highly satisfactory about their practice regarding their ADHD children increased from 6.3% in the pre intervention to 83.3% after the intervention.

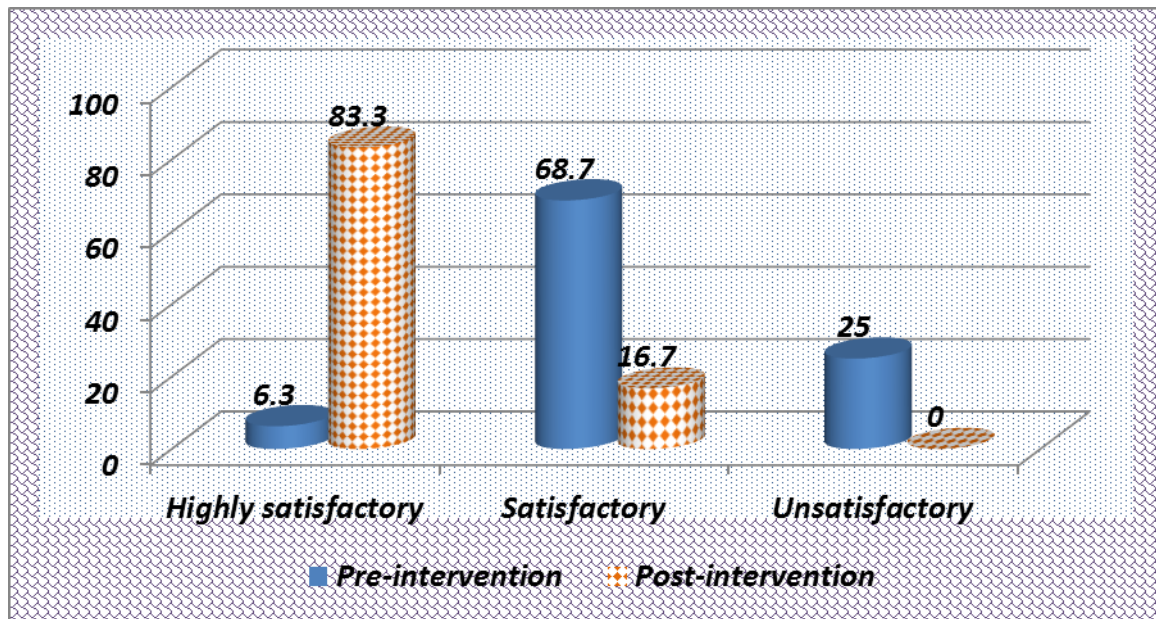


Figure 2: Total score of parents' practices toward their ADHD children before and after the intervention (n=48).

DISCUSSION

Parents play a pivotal role in the decision-making process concerning the management of children with ADHD EL Nagar et al (2017) [14], and both their attitudes and their knowledge about ADHD may impact on adherence; For example, the results of a recent study suggest that provision of psycho-education about ADHD to parents may improve outcomes, including adherence to prescribed pharmacological treatments Al Omari et al., (2014) [15].

Regarding the results of parents' knowledge before the intervention, the majority of the study subjects were unfamiliar with the nature of the disorder and had poor knowledge, especially regarding the causes, the definition of ADHD, and styles of caring with children .

This poor level of knowledge could be explained by the high rate of false beliefs that are spread around the disorder, likewise the misinterpretation and misconceptions about the signs and symptoms of illness; in which the hyperactivity and the impulsivity, for example, of the children explained as annoying behaviors and bad morals of them and so most of people don't pay attention to the risk of the presence of an illness. Another explanation might be due to the lack of right and specific information about the disease on media such as television, newspapers, magazines, and etc. Furthermore, there is shortage in the health services that introduce health education for family and parents; the health services predominantly interested in giving medical care.

In line with this finding, Shah et al., (2017) [16] explored lack of knowledge among parents of ADHD children, and they concluded this lack as a cultural factor for the experiences of that disease in addition to other cultural factors like, stigma and blaming of the family. Similarity, Mukherjee et al., (2016) [17], declared in their study that, in school-aged children diagnosed with attention deficit hyperactivity disorder, that there was a significant lack of knowledge

about ADHD among parents and they finally concluded their research with a recommendation of the need for psycho-educational individual and group sessions for children with this disorder. However, in disagreement with the above mentioned current study findings, Dodangi et al., (2017) [18], in their cross-sectional descriptive study in University of social welfare and rehabilitation sciences in Tehran, found that the majority of their study subjects were familiar with the disorder of ADHD before participating in the study.

Fortunately, these poor results of parents regarding knowledge about attention deficit hyperactivity disorder improved after the implementation of the psycho-educational sessions; as two thirds of the participants became good in their knowledge score, the other third became fair and no one had poor knowledge. These good amendments in the level of the participant's knowledge could elucidate the favorable impact of the educational sessions and how they were effectiveness of the program.

In agreement with these results, Bai et al., (2015) [9], found major refinement in parents' knowledge about ADHD after the psycho-educational sessions, as the average parents' knowledge score of the intervention group significantly increased compared to the baseline and was also significantly more than the control one's endpoint knowledge score. As well as of these findings, Hirvikoski et al., (2015) [19], demonstrated a similar increase and improvement in Knowledge about ADHD for the participants of their an open clinical feasibility trial at Stockholm County Council clinics.

Regarding the parents' attitude toward ADHD; the results of the current study revealed that, more than two thirds of parents had negative attitudes, before the implementation of the program. Similar to these results, Ghanizadeh et al., (2006) [20], mentioned that the attitude level towards ADHD

children was low. However, in disagreement with the above mentioned current study findings, Amiri *et al.*, (2016)^[21], concluded their search results in Tabriz, Iran that among parents, most of them were estimated to have a positive attitude. Also, the majority of the studied sample of Mirza *et al.*, (2017)^[22], showed a positive attitude towards ADHD.

Fortunately, the sessions of the psycho-educational program of the study positively changed the parents' attitudes; as the majority of the study sample changed to have positive attitudes. This could profess the success of these sessions and declare the positive effect of the program on the participants. Also, this positive change reflexes the beneficial role of education in improving the attitudes toward ADHD.

In congruence with this explanation, Youssef *et al.*, (2015)^[23], represented the positive role of the in-service education concerning the attention deficit hyperactivity disorder among teachers that these services caused significantly improve knowledge, attitudes, and management skills among teachers which support their positive results of parent' attitudes about ADHD.

In the same line with the present finding after the program, Wong *et al.*, (2017)^[24], proclaimed the effect of their group sessions with parents of children having ADHD that the sessions contributes to the moderate reductions in parenting stress and their dysfunctional attitudes. Aside from this positive effect of the present program, Wolraich *et al.*, (2009)^[25], stated the enhancement in attitudes after their guidelines.

Regarding the parents' practices, the present study declared that most of the parents had a satisfactory feel regarding their ADHD children before the implementation of the program and after it, the majority of the sample felt highly satisfactory about their practice regarding their ADHD children.

In congruence with these present study findings, it was found that there was good practice regarding ADHD, which play an important role in prevention, detection and screening of these children and prevent them from future consequences, in a study done by Mirza *et al.*, (2017)^[22], besides, Abikoff *et al.*, (2014)^[26], said in their randomized controlled trial of specialized and generic programs that parent training enhanced their behavior and practice toward the children. In addition, Wolraich *et al.*, (2009)^[25], stated the enhancement in practice after implementing their guidelines.

CONCLUSION

The study findings lead to the conclusion that before psycho-educational intervention, parents had poor knowledge, negative attitudes and unsatisfactory practices towards their children with ADHD. The implementation of the psycho-educational intervention to these parents was effective in improving their practice, knowledge, and attitudes towards ADHD.

RECOMMENDATION

- The developed training program should be implemented in the study settings for further validation and for more improvements.
- Counseling clinics for parents with ADHD children are needed to ensure an effective and sensitive response to the needs of the ADHD children and their families.
- Nurses should exert more effort to support the parents of children with ADHD through developing and implementing group educational programs to inform parents about ADHD and provide them with an opportunity to meet and support each other.
- To be able to achieve this, the nurses, especially those working on setting deal with children with ADHD should be trained to be trainers of the parents of children with ADHD to help them deal properly with their affected children, and to be able to cope with the related stressors.

ACKNOWLEDGEMENTS

We would like to thank all the parents, who participated in the study and staff of the out patients, psychiatric clinic at Al Ahrar Hospital for their help and cooperation during the study period and appreciate the great efforts of the supervisors in this work.

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