

# Impact of Psycho-Educational Program on Stress and Self Concept Among Parents of Children with Attention Deficit Hyperactivity Disorder

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## Abstract

Attention deficit hyperactivity disorder is the most common neurobehavioral disorder among school age children. This study aimed to evaluate the impact of psycho-educational program on stress and self-concept among parents of ADHD children. A quasi-experimental design was utilized in this study. A Convenient sample of thirty parents of children with attention deficit hyperactivity disorder who were attending with their children to the out-patient clinic at El-Abbassia Mental Health Hospital. Five tools were used to conduct the current study, Socio-Demographic Characteristics and Medical Data Sheet, Parents Stress Index, Self Concept Scale, The Conner's parent Rating Scale (CPRS) and Pre/Posttest Knowledge Questionnaire. The results showed that there was a highly statistically significant difference between pre-post program regarding child domains and parent domains. Finding also revealed that there was a highly statistically significant difference between total self concept pre and post program. More than two thirds of the studied subjects had high level of knowledge post program; however there were statistically significant correlations among different domains of parents stress index. In conclusion Psycho-educational program significantly improves level of parent's knowledge, self concept and reduce level of parents stress post program as compared to pre program. Necessity of collaboration between health team members, parents and school members for early recognition, assessment and management of ADHD, this can redirect the educational and psychosocial development of most children with ADHD .

**Keywords:** ADHD, Parents Stress, Self Concept

## Introduction

Attention deficit hyperactivity disorder (ADHD) is a neurobehavioral developmental disorder usually diagnosed in children, with appearance of the first symptoms before the age of seven years. The disorder is characterized by inattention and/or impulsivity and hyperactivity that can seriously affect many aspects of behavior and performance at school, these symptoms can make it difficult for a child with ADHD to get along with other children or adults, or finish tasks at home (Panevskaaetal, 2014).

American Academy of Pediatrics, (2012) stated that, the symptoms of ADHD fail into two broad categories: inattention and hyperactivity – impulsive Behavior. inattention includes, fails to pay close attention to details or makes careless mistakes in schoolwork, has trouble sustaining attention during tasks or play, doesn't seem to listen when spoken to directly, has difficult organizing tasks or activities, forgetful, easily distracted, avoids tasks that require sustained mental effort, and loses things needed for tasks or activities such as books, pencils, and toys.

From 1.35 to 2.25 million children—3% to 5% or more of all school-age children have attention-deficit/hyperactivity disorder. This translates into a probability of 1 to 2 students in a typical classroom. Estimation of the number of affected adults varies widely, from 30% to 70% of those diagnosed in childhood experiencing ongoing symptoms. The incidence of occurrence in males exceeds females by a 4 to 1 ratio (Parsons, 2007).

Deater-Decker (2004) defined parenting stress as, “a set of processes that lead to aversive psychological and physiological reactions arising from attempts to adapt to the demands of parenthood. This is often experienced as negative feelings and beliefs toward and about the self and the child. By definition, these negative feelings arise directly from the parenting role. This definition states that parenting stress must be directly associated with the demands of parenting. It also states that parenting stress involves not only negative feelings toward one's own ability to function as a parent but also involves negative feelings toward the child. This definition points to the idea that parenting stress must involve parent factors and child factors. It also implies that the parent-child relationship can be affected by parenting stress.

The empirical research on the parental loss of self-concept in families with attention deficit hyperactivity disorders children (Mash &Johnston, 2010), observed that some evidence of low self-esteem (sense of inadequacy) or shame was very noticeable in most parents .The studies by (Taylor, 2012), indicate that both mothers and fathers of ADHD children had lower sense of competence and high level of stress than parents of healthy children. The previous author added that, the lived experience of a parent with an ADHD-diagnosed child can be very emotional with many challenges According to Clubb (2007), chronic sorrow is a phenomenon that involves an emotional reaction to the child with a chronic disability.

Parenting a child with ADHD can require different approaches. Learning about ADHD, its symptoms and behavioral strategies can help parents cope with some daily struggles and provide a nurturing environment for their children (brown,2009).Furthermore ,both parents and children may need special help to develop techniques for managing the pattern of behavior, health care providers can counsel the child and the family , helping them to develop new skills, attitude ,and ways of relating to each other .The therapist assists the family in finding better ways to handle the disruptive behaviors and promote change; Most of the therapists work is with the parents, teaching them techniques for coping with and improving their child's behavior (barkely,2011).

Ball & Bindler (2013) stated that parent must learn to use stress management methods, such as meditation, relaxation techniques, and exercise to increase their own tolerance for frustration so that more calmly to their child's behavior. When parents have a thorough understanding of ADHD management strategies, they can plan and provide day activities that successfully include the child with ADHD. Therefore, parents' education programs must be carried out in groups to help children as well as their parents how to cope and deal with their difficulties which in turn enhance children progress.

According to Barkley, (1990). Parent training (PT), either alone or in combination with other intervention strategies (e.g., stimulant medication), is often employed in the clinical management of children with attention-deficit hyperactivity disorder (ADHD). In this form of treatment, parents routinely receive on-going clinical supervision in the use of specialized child management tactics, primarily involving contingency management techniques. In some applications of PT, counseling parents about ADHD is included as well .When such training is successful, parents are better equipped to manage their child's behavior, especially at times when the effects of medication or other treatments are diminishing or absent. These changes in parenting style presumably provide children with opportunities for acquiring greater self-control over their own behavior.

Psycho-education is a novel treatment paradigm including information about the diagnosis and its treatment, aid to develop coping skills and problem- solving strategies, and provision of emotional support and empowerment for patients and related persons (Montoya, Colom, & Ferrin, 2011).Psycho-education for ADHD has been evaluated mostly in children and adolescents and their families(Montoya et al., 2011). Positive effects have been observed in patient's behavior, the quality of parent-child interaction, and knowledge of ADHD, as well as improved adherence to medication(Montoya et al., 2011).To the best of our knowledge, only one study has been published on psych-education for children with ADHD (Wiggins, Singh, Getz, & Hutchins, 2008). The findings were multifaceted and indicated positive effects on executive functions, but also potentially negative effects on self-concept.

The role of the nurse in attention deficit hyperactivity disorders is to raise awareness about the issues and challenges with which parents of ADHD children have to cope. Allows effective identification of important stress domains so that parents of ADHD children who seek professional help will receive more effective advice, guidance and support. Important areas of the nurse to include are symptoms, treatment option, expected and potential outcome, available support and recourses. (Cannichael, 2009). Also the nurse must be identify problems and establish a plan of intervention to reduce the frequency and severity of symptoms. Interventions include establishing the parent child relationship, decreasing the negative impact of symptoms, improving social skills through parent's education and monitoring child response, and helping family, child and teachers to understand the disorder (Johnson, 2010).

### **Significance of the study**

Parenting a child with ADHD can be an exhausting and frustrating experience, one often leaving a parent feeling helpless and without support or understanding .Such parents may be strained or unable to meet the special demands which parenting a child with ADHD requires. Empowering parents through education and training can be an effective way to help parents learn to cope.

The parents of ADHD children experience higher stress levels than do parents who do not have children with ADHD. The consequences of these higher stress levels are almost invariably negative, and can often tear a family apart. Previous studies have also largely ignored different severity levels or functional impairment of ADHD and their varying effects on parental stress and familial outcomes.

The prevalence of ADHD in Fayoum City was 20.5%, with 33.8% among boys and 6.8% among girls (Mohammad, 2015). Some studies revealed that the prevalence of ADHD between school age children is approximately 5%-7% and the ratio between boys and girls reached 6:1.

The study of Saed, Mohammed ,Salah, (2015) ,revealed that the prevalence of probable ADHD in their study was 19.7%, and was higher in males than in females with a ratio 2.7:1. The study also showed a high prevalence of probable ADHD in children, It also revealed that probable ADHD was associated with many risk factors, prevalence was high in the male sex, living in urban areas, low socioeconomic families, large family size, living with a single parent, family history of ADHD, preterm children, low birth weight and bottle fed children.

The importance of psych-education for parents, providing information about illness and its treatment to

parents seem to create a therapeutic relationship that may improve children's social behavior and the development of skills in coping to troublesome events. The evidence supporting children with ADHD may benefit from their parents being given psycho-education as tend to be better known. The psycho-education process of information transfer, emotional discharge, and symptoms management, will facilitate parents handling the illness and supporting children and adolescents in coping with the disorder.

**Aim of the study:**

Evaluate the impact of psycho-educational program on stress and self-concept among parents of ADHD children at El-abbasia mental health hospital.

**Research Hypothesis:**

H1. Parents of children with ADHD who receive the psycho-educational program will have lower score of parents stress index at the end of the program.

H2. Parents of children with ADHD who receive the psycho-educational program will have higher score of self-concept scale at the end of the program.

H3. Parents of children with ADHD who receive the psycho-educational program will have higher score of ADHD knowledge at the end of the program.

**Subject and methods**

**Research Design**

The selected design for the current study was a quasi experimental (pre-post test) design.

**Sample**

A Convenient sample of total of (30) parents of children with attention deficit hyperactivity disorders who were attending with their children to the out-patient clinic at El-abbasia mental health hospital were selected within a period of 3months.

Inclusion criteria:

-Educational level for parents (at least can read and write).

-Parents residing with their ADHD children's after diagnosis for at least 6 months at the time of the study.

Exclusion criteria: children with mental retardation, physical impairment and/ or psychotic mental disorders will be excluded.

**Setting**

The study was conducted at ADHD Day Care Unit-Beit El-shams- Child Psychiatry Clinic in El-Abbassia Mental Health Hospital.

**Tools and Data collection**

The following tools were used:

1- Socio-Demographic characteristics data sheet and Medical Data.

It was developed by the researcher and included two parts as follows: First part. Child information: It includes: age, gender, place of residence, diagnosis, number of family members, number of siblings, order of child between siblings and socioeconomic status. Second part: related to the developmental and diagnostic history of the child. It includes: pregnancy period, delivery, condition of the child at the preschool age and developmental condition of the child.

2- Parenting Stress Index (PSI, Elbeblawy, (2002) .

This is an adopted self-report questionnaire to assess parental stress developed by (Elbeblawy, (2002), includes 101 items (Arabic version), The PSI measures child, parent, and situational characteristics that lead to parenting stress.

3-The Conner's parent Rating Scale (CPRS) .

The Conner's Rating Scale for parents (CPRS) , measures changes in the child's ADHD symptom- related behavior in home setting and was developed in 1973 by Keith Conner's, it includes 48 items where the parents are asked to read each item on the scale and judge how much they think their child has been bothered by items listed during the past month. They have to point a score for every item as follows:" 0" not at all, "1" just little, "2" pretty much, and "3" very much. It includes 6 subscales as follows: Conduct problems, learning problems, psychosomatic problems, impulsivity problems, anxiety problems, and attention hyperactivity problems.

4-Self Concept Scale:

This questionnaire was structured by Fitts(1965).the questionnaire is an applicable instrument in measuring self-concept, This particular instrument is able to identify four mains elements ,which formed the basis of a person's self-concept which are identity, satisfaction , behavior and self critique .

5- pre/posttest knowledge questionnaire:

It was developed by the researcher to assess parent's knowledge about ADHD as (definition, causes, signs & symptoms, associated feature and disturbance and treatment); the questionnaire consists of 21 questions as (MCQ -true or false – essay questions). Questions are answered by either “true”, “false” or “don't know” The questionnaire contains additional information about stress management, problem solving and self concept

### **Description of the program**

The psycho-educational program was developed by the researcher based on related review of literature and designed to increased parents awareness about the disease , so the child prosper and feel supported and empowering parents through education and training can be an effective way to help them to decrease stress and improve their self concept . This program help parents learn how they can shape their children behaviors and how they can provide an emotionally supportive and productive environment for their child with ADHD (The program will be held on 16 sessions, twice sessions per week with 60-90 minutes. Subjects will be divided into two groups, and every group will consist of 15 parents of children with ADHD.

### **Assessment phase:**

This phase was conducted in two sessions using the study instruments: socio demographic and medical data questionnaire, Parenting Stress Index (PSI), The Conner's parent Rating Scale (CPRS), Self Concept scale. These pre-assessment questionnaires were completed by all subjects as baseline data.

### **Implementation phase:**

This phase consisted of 12 sessions

The first session: focused on establishing trust relationship with the parents, the researcher explained the aim of the study to stimulate the participant interest and enhance their appreciation for their role, and gave an overview about the program.

The second session: The aim of this session to teach the parents with disease regarding the nature of disorder, definition, prevalence of disorder, causes, clinical manifestation.

The third session: aimed to raise parents awareness by common drug used in treating ADHD children; it is usefulness and possible side effect.

Fourth to fifth session: in this session the researcher working on behavioral modification.

The sixth session: the aim was to help parents to manage stress. This involves instruction about definition, types, causes, source, consequences and management of stress.

The seventh session: the aim was to review a systematic method of handling problem situations, so you can deal with your problems more effectively, even when the stress of a situation is clouding your thinking.

The eighth session: the aim of the session was to look at the way we communicate with others, including our children, partners, family. Improved communication skills will also reduce our experience of stress.

The ninth session: the aim was to help parents to manage stress by using relaxation technique.

The ten and eleven session: in this session was to orient the parent with meaning of self concept, component of self concept and how to improve self concept and self esteem.

Twelve sessions: aim at summarizing all the information and techniques taught, answer all parents question and clarify any ambiguous.

### **Evaluation Phase:**

This was the final phase of the program. Post assessment was done by the researcher for all the subjects using the same relevant selected tools.

### **Procedure**

- An official permission was obtained from the concerned hospital authorities to conduct the proposed study. Then the researcher contacted with autistic children's and their parents who met the inclusion criteria for their informed consent.

-Each mother was interviewed individually, after explaining the purpose of the study and getting agreement of the mother to participate in the study. The investigator assured the voluntary participation and confidentiality to each subject who agreed to participate.

- For more validation of the mother's information the child's files was revised to complete the needed information.

### **Ethical consideration**

- A primary approval was obtained from the Ethics Committee of Scientific Research of Faculty of Nursing -

Cairo University in January, 2016 and Ethics Committee of Scientific Research - El-Abbassia Mental Health Hospital in May, 2016..

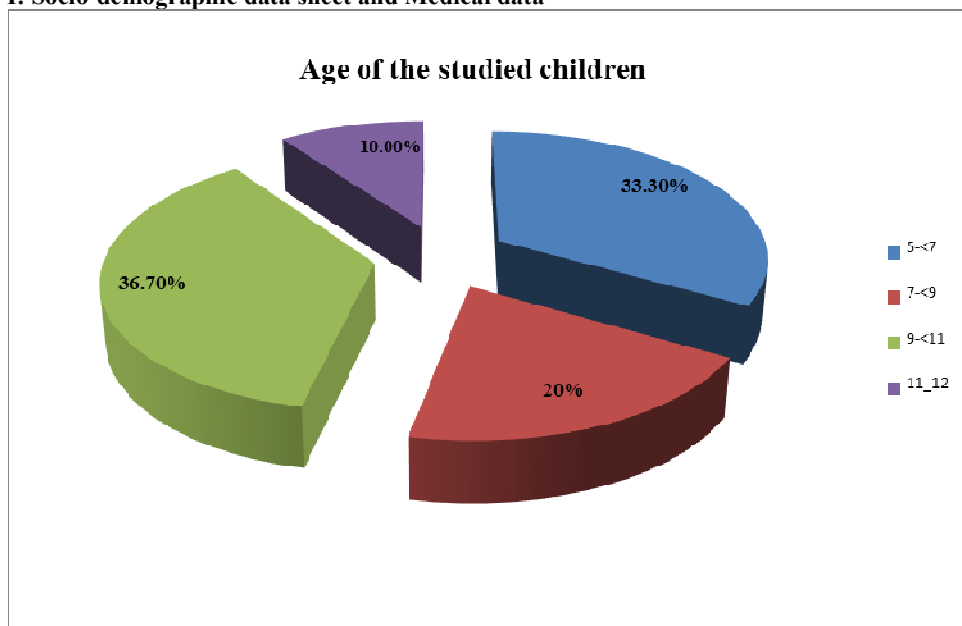
- All subjects signed and received a copy from the informed consent and were informed that participation in the current study is voluntary, no names were included in the data collection sheets and anonymity and confidentiality for each participant was protected by the allocation of a code number for each mother .Mothers were informed that, they can withdraw at anytime during the study without giving reasons.

- Subjects were informed that in case of withdrawal, this will not affect the care they are receiving as well as their relationship with the investigator. Confidentiality was assured and subjects were informed that the results of the study will be used for the research purpose only.

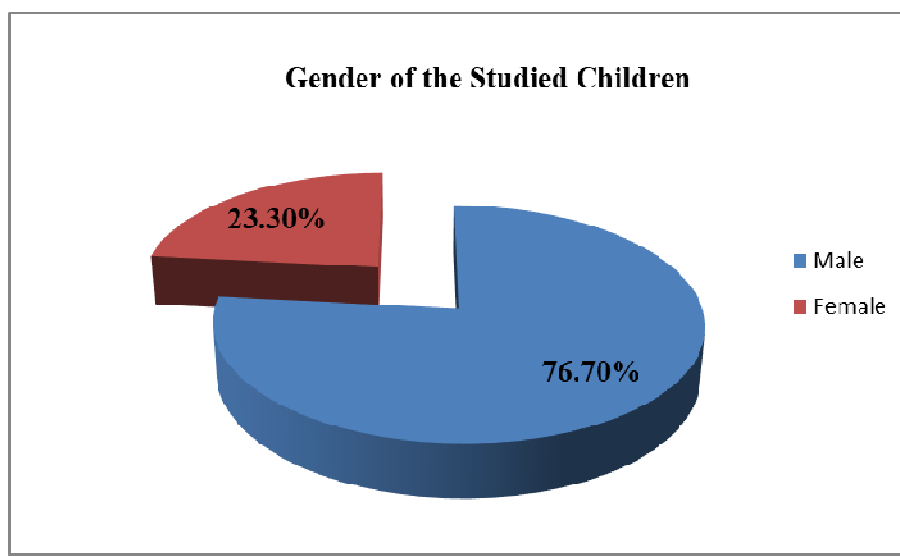
- All consents were revised after completing data collection by the Ethics Committee of Scientific Research of Faculty of Nursing - Cairo University and final approval was obtained in Dec, 2017.

## Results

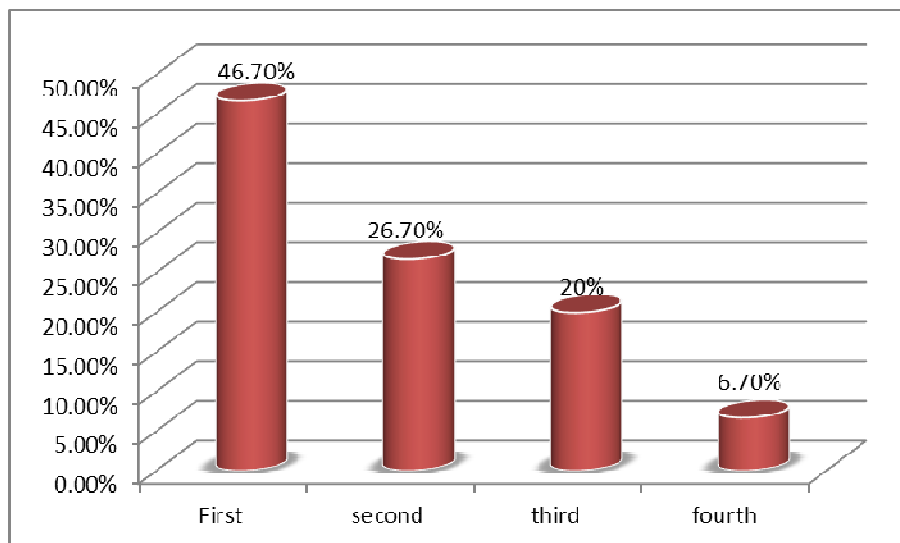
### Section I: Socio-demographic data sheet and Medical data



**Figure (1) Distribution of the Studied Children According to their Age (n=30)**



**Figure (2) Distribution of the Studied Children According to their Gender (n=30).**



**Figure (3): Distribution of the Studied Children According to their Birth Order (n=30)**

**Table (1) : Distribution of the studied subjects according to socio-demographic data (N=30)**

Variable	Values	No.	%
Mother age(years)	20-29	4	13.3
	30-39	21	70.0
	40-49	5	16.7
Mother job	Desk job	6	20.0
	House wife	24	80.0
Mother monthly income(L.E)	0-<1000	25	83.3
	1000-2000	5	16.7
Other sources of income	Yes	5	16.7
	No	25	83.3

**Parent stress index**

It includes two domains: child domain and parent's domain

**1. Child domain**

**Table (2): Comparison between scores of Demandingness pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	When my son(my daughter) asks for something, he usually goes on trying to get what he wants	4.63	0.49	3.20	1.21	5.99	.0001*
2	My son (my daughter) screams and rages	3.30	1.18	2.20	1.00	3.90	.0001*
3	It seems that my son is screaming and raving more often than most children	4.00	1.20	3.40	1.10	2.01	.049*
4	When something happens that is not wanted by my son (my daughter), his reaction is very strong	3.77	1.33	3.00	1.05	2.48	.016*
5	Your son (your daughter) does some things or behaviors that bother you. Think carefully and count the number of these things or behaviors.	3.43	1.36	2.10	1.09	4.19	.0001*
6	When my son (my daughter) screams it usually takes.	3.33	0.99	2.13	0.90	4.90	.0001*
7	My son (my daughter) does some things or behaviors that really cause me much distress or anxiety	4.00	1.26	3.73	0.91	0.94	.351
8	My son ( my daughter) imposes more demands than children do	3.83	1.21	3.60	1.30	0.72	.474
9	It is easy for you to understand what your son (daughter) wants or needs.	2.70	0.88	2.77	0.50	0.36	.719
Total		3.66	0.47	2.90	0.34	7.15	0.0001*

**Table (3): Comparison between scores of Adaptability pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	My son (my daughter) is often busy playing for more than ten minutes	3.70	1.24	3.07	0.98	2.20	.032*
2	My son (my daughter) spends a lot more time outside the house than I expected	3.13	1.53	2.57	1.10	1.65	.105
3	My son (my daughter) is very tight and resistant when he is wearing or bathe	3.07	1.62	2.50	1.14	1.57	.122
4	My son (my daughter) seems a bit different from what I expected and this sometimes bothers me	4.30	1.02	3.10	0.96	4.69	.0001*
5	My son seems to forget his past learning in some areas and he is turning back to do special things for the younger children.	3.73	1.31	2.43	0.73	4.75	.0001*
6	My son has many difficulties in adapting to the changes that occur around him more than most children	3.47	1.36	2.57	1.36	2.57	.013*
7	My son usually avoids playing a new game for a little while before playing	3.20	1.40	2.27	0.52	3.42	.001*
8	It's hard for my son to get used to the new stuff and it takes a long time	3.33	1.58	2.20	0.55	3.70	.0001*
9	My son (my daughter) does not seem satisfied when he meets strangers	3.40	1.54	2.43	0.97	2.90	.005*
10	My son wants me and needs more than he wants or needs from other people	3.80	1.32	2.40	1.22	4.26	.0001*
Total		3.37	0.67	2.47	0.48	5.88	0.0001*

**Table (4): Comparison between scores of Acceptability pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	My son (my daughter) does not have the ability to work as much as I expected	4.20	1.16	3.13	1.01	3.81	.0001*
2	Setting up a system for my son to sleep or eat was much harder than I expected	3.80	1.35	2.43	0.86	4.68	.0001*
3	I found that when I asked my son to do something or stop doing something, that was the demand	3.87	0.90	3.23	1.41	2.08	.042*
4	My son (my daughter) is experiencing more health problems than I expected	3.13	1.38	3.00	1.20	0.40	.692
5	My son (my daughter) became a problem more than I expected	4.07	1.20	2.63	1.13	4.76	.0001*
6	Since my last son was born, I found myself unable to care for him as well as I thought. I need help	3.17	1.56	3.20	1.32	0.09	.929
7	I find myself giving much of my life to meet my children's needs more than I expected	4.40	1.00	2.83	1.09	5.81	.0001*
Total		3.80	0.52	2.92	0.57	6.19	0.0001*

**Table (5): Comparison between scores of mood pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	When my son plays, he often does not laugh	2.47	1.41	2.33	1.24	0.39	.699
2	Usually my son (my daughter) gets up from sleep and is in a bad mood	3.23	1.43	2.67	0.99	1.78	.080
3	I feel that my son is moody and easy to get worried or upset	3.93	1.20	3.13	0.94	2.88	.006*
4	I think my son (my daughter) does not smile too much unlike most kids	3.33	1.49	2.17	0.95	3.61	.001*
5	My son (my daughter) is troubled by the simplest things	3.97	1.19	3.17	1.02	2.80	.007*
Total		3.38	0.79	2.69	0.50	4.02	0.0001*

**Table (6): Comparison between scores of hyperactivity pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	My son (my daughter) is so active that his activity makes me nervous and exhausted	4.37	0.85	3.07	1.01	5.38	.0001*
2	My son (my daughter) seems unorganized and easily distracted	4.43	0.94	3.23	0.97	4.87	.0001*
3	I compared my son (my daughter) to most other kids and I find it difficult to focus his attention	4.20	1.06	2.93	1.01	4.72	.0001*
4	My son (my daughter) was much more active than I expected	4.37	1.07	3.47	0.86	3.60	.001
5	My son (my daughter) can easily be distracted from what he wants	4.23	1.01	3.33	0.96	3.55	.001*
6	I think my son (my daughter) does not learn quickly unlike most kids	4.10	1.12	2.83	1.05	4.50	.0001*
7	My son (my daughter) does some things that bother me so much	4.57	0.77	3.43	1.14	4.52	.0001*
8	The presence of my son with other people is usually a big problem	4.27	1.11	3.53	1.01	2.68	.010*
9	My son (my daughter) notices the high voices and the bright lights and responds to them too much	4.20	1.19	2.77	1.07	4.91	.0001*
Total		4.30	0.55	3.17	0.53	7.90	0.0001*

**Table (7): Comparison between scores of reinforces parent pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	It is rare for my son (my daughter) to do things of my own to enter pleasure or satisfaction into myself	3.90	1.32	2.70	0.95	4.03	.0001*
2	My son (my daughter) smiles at me much less than I expected	3.27	1.51	2.00	0.95	3.90	.0001*
3	When I do something for my son (my daughter), I feel that my efforts are not appreciated by him	4.07	1.23	3.27	1.08	2.68	.010*
4	My son (my daughter) does not like anyone to hug him or carry him so much	3.37	1.54	2.27	0.87	3.40	.001*
5	Sometimes my son does things that bother me because I feel like I'm just a tool or a tool for him	3.53	1.41	2.17	0.59	4.90	.0001*
6	When I was young, I was not at all comfortable with having a child on my own or taking care of it	2.97	1.73	1.97	0.67	2.95	.005*
Total		3.51	0.83	2.39	0.57	6.42	0.0001*



## 2- Parents Domain

**Table (8): Comparison between scores of depression pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	When I see myself as a father, I often have a feeling of guilt or feeling bad about myself	4.10	1.21	2.17	0.99	6.77	.0001*
2	I am not happy with what I have bought for myself lately	3.47	1.63	2.07	0.83	4.19	.0001*
3	When my son behaves improperly or There is a state of agitation and chaos, I feel responsible for it, as if I have not done anything right	4.00	1.23	2.27	0.94	6.12	.0001*
4	Every time my son does something wrong, I feel that this is really my mistake	3.97	1.27	2.43	1.04	5.11	.0001*
5	I often feel guilty from the way I feel toward my son	4.00	1.26	2.17	0.87	6.55	.0001*
6	There are a few things that make me worried about my life	3.90	1.32	2.13	0.68	6.51	.0001*
7	I felt more sad and depressed than I expected after my son was born	3.53	1.59	1.93	0.69	5.05	.0001*
8	I feel guilty when I get angry from my son and this bothers me	4.20	1.19	2.47	1.07	5.93	.0001*
9	After my son was born, I noticed that I was feeling more sad and depressed than I expected	3.37	1.69	1.97	0.76	4.13	.0001*
Total		3.83	0.70	2.17	0.58	9.91	0.0001*

**Table (9): Comparison between scores of attachment pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	I feel most of the time that my son (my daughter) loves me and wants to be close to me	4.20	1.06	4.33	1.18	0.46	.648
2	I feel at times that my son (my daughter) does not love me and does not want to be close to me	3.17	1.74	1.97	1.10	3.19	.002*
3	What phrase describes your son (your daughter) as an accurate description	1.97	0.89	1.37	0.67	2.95	.005*
4	When my son grows up and becomes dependent on himself, I find myself worried that he will be harmed or falls into trouble	4.20	1.00	2.97	1.16	4.42	.0001*
5	My son (My daughter) is always attached to me	4.37	1.00	4.30	1.21	0.23	.817
6	It's a long-time task for parents to have feelings of warmth and affection towards their children	3.03	1.27	2.60	0.67	1.65	.105
7	I expected to have warmer and more affectionate feelings towards my son than I have and this disturbs me	3.63	1.13	2.30	0.70	5.49	.0001*
Total		3.50	0.42	2.83	0.40	6.33	0.0001*

**Table (10): Comparison between scores of restrictions of role pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	I cannot make decisions without help	3.63	1.52	2.40	1.28	3.40	.001*
2	The number of my sons is very much	3.13	1.70	2.37	1.00	2.13	.037*
3	I spend most of my life working for my son	3.70	1.29	2.67	0.92	3.57	.001*
4	I often feel that the needs of my son (my daughter) are controlling my life	4.23	1.30	2.23	1.01	6.65	.0001*
5	Since my son was born, I have been unable to do a variety of new things	4.30	1.12	2.83	1.02	5.31	.0001*
6	Since my son was born, I feel most of the time that I cannot do the things I like to do	4.20	1.13	2.63	1.03	5.61	.0001*
7	It's hard to find a place in our house where I can be alone	4.33	0.96	2.37	1.10	7.39	.0001*
Total		3.93	0.63	2.50	0.60	8.96	0.0001*

**Table (11): Comparison between scores of sense of competence pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	When my son,(my daughter ), gave birth to doubt about my ability to perform my duties and obligations as a mother	3.07	1.64	2.03	1.00	2.95	.005*
2	When I became a father (mother), this was more difficult for me than I thought	2.80	1.52	3.90	0.99	3.32	.002*
3	I feel my ability and efficiency when I take care of my son (my daughter)	2.43	1.50	2.13	1.33	0.82	.416
4	Care for my son (my daughter) seems much harder than most kids	4.23	1.19	2.90	1.32	4.10	.0001*
5	I had a lot of problems with the children rearing than I expected	4.47	0.78	2.47	1.25	7.44	.0001*
6	I am happy to be a mother (father)	2.70	1.24	1.77	1.33	2.81	.007*
7	I feel successful most of the time when I try to make my son do something or stop doing something	2.07	1.26	1.50	0.97	1.95	.056
8	I often feel that I cannot handle things properly	3.97	1.07	2.60	1.22	4.62	.0001*
9	When I look at myself as a mother (father)	2.73	1.31	2.63	1.22	0.31	.761
10	I feel I'm	3.23	1.14	2.80	1.06	1.53	.132
11	Level of education for mother	3.00	0.95	3.00	0.95	0.00	1.0
12	Level of education for father	2.90	0.92	2.90	0.92	0.00	1.0
13	I feel in trouble because of my responsibilities as a mother ( father)	3.93	1.48	2.30	0.79	5.31	.0001*
Total		3.19	0.28	2.53	0.35	7.82	.0001*

**Table (12): Comparison between scores of social isolation pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	I feel lonely and without friends	3.87	1.48	2.23	0.86	5.23	.0001*
2	When I go to a party, I usually expect that I will not be happy	3.53	1.41	2.20	0.76	4.56	.0001*
3	I do not care anymore about people as I used to care about them	3.93	1.36	2.67	1.09	3.97	.0001*
4	I often feel that people are the same age do not like my friendship	3.40	1.45	2.27	0.91	3.62	.001*
5	When I have a problem with caring for my children, I can ask some people for help or advice	4.03	1.30	3.30	1.32	2.17	.034*
6	Since I have children ,I Didn't have the opportunities to see my friends and make new friends	4.20	1.06	3.20	1.13	3.54	.001*
Total		3.82	0.85	2.64	0.66	6.00	.001*

**Table (13): Comparison between scores of relation with spouse pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	my husband did not give me as much help and help as I expected	3.93	1.39	2.23	1.01	5.43	.0001*
2	Since we gave birth to our child I had more problems in my relationship with my wife ( my husband) than I expected	5.13	6.92	2.37	1.10	2.16	.035*
3	Since we have given birth to our child, my wife ( my husband) and I are no longer sharing things together	4.57	3.51	2.80	1.27	2.59	.012*
4	Since we have given birth to our second child, my husband (my wife) not spent much time with each other, than I expected	4.33	0.84	2.57	1.22	6.51	.0001*
5	I have been less interested in sex since my last son was born	3.67	1.32	2.33	0.96	4.47	.0001*
6	Problems with relatives seem to have increased after we have given birth to our child	3.87	1.41	2.27	0.87	5.30	.0001*
7	The presence of our children has increased the cost of living more than I expected	4.33	1.12	2.47	1.28	6.00	.0001*
Total		4.26	1.34	2.43	0.67	6.67	.0001*

**Table (14): Comparison between scores of parental health pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	In the past six months, my health has become more common and I have more pains than before.	3.63	1.47	3.13	0.94	1.57	.122
2	I feel healthier most of the time	2.67	1.52	2.70	1.44	0.09	.931
3	The presence of my child has led to a change in my sleep pattern	3.60	1.50	3.37	1.45	0.61	.542
4	I am no happier in anything than I used to be	4.30	1.15	3.07	1.41	3.71	.0001*
5	The health of the mother after the birth of the child	4.03	0.96	3.63	0.72	1.82	.074
Total		3.64	0.64	3.18	0.56	2.97	0.004*

### Self concept scale

This section includes 4 main elements: identity, satisfaction, behavior and self critique

**Table (15): Comparison between scores of identity pre and post program of studied subjects (N=30)**

No	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	I have a healthy body	2.67	1.27	3.97	0.41	5.34	.0001*
2	I like to appear neat and attractive	2.83	1.29	3.77	0.57	3.63	.001*
3	I am an attractive person	2.30	1.18	3.23	1.04	3.25	.002*
4	I am full of pain and suffering	2.23	1.36	2.87	1.04	2.03	.047*
5	I am an untidy person	3.77	1.45	4.23	0.86	1.51	.136
6	I am not a healthy person	3.07	1.17	3.70	1.24	2.04	.046*
7	I am a well-mannered person	3.50	0.94	3.87	0.43	1.94	.057
8	I am a pious person	3.33	1.03	3.73	0.45	1.95	.056
9	I am an honest person	3.83	0.91	3.77	0.82	0.30	.767
10	I don't have a good moral	4.33	0.96	4.60	0.86	1.14	.260
11	I am a bad person	3.93	1.28	4.53	0.82	2.16	.035*
12	I am a weak-will person	2.60	1.50	3.13	1.33	1.46	.151
13	I am a cheerful person	2.93	1.28	2.87	1.38	0.19	.847
14	I have a high self-control	2.50	1.22	3.80	1.03	4.45	.0001*
15	I am a calm person and easy to befriended	2.97	1.35	3.00	1.74	0.08	.934
16	I am hated	4.33	0.84	4.20	0.92	0.58	.562
17	I am not important	3.30	1.47	3.83	0.99	1.65	.104
18	I can no longer think straight	3.47	1.36	3.53	1.22	0.20	.842
19	I have a family that are always ready to help when I am in trouble	2.77	1.55	3.20	1.19	1.22	.228
20	I am important to my family and my friends	2.80	1.52	3.53	0.94	2.25	.028*
21	I am from a happy family	2.37	1.33	3.13	1.14	2.40	.019*
22	I am not loved by my family	3.90	1.30	3.87	1.38	0.09	.924
23	My friends are not confident of me	4.07	1.17	4.43	1.01	1.30	.199
24	I think my family do not put their trust in me	3.73	1.26	4.57	0.82	3.04	.004*
25	I am a friendly person	3.10	1.30	3.87	0.51	3.02	.004*
26	I am more popular among females	2.80	1.40	2.77	0.94	0.11	.914
27	I am more popular among males	2.43	1.22	2.60	1.13	0.55	.586
28	I feel angry towards everybody	4.20	1.27	4.33	1.32	0.40	.692
29	I am not interested in what others are doing	3.87	1.31	2.67	1.67	3.10	.003*
30	I find it difficult to develop closeness with others	3.40	1.30	4.37	1.07	3.15	.003*
<b>Total</b>		3.24	0.43	3.66	0.25	4.60	.0001*

**Table (16): Comparison between scores of satisfaction pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	I am not too fat and not too thin	3.03	1.50	3.00	1.26	0.09	.926
2	I am not too tall nor too short	2.77	1.48	2.97	1.67	0.49	.625
3	I like the way I am now	2.83	1.37	4.10	1.06	4.01	.0001*
4	I don't feel as healthy as I should be	3.10	1.40	3.47	1.43	1.00	.320
5	I wish to change a few parts of my body	3.53	1.50	4.40	1.10	2.55	.014*
6	I should have more sex appeal	2.80	1.35	2.63	1.40	0.47	.641
7	I am very satisfied with my manners and behaviors	3.03	1.33	3.90	0.66	3.20	.002*
8	I am as pious as I wish to be	2.53	1.25	3.50	0.73	3.65	.001*
9	I am satisfied about my relationship with God	3.27	1.14	3.80	0.61	2.25	.028
10	I feel that I am not very trusted	3.13	1.28	4.63	0.72	5.60	.0001*
11	I rarely go to the mosque or place of worship	2.87	1.14	3.97	1.50	3.21	.002*
12	I tell lies often	3.57	1.25	4.03	1.00	1.60	.116
13	I am satisfied with myself now	2.57	1.28	3.77	0.97	4.09	.0001*
14	I am as intelligent as I wish to be	2.67	1.12	3.20	0.81	2.11	.039*
15	I am a good person	2.63	1.38	3.50	1.25	2.55	.013*
16	I am not the person I hope to become	2.77	1.25	3.20	1.52	1.21	.232
17	I hate myself	3.87	1.20	4.50	1.14	2.10	.040*
18	I am someone who gives up easily	3.23	1.55	3.40	1.69	0.40	.692
19	I am satisfied with the relationships in my family	2.97	1.40	4.07	0.52	4.03	.0001*
20	I have treated my parents as I should have treated them	3.33	1.35	4.07	0.69	2.65	.010*
21	I understand my family adequately	3.30	1.32	3.80	0.89	2.08	.042*
22	I am very sensitive about what my family says	2.20	1.32	3.00	1.64	2.47	.016*
23	I must increase my faith towards my family	2.40	1.38	3.30	1.44	1.33	.190
24	I should have loved my family more than I love others	2.37	1.38	1.93	1.14	1.36	.180
25	I can socialize in ways that I want	2.97	1.56	3.50	1.48	0.59	.556
26	I am satisfied with the way I treat other people	2.77	1.45	3.00	1.60	0.55	.584
27	I make an effort to win people's heart , but I don't overdo it	2.80	1.45	3.00	1.36	0.47	.639
28	I should have more manners with other people	3.33	1.52	3.13	1.76	2.49	.016*
29	I am not good in socializing	3.47	1.36	4.30	1.24	3.79	.0001*
30	I am not satisfied with the way I mix with other people	2.93	1.36	4.13	1.07	2.08	.042*
<b>Total</b>		2.96	0.47	3.57	0.29	5.88	.0001*

**Table (17): Comparison between scores of behavior pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	I take good care of my physical self	1.97	1.35	2.33	1.27	1.08	.283
2	I feel happy most of the time	1.83	1.09	3.23	1.10	4.95	.0001*
3	I am very careful about myself appearance	2.83	2.74	3.83	0.91	1.89	.063
4	I am not good in games and sport	2.60	1.65	2.93	1.41	0.84	.404
5	I often behave like a know-all person	3.07	1.60	3.80	1.30	1.95	.056
6	I have trouble sleeping	3.23	1.52	3.03	1.45	0.52	.605
7	Religion is my guide in everyday life	3.67	1.21	3.83	0.46	0.70	.485
8	I do what is right most of the time	3.70	1.02	3.93	0.69	1.04	.305
9	I will work on changing when I realize that I have made a mistake	3.60	1.10	3.90	1.09	1.06	.294
10	Sometimes I use unfair ways to move forward	4.03	1.25	4.93	0.26	3.80	.0001*
11	Sometimes I do bad things	3.83	1.44	4.67	0.76	2.80	.007*
12	I have problems doing the right thing	3.73	1.26	4.50	0.94	2.68	.010*
13	In any situation, I can take care of myself	2.27	1.44	2.53	1.41	0.73	.471
14	I can solve my problems easily	2.60	2.16	2.70	1.29	0.22	.828
15	I am willing to admit my mistake without feeling angry	2.13	1.28	3.23	1.33	3.26	.002*
16	I often change my mind	3.37	1.52	2.03	0.85	4.19	.0001*
17	I often act without thinking first	3.27	1.53	2.73	1.34	1.44	.156
18	I try to escape from facing problem	3.27	1.53	3.37	1.69	0.24	.811
19	I try to be fair towards my family and friends	3.30	1.39	3.77	1.14	1.42	.160
20	I make sure that I do my part in the house	3.33	1.37	3.70	0.60	1.34	.185
21	I give full attention towards my family	2.93	1.36	3.77	0.63	3.04	.004*
22	I often quarrel with my family	2.93	1.36	2.47	1.31	1.35	.181
23	I always give in to both my parents	3.13	1.41	4.10	0.55	3.51	.001*
24	I do not act wisely as perceived by my family	3.07	1.41	2.83	1.64	0.59	.557
25	I try to understand other people's view	3.13	1.43	3.90	1.06	2.36	.022*
26	I have good regards towards everybody that I met	2.80	1.24	2.43	1.52	1.02	.311
27	I can be friend with everybody	2.57	1.33	2.53	1.68	0.08	.932
28	I don't find it hard to talk with other people	3.03	1.35	3.83	1.12	2.50	.015*
29	It is difficult for me to forgive other people	3.40	1.48	2.47	1.31	2.59	.012*
30	I feel difficult to talk with somebody that I do not know	3.10	1.58	3.30	1.53	0.50	.621
<b>Total</b>		3.00	0.40	3.35	0.25	3.40	.001*

**Table (18): Comparison between scores of self critique pre and post program of studied subjects (N=30)**

No.	Item	Pre program		Post program		Paired t	p-value
		Mean	SD	Mean	SD		
1	I do not always speak the truth	3.20	1.52	3.13	0.97	0.20	.840
2	Sometimes I think of bad things to say	3.90	1.35	4.40	1.07	1.59	.117
3	I sometimes get angry	1.80	1.00	2.47	1.04	2.53	.014*
4	Sometimes I become angry when I don't feel well	2.07	1.28	2.07	0.64	0.00	1.000
5	I don't like everybody that I know	2.60	1.48	2.10	1.30	1.39	.169
6	Sometimes I do badmouth other people	3.17	1.51	2.83	1.39	0.89	.378
7	Sometimes I am entertained by obscene jokes	3.63	1.43	4.27	1.46	1.70	.095
8	Sometimes I feel like cursing	2.50	1.53	3.27	1.46	1.99	.052
9	I prefer to win rather than lose in a game	3.43	1.55	2.97	1.43	1.21	.229
10	Sometimes I will postpone works that I should be doing	2.77	1.59	3.87	1.48	2.77	.007*
<b>Total</b>		2.90	0.84	3.13	0.40	1.34	.18
<b>Total self concept</b>		3.00	0.38	3.49	0.18	5.33	.0001*

**Pre and posttest knowledge**

**Table (19): Comparison between pre and posttest knowledge levels of studied subjects (N=30)**

Knowledge levels	Pre test knowledge		Posttest knowledge	
	No.	%	No.	%
Low (<50%)	29	96.7	2	6.7
Moderate (50-75%)	1	3.3	8	26.7
High (>75%)	0	0.0	20	66.7

**Table (20) : Correlation between the studied variables post program among the studied subject ( N=30).**

Knowledge	self concept		Parent stress		CPRS	
	r	p-value	R	p-value	R	p-value
	0.55	0.0001*	-0.74	0.0001*	-0.58	0.0001*

**Discussion**

**Section I: Socio-demographic characteristics of the studied subject**

In relation to age of the studied children the study finding revealed that figure (1), the majority of the studied children their age ranged between 9->11 years. This is confirmed with the study carried out by Osman (2013), to estimate the prevalence rate of ADHD in Egyptian children when their age ranged between 6-12 years. This result also consistent with (Fathy, 2010) who found the high percentage of children in both aged between 7-8 years. Also it was found that, the majority of the studied samples were boys 76.7% while the minority was girls 23.3% (figure 2). Some studies revealed that the prevalence of ADHD between school age children is approximately 5%-7% and the ratio between boys and girls reached 6:1. These findings were supported by Parsons, (2010), and Verb& James, (2012) who found that, From 1.35 to 2.25 million children—3% to 5% or more of all school-age children have attention-deficit/hyperactivity disorder. This translates into a probability of 1 to 2 students in a typical classroom. Estimation of the number of affected adults varies widely, from 30% to 70% of those diagnosed in childhood experiencing ongoing symptoms. The incidence of occurrence in males exceeds females by a 4 to 1 ratio.

As regards sibling number the study finding revealed that (figure 3), the majority of studied subject have two siblings. This result consistent with Lavee et al. (2011), who reported that, a higher number of children were associated with more difficulty in the parenting role. In relation to the child’s birth order, results of the present study indicated that, more than two fifths 46.7% of the studied children were ranked the first child in their families (figure 4). In contrast, Larsson et al., (2011) reported that, birth order (especially first or last born) is a risk factor for ADHD and that differences in the number of unfavorable pre or peri-natal events between ADHD children and siblings were attributable to differences in parity. Most substantiated causes appear to fall in the realm of neurobiology and genetics. However, this study result was in agreement with Mahmoud, Ragab and Girrgais (2013), who mentioned that the highest percentage of children with autism ranked the first child representing approximately two fifths of the studied children.

The finding in the current study revealed that the majority of mothers were between the ages 30 to 39 years old (table 1). This result matched with Prithivirajh, (2012) who found that, the range of the age distribution of parents in this study was 30-50 years. This indicated that 25% of parents fell in the 30-35 year age group, 25% were between 36-40 years old, 25% were between 41-45 years old and 25% fell in the 46-50 year age group. The study results supported by Fathy, (2010) who stated that, mothers age ranging from 30<40 years old, represented 93% of the study group with mean age 33.86±4.65 while the highest percentage of father age ranged from 30<40years old with mean age 40.10±6.11.

**Parents stress index**

**1- Child domain.**

In light of the current study results, there was a highly statistically significant difference regarding the child domain (demandingness, adaptability, acceptability, mood, hyperactivity and reinforce parent) pre and post program implementation. In the same line with the current study results, Jones, Carr, & Feeley (2016) compared the parenting stress experienced by parents of children with ADHD and autism (ASD), the result indicated that, he multivariate covariance analysis conducted to evaluate the differences in parenting stress related to the Child Domain among the ADHD and comparison group revealed statistically significant differences, Wilkes’s lambda = .39, F(18, 312) = 6.86, p < .001, η<sup>2</sup> p = .270. The posterior analyses of covariance showed statistically significant differences on all the Child Domain variables. Post tests showed statistically significant differences between the comparison group and the rest of the groups (ASD, ADHD, ASD+ADHD) on distractibility/hyperactivity, adaptability, demandingness, mood, acceptability, and the Child Domain global score (p < .002). Moreover, the ASD+ADHD group presented a significantly higher score than that of the ASD group on distractibility/hyperactivity (p < .001). On all the variables, the comparison group scores were lower

than those of the other groups

## **2- Parents domain**

Result of the current study revealed that, there was a statistically significant difference between pre and post program regarding parent domain (depression, attachment, restrictions of role, sense of competence, social isolation, relationship with spouse and parental health). These findings were supported by Beckman (2011) revealed significant group differences between parents of developmentally disabled and non-disabled children on both the child and parent domains of the PSI. However, parents of normal children reported similar experiences of stress with respect to how reinforcing and acceptable (Child Domain) their children were to them, and felt similar levels of attachment to their children (Parent Domain). Cameron et al. (1991) only found significant differences between parents of developmentally delayed and non-delayed children with respect to child related stress in the areas of acceptability, demandingness, and distractibility. In contrast to Beckman's 2011 study, these researchers discovered that parents of no delayed children reported similar experiences of stress with regard to all of the parent characteristics tapped into by the Parent Domain, and also in the area of general life stress.

### **Self concept**

Result of the current study revealed that, there was a statistically significant difference between pre and post program regarding total score of self concept scale among the studied parents table (18). In the same line (Jones & Prinz, 2005) suggested that, Parental self-concept plays an important role in parental and child adjustment. Parental self-concept is linked to parental competence and psychological functioning as well as child characteristics, such as emotional adjustment and school achievement.

Jones and Prinz (2005) also suggested that parental self-concept may play an important role in prevention and intervention efforts. In a sample of mothers in a clinic and in the community, it was found that clinic mothers had lower self-concept on multiple parenting tasks, including their child's refusal to eat, their child's throwing a tantrum, and visiting friends or relatives with their child (Sanders & Woolley, 2009). Likewise, using the best predictive model of primary service use in a sample of caretakers, parental distress and self-concept accounted for the most variance above the influence of child health status and psychosocial variables (Janicke & Finney, 2012).

### **Pre and posttest parents' knowledge**

In light of study findings, the majority of the studied subjects have low level of knowledge pre-program (table 25). While more than half of the studied subject had high level of knowledge post program. This explanation is agrees with Zarei, (2010) who found that there was adequate knowledge among families about their children ADHD and also found that they insisted on increase their knowledge about ADHD. This result also support by Ivanovska, (2014) who studied prevalence, gender distribution and presence of attention deficit hyperactivity disorder found that highly statistically significant difference between parent's knowledge regarding ADHD before and after the program intervention. This could be due to the mothers were aware of attending seminars and workshops to enhance their knowledge and to deal with the problems of the child successfully and it reflects their curiosity of asking continuously about the recovery of their children from their ADHD illness. Besides, their desire to overcome the confusion and guilty feeling toward their ADHD children and their trail to be a good caregivers who offer praise, consequence feedback to care their children without obstacles depending on a scientific basis to be more equipped with knowledge which help them to play a more active role with their children

### **Correlation between the studied variables**

This study results indicated that, there was a highly positive correlation were found between parent's knowledge and self concept among the studied subjects Table (30). Also, highly statistical significant negative correlations were found between parent knowledge, parent stress and Conner's parent rating scale among the studied subjects.

The current finding inconsistent with Aly(2013 ) who conducted a study to assess parent stress and self concept among parents of children with ADHD the result indicated that, there was no statistically significant relationship between self-concept of the parent and parent stress total scores . Although, it was observed negative that there was a negative correlation between self-concept and ADHD but not supported statistically. It is likely that the different ages of children and the different assessment measures used in different researches may have contributed to these contradictory research finding. This previous results was consistent with Raikes and Thompson (2014) who conducted a study investigated the relationship between parental knowledge, self concept, and parental stress of ADHD children. Results indicated a negative correlation between measures of parental self-concept and measures of parental stress. Mothers higher in self-concept and have high level of knowledge about disorder had more perceived social support reported lower levels of parental stress.

To conclude, Psycho-educational program significantly improves level of parent's knowledge, self concept and reducing level of parents stress post program when compared to pre program. The study also concluded that the sufficient awareness and parent level of knowledge about the illness increase their methods of coping



enhanced toward positive direction then can take proper decisions for management. Finally the core care of children with ADHD is: parents, school and children themselves.

The study recommended that, Parents require continuing education, connection related to specialized, appropriate community resources and ongoing support.

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