



THE EFFECT OF AN EDUCATIONAL PROGRAM ON ENHANCING KNOWLEDGE, ATTITUDE AND PRACTICES OF PARENTS HAVING CHILDREN WITH AUTISM

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ABSTRACT

Background: Autism Disorder is a neuro-developmental disorder usually noticed among children within the first two or three years of their lives which have a profound impairment in social communication and social interaction and restricted and repetitive behavior. **Aim:** To evaluate the effect of an educational program on enhancing knowledge, attitude and practices of parents having children with autism **Design:** A quasi-experimental research design was used. **Setting:** the study was carried out in the outpatient clinic of autism at Al-Abbassia hospital for mental health and addiction and Helwan hospital for psychiatric and mental health. **Subjects:** the study sample was 60 parents of children of children diagnosed with autism from both sex. **Tools:** data was collected by using four tools; **Tool (1)** socio-demographic questionnaire for the characteristic of the children and their parents, **Tool (2)** parent's knowledge scale regarding autism disorder. **Tool (3)** Attitude scale of parents toward their children with autism, **Tool (4)** parent's practices scale regarding caring of children with autism. **Results:** the study results showed that. There was a highly statistically significant positive correlation between total knowledge and total practices scores and negative correlation between total knowledge, total practices scores and total attitude score. **Conclusion:** The educational program has positive effect on enhancing the parents of children with autism knowledge, attitude and practices. **Recommendation:** Conducting a continuous practical training and health educational programs for all members of the families having children with autism focuses on the attitude and behavior modification techniques.

Keywords: Children with autism, Parents, Knowledge, Attitude, Practices.

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INTRODUCTION

Autism is a developmental disorder that affects a person's capacity to communicate with and relate to others, as well as how they perceive the environment ⁽¹⁾. Autism disorder is considered a complex developmental disability because in the first the children with autism have wide range of difficulties with social behavior and communication, have limited interests, and

engage in repetitive and restricted behaviors. While the second cause are symptoms of AD occur to be lifelong for the majority of autistic children. Cause three these challenges with social communication, behavior, and social interaction often happen with other disorders such as Attention Deficit Hyperactivity Disorder (ADHD), Intellectual Disorder, and Epilepsy, making it difficult for many individuals with

autism to live in a way that is free from outside control or influence ⁽²⁾.

The learning, thinking, and problem-solving skills of autistic people range from talented to having severe special needs. Sometimes autistic people require the support of their family members to perform their daily routine work, while others require less support ⁽³⁾. Also Autism disorder is a condition with neurodevelopmental characteristics and deficiency in social relations and interaction, as well as limited, rhythmic and stereotyped patterns of actions that habitually arise in the toddler stage of life, from three to five years, and continue life-long ⁽⁴⁾.

The Parent of children with autism may be shocked and dismayed by the diagnosis, and they may struggle to understand their child's diagnosis and find appropriate care options. Parents of children with autism face challenges both at home and in the community. Compared to parents of children without autism, they are at heightened risk of financial strain and poor physical and mental health; they are also likely to experience higher divorce rates. In the community, they might have to pay out of pocket for services or drive long distances to access treatment facilities. Consequently, some might need to relocate their family or make career changes to ensure they are able to cover the costs associated with services. Health care professionals need to be aware of such issues and how they might impact a parent's ability to care for her children with autism ⁽⁵⁾.

Families with an autistic child may face a variety of issues, such as reduced parenting efficacy, high stress rate, mental and physical health issues, severe financial problems, time constraints, sibling adjustment issues, reduced social support, and family conflict. As compared with many other disorders, autistic children may have a greater effect on the family. As a result, raising autistic children in both developing and developed countries can be challenging for parents and families. To provide professional interventions for the children with autism, many obstacles must be overcome ⁽⁶⁾.

The Centers for Disease Control and Prevention (CDC), 2020 report shows that the prevalence of children diagnosed with ASD by the age of eight is now 1 in 54. The earlier rate, in 2018, was 1 in 59. An increase in ASD prevalence is visible ⁽⁷⁾. Care givers for autistic children were found to have a low level of knowledge about the disease. Because of the inadequate parents knowledge this have an impact of the parent

practices and attitude toward their children with autism ⁽⁸⁾.

Every member of the family has a dream child concept that influences their attitudes towards the unborn child. Parents and other family members want the new born child to be perfect mentally and emotionally and physically sound and along with the child they want to enjoy a happy life. But everyone does not get what he/she wishes. So, if any autistic children are born in a family, its dreams are broken down, so that the parent of children with may have negative attitude toward their children regarding to the diagnosed children ⁽⁹⁾.

The psychiatric Nurse Assistance to the children with autism and their parents is pointed out as crucial in the performance of the work process of nursing. Reveals the need for a careful look, devoid of preconceptions, attentive to the needs of others and their suffering, since most of the times there is the difficulty of oral expression on the part of the autistic, it is up to the nurse to listening and provision of holistic care ⁽¹⁰⁾.

Significance of the study:

The Center for Disease Control and prevention (CDC) estimated that in 2014 autism prevalence was 16.8per 1.000 (1 in 59) children 8years of age, the prevalence of autism was significantly higher in boys than in girls and the estimated autism prevalence for white children was 7% greater than that for black children ⁽¹¹⁾. In 2016 the National Survey of Children's Health (NSCH) estimated parent reported autism prevalence to be 1 in 40 (2.5 %) children aged 3-17 years ⁽¹²⁾.

Despite worldwide reports of increasing prevalence of Autism Spectrum Disorder (ASD), there is no epidemiological data for autism in Egypt **Alnemary** ⁽¹³⁾ an earlier study suggested an estimated prevalence rate of 33.6% among children with developmental disabilities in Egypt **Gobrial et al.** ⁽¹⁴⁾. While the Social Solidarity Ministry has estimated, there are 800,000 people with autism in Egypt **AlMasry AlYoun** ⁽¹⁵⁾.

So, from the researcher point of view, due to a lack of awareness from the parents about the signs and symptoms of autism disorder and their attitude to deal with this problem, there is a high chance of misdiagnosis or late diagnosis, especially among parents since they will be the first to observe any unusual behavior compared to other children or siblings of the same age group. An early and accurate diagnosis plays a massive role in outcomes and improvement of behavior in

the child. So it is important to deal with this phenomenon to help the parents to cope with their children problem and enhance their practice and increase their knowledge according to the child condition and level of illness.

AIM OF THE STUDY

This study was aimed to evaluate the Effect of an Educational Program on Enhancing Knowledge, Attitude and Practices of Parents having Children with Autism, **this aim was achieved through the following:**

1. Assessing the knowledge, attitude, and practices of parents having children with autism.
2. Planning and implementing an educational program on enhancing knowledge, attitude and practices of parents having children with autism.
3. Evaluating the effect of an educational program on enhancing the knowledge, attitude and practices of parents having children with autism.

Research hypothesis:

Educational program has a positive effect on enhancing knowledge, attitude and practices of parents having children with autism.

SUBJECTS AND METHODS

The subject and methods for this study have been portrayed under the four main items as follows:

I- Technical design:

The technical design included research design, setting, subjects and tools of data collection.

Research Design: A quasi-experimental research design was utilized to achieve the aim of this study.

Research Setting: This study was conducted at Al-Abbassia hospital for mental health and addiction outpatient clinic of autism and the outpatient clinics in Helwan Hospital for Psychiatric and Mental Health.

Study Subjects: A convenient sample of 60 parents having children diagnosed with autism who coming to the previous mentioned hospital

According to the following inclusion criteria:

Inclusion criteria for children parents:-

- Primary care giver for the child

- Both gender (male and female children)
- All available age group
- Free from any mental or physical problem

Inclusion criteria for children:-

- Both gender (male and female children)
- All available age group children
- Diagnosed with autism according to DSM and the children file.

Data Collection Tools:-

Data were collected using the following:-

1st tool: - structured interviewing questionnaire for parents of children with autism.

This questionnaire was designed by the researcher based on reviewing the current relevant literature. It will be written in simple Arabic language to suite parent's level of education. It will be includes two parts:

First part:-

Parents Socio-demographic data questionnaire:

this questionnaire concerned with the parent's socio- demographic characteristics status related to variables such as age, sex, level of education, parents occupation, place of residence, and the family income. ...etc.

Second part:-

Children Socio-demographic data

questionnaire: this questionnaire concerned with the children's socio- demographic characteristics status related to variables such as age, sex, level of education and child order in the family..... etc

2nd tool: - Parents knowledge scale regarding to autism^(16, 17):

This scale was designed and used by **Mohamed⁽¹⁶⁾ and Husien⁽¹⁷⁾**. It was adapted and used to assess parent's knowledge regarding to autism through pre-post program, it consist of 5 questions which include sub items based on literature concerning with parent's knowledge about autism related to the meaning of autism, causes, signs and symptoms and treatment method of autism.

3rd tool: - Attitude scale of parents toward their children with autism: (the Parental Attitude Research Instrument-PARI⁽¹⁸⁾).

This scale was developed by **Schaefer and Bel⁽¹⁸⁾** (the Parental Attitude Research Instrument-PARI) which were designed to provide information on parent's behavior, perceptions, reactions, values, feelings, etc. Used and modified by **Hazarika⁽¹⁹⁾**. It has been adapted and translated into Arabic. This scale was aimed

to assess parental attitude toward their children with autism. The questionnaire was consisting of 23 statements which are rated on a five-point Likert scale that ranges from 1 (strongly disagree) to 5 (strongly agree) to measure:-

- Love and acceptance
- Embarrassment
- Frustration
- Disappointment
- Overprotection.

4th tool: - the parents practices scale regarding caring of children with autism⁽¹⁶⁾: This scale was designed and used by **Mohamed⁽¹⁶⁾**. It was adapted and used to assess the parent's practices regarding caring of their children suffering from autism through pre & post the educational program implementation.

This scale was included five parts:

- Assess parent's practices regarding daily activities of their children suffering from autism, which include (**self-feeding, elimination, personal hygiene, wearing clothes and sleep**).
- Assess parent's practices regarding **social interaction skills** of their children with autism.
- Assess parent's practices regarding **attention and concentration skills** of their children with autism.
- Assess parent's practices regarding **communication skills** of their children with autism.
- Assess parent's practices regarding **motor activity skills** for children with autism.

Content Validity and Reliability:

The used study tools were revised for clarity, relevance, comprehensiveness, understanding, and applicability by a panel of 3 nursing experts from the Faculty of Nursing, Helwan University, to assess the content validity of the study tools. Internal consistency and reliability were measured by using Cronbach's alpha- coefficient test.

Items	Alpha Cronbach	f	P-value
Knowledge	0.835	24.652	<0.001**
Total	0.804	21.751	<0.001**

Practice			
Total Attitude	0.795	19.274	<0.001**

Pilot Study:

The pilot study was conducted on (6) parents of children with autism at Al-Abbassia hospital for mental health and addiction and Helwan psychiatric hospital in order to ensure the clarity of questions, applicability of the tools, the time needed to complete them and perform the required modifications according to the available resources. Subjects who shared in the pilot study were excluded from the main study sample.

Ethical Considerations:

Prior to study conduction, an ethical approval was obtained from the Scientific Research Ethical Committee of the Faculty of Nursing, Helwan University. Moreover, the researcher clarified the aim of the study to the parents included in the study. The parents' oral and written approval was a prerequisite to recruit them and their infants in the study. The studied parents were assured that all the gathered data were used for research purpose only and that the study was harmless. Also, the studied parents were informed they could withdraw from the study at any time without giving any reason. Furthermore, the confidentiality of the gathered data and results was ensured.

Statistical Design:

Data collected from the studied sample were revised, coded, and entered using PC. Computerized data entry and statistical analysis were fulfilled using the Statistical Package for Social Sciences (**SPSS**) version 20 to estimate the statistically significant differences between the variables of the study. Data were presented using descriptive statistics in the form of frequencies and percentages. Quantitative data were presented in the form of $\bar{x} \pm SD$. Qualitative variables were compared using chi-square test (X^2). Statistically significant differences were considered at p-value <0.05. Highly statistically significant differences were considered at p-value < 0.001.

RESULT

Table (1): Distribution of the parents according to their characteristics (n= 60).

Items	N	%
Age (years)		
<30	14	23.3
30- <35	22	36.7
35- <40	15	25
40 or more	9	15
Mean±SD	33.23±4.95	
Gender		
Father	23	38.3
Mother	37	61.7
Residence		
Rural	8	13.3
Urban	52	86.7
Family income		
Not sufficient for the family's needs	8	13.3
Exactly enough	52	86.7
Number of family members		
2- 3	10	16.7
4- 5	42	70
6 or more	8	13.3
The family history of mental illness		
Yes	6	10.0
No	54	90.0
Parental consanguinity		
Yes	1	1.7
No	59	98.3
Attendance of educational courses		
Yes	13	21.7
No	47	78.3

This table shows that, the mean and standard deviation values for the parent's age were **(33.23±4.95)**. About **(61.7%)** of the studied sample were mothers. **(86.7%)** of the parents were from Urban. **(86.7%)** of the parents see that their income is exactly enough to the family

needs. **(70%)** of family member ranged from 4 to 5. **(90%)** of the parents haven't a history of mental illness in the family. About **(98.3%)** there were not a parental consanguinity between the mother and father, **(78.3%)** of parents haven't attended any educational courses.

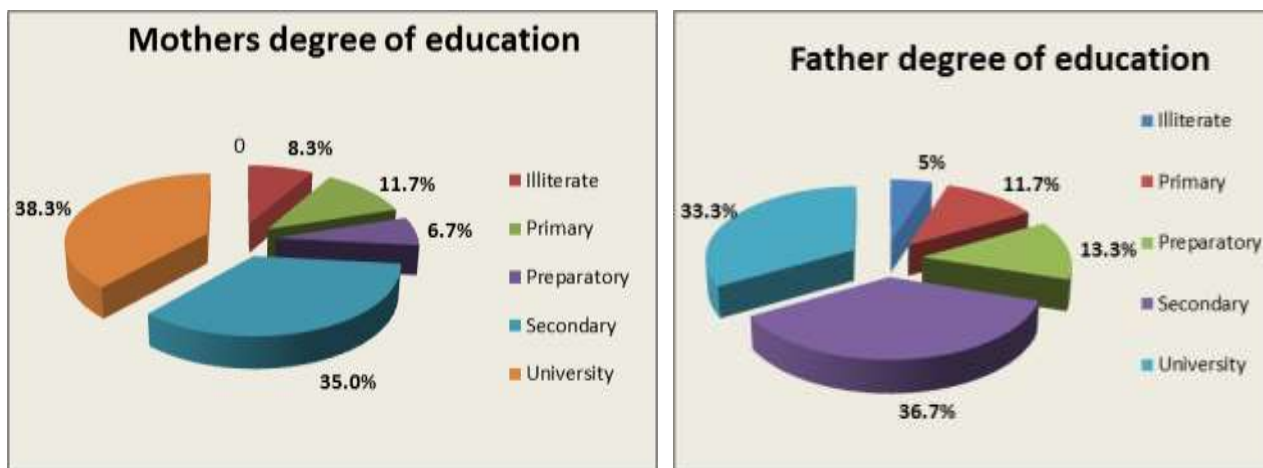


Figure (1): Percentage distribution of the parent's degree of education.

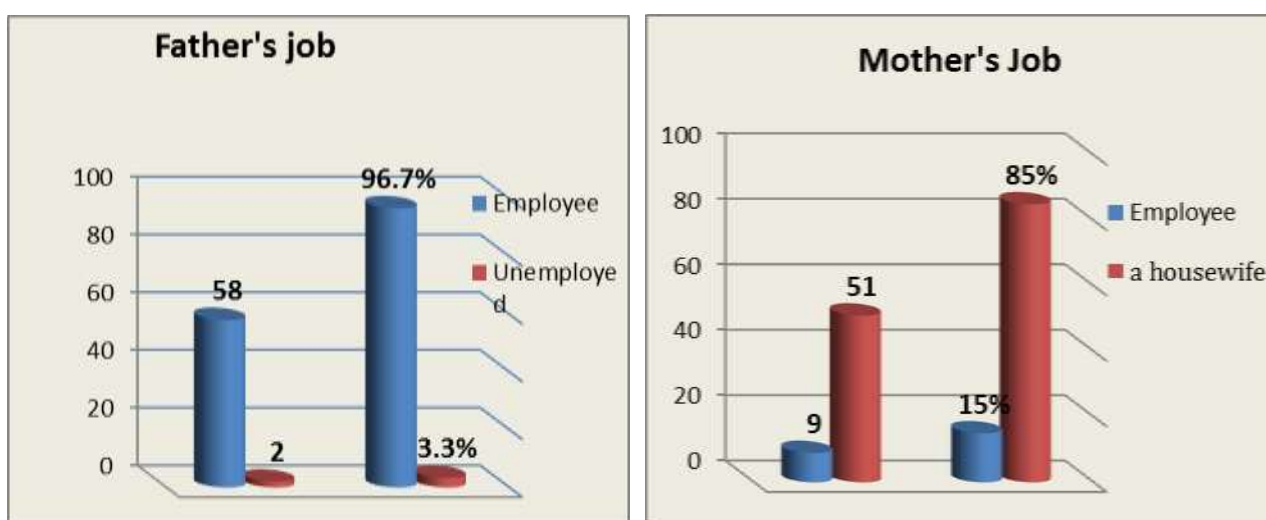


Figure (2): Numbers and percentage distribution of the father's job and mother's degree of education.

This figure clarified that, (36.7) of the mothers their degree of education were university degree and (38.3) of fathers were secondary degree of

education. This figure illustrated that, (96.7%) of the fathers were employee and (85%) of the mothers were house wives.

Table (2): Socio- demographic characteristics of the children having autism (n= 60).

Items	N	%
Age (years)		
<5	13	21.7
5- <10	31	51.7
10 or more	16	26.7
Mean±SD	7.45±2.7	
Gender		
Boys	58	96.7
Girls	2	3.3
The growth rate of the child compared to his peers		
Normal	39	65.0
Abnormal	21	35.0
The degree of autism: (from the child's record)		
Simple	11	18.3

Items	N	%
Moderate	46	76.7
Severe	3	5.0
Does the child suffer from any mental illness besides autism		
Yes	5	8.3
No	55	91.7
When was the child suspected of being abnormal	2.34±0.92	
When was a child diagnosed with autism	3.07±1.17	

This table represents that the age of the children in the study ranges from 5- <10 was (51.7%) with a Mean±SD of 7.45±2.7. (96.7%) of the children in the study were male. (65.0%) of the children were normal growth rate compared to their peers. (76.7%) of the children Moderate degree of autism. (91.7%) of the children not suffered from

any mental illness besides autism. The mean and standard deviation values for age of the child suspected of being abnormal were 2.34±0.92, while the mean and standard deviation values for age of the child diagnosed with autism were 3.07±1.17.

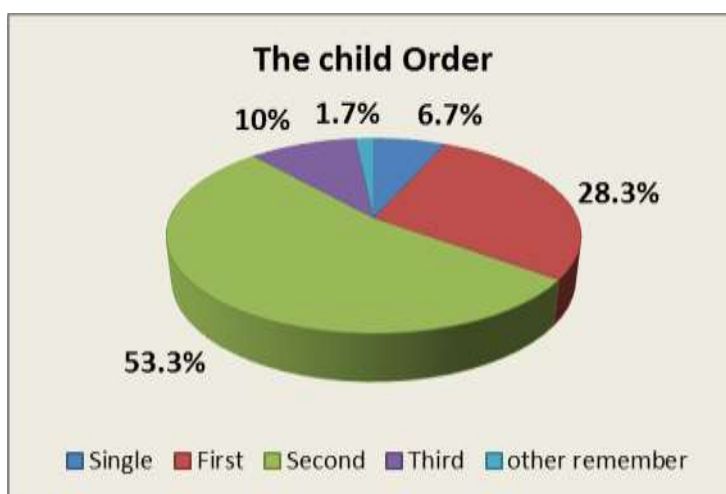


Figure (3): Percentage distribution of the child order within the family.

This figure illustrated that, (53.3%) of the children were the second child with I the family.

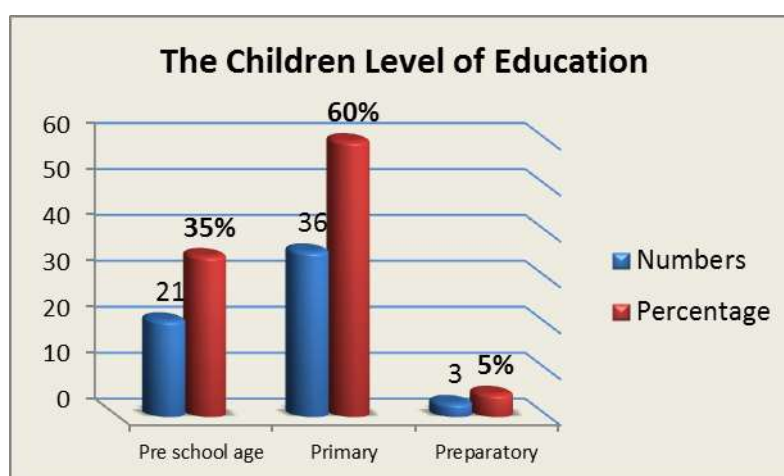


Figure (4): Number and percentage distribution of the children level of education.

This figure illustrated that, (53.3%) of the children were the second child with in the family.

Table (4): Comparison between total knowledge scale of the parent's having children with autism (pre& post) program implementation of the studied sample (n =60).

Total knowledge	Pre		Post		Chi-square	
	N	%	N	%	X ²	P-value
Satisfactory	19	31.7	51	85	35.109	<0.001** HS
Unsatisfactory	41	68.3	9	15		
Mean±SD	15.1±4.36		32.98±2.06			
% of change	54.2%					

>0.05 Non significant <0.05* significant <0.001** High significant

This table shows that the parent's total knowledge became more Satisfactory (85%) with highly statistically significant difference between pre and post the educational program implementation at P-

value <0.001**, while percentage of improvement was (54.2%) with mean and stander deviation was during pre (15.1±4.36) & post program implementation was (32.98±2.06).

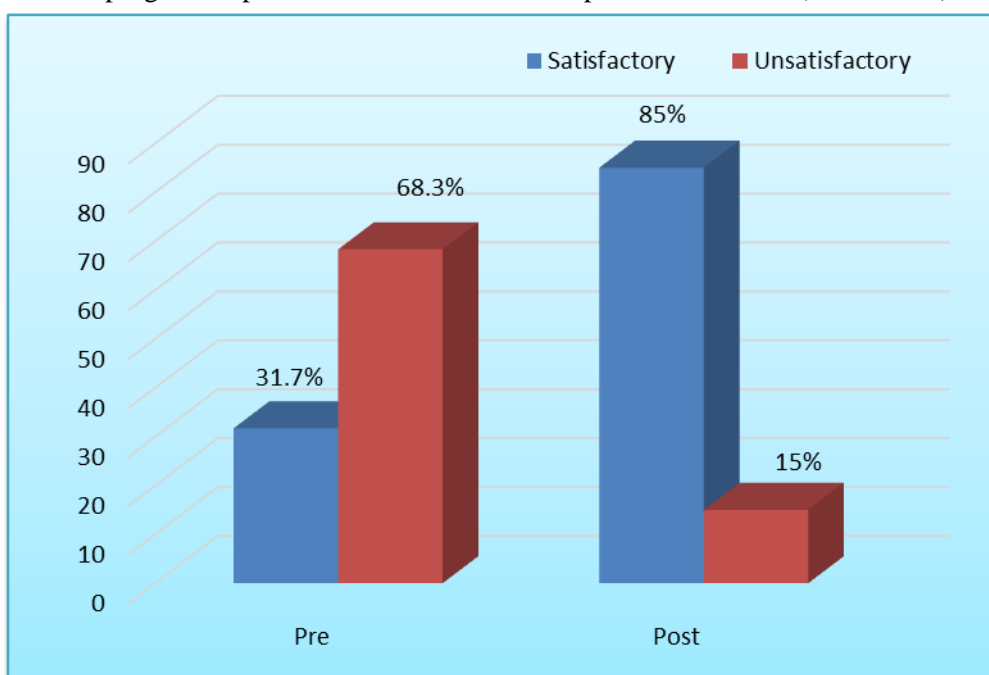


Figure (5): Percentage of total parent's knowledge regarding their children disorder (pre & post) program implementation (n= 60).

Table (10): Comparison between total parent's practices regarding their children disorder during (pre & post) the implementation of the educational program among the studied sample (n =60).

Total practice	Pre		Post		Chi-square	
	N	%	N	%	X ²	P-value
Competent	22	36.7	53	88.3	34.169	<0.001** HS
Incompetent	38	63.3	7	11.7		
Mean±SD	78.6±14.66		160.17±5.23			
% of change	50.1%					

This table shows that the parent's total practices regarding their children disorder became more competent during post educational program than the pre with highly statistical significant differences at p value < 0.001**.

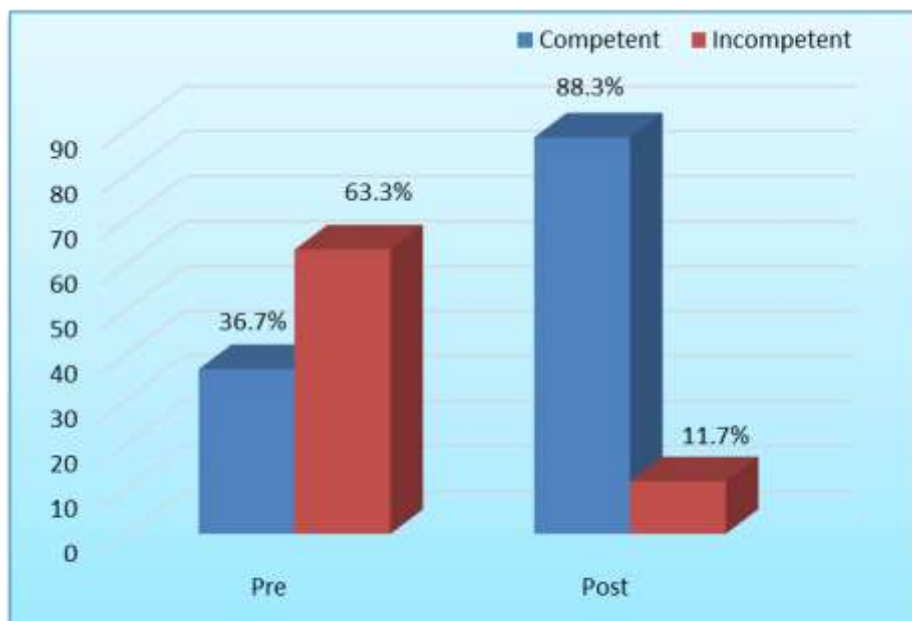


Figure (6): Percentage of total parent's practices regarding their children disorder (pre & post) program implementation (n= 60).

Table (12): Comparison between total score of attitude (pre and post) the implementation of the educational program among the studied sample (n =60).

Total attitude	Pre N=60		Post N=60		Chi-square	
	N	%	N	%	X ²	P-value
Positive	40	66.7	24	40	8.571	0.003* S
Negative	20	33.3	36	60		
Mean±SD	81.22±9.67		53.58±11.44			
% of change	34.03%					

>0.05 Non significant <0.05* significant <0.001** High significant

This table shows that there is a statistically significant difference between pre and post the educational program regarding total attitude among studied sample at p-value (**0.003***) with

Mean±SD (**81.22±9.67**) pre the educational program, and with Mean±SD (**53.58±11.44**) post the educational program & % of change (**34.03%**).

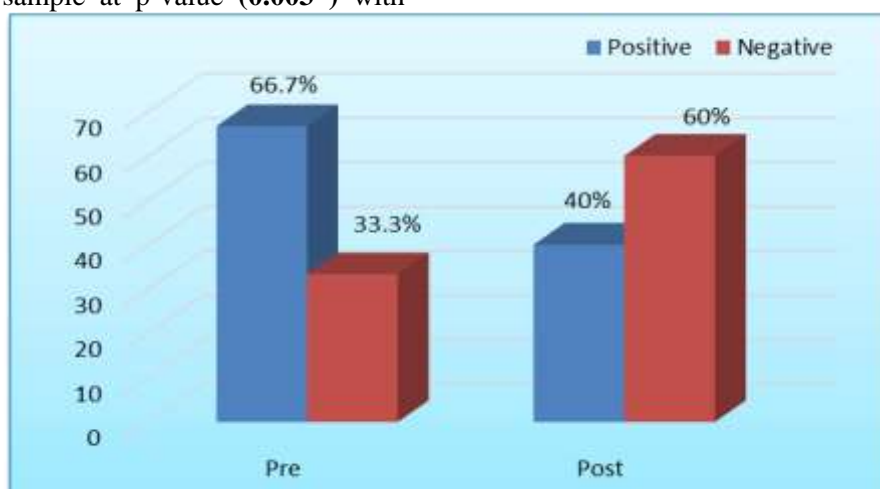


Figure (7): Percentage of total parent's attitude regarding their children disorder (pre & post) program implementation (n= 60).

Correlation between total knowledge and total practice scores (pre and post) the educational program implementation among studied sample (n = 60).

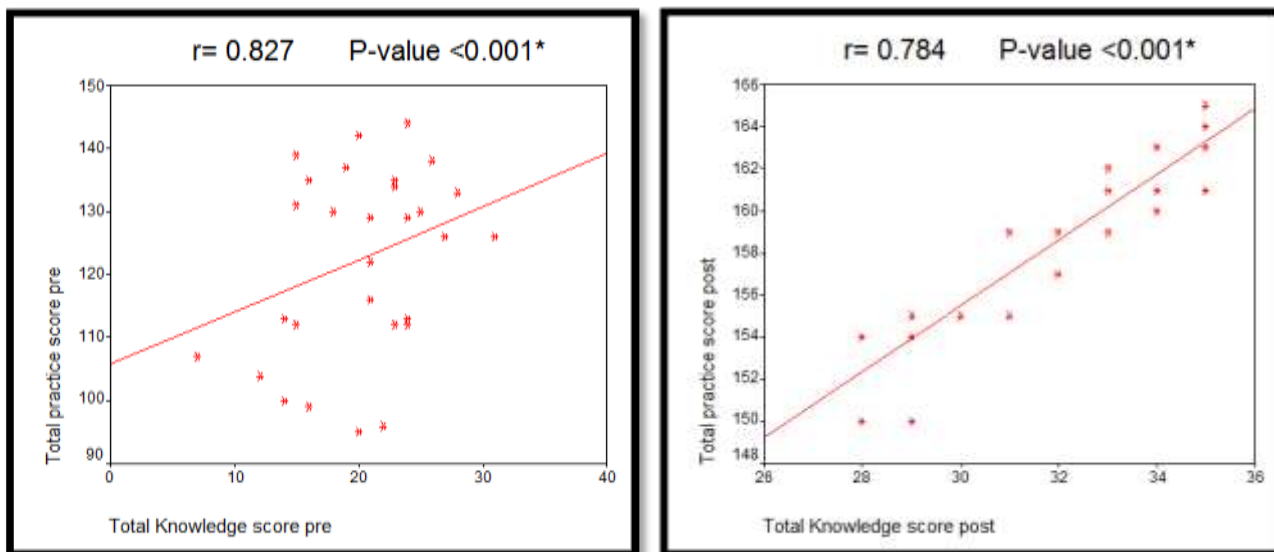


Figure (8): Scatter diagram representing correlation between total knowledge and total practice scores (pre and post) the educational program implementation among studied sample (n = 60).

This figure shows that there was highly statistically significant and positive correlation between total Knowledge and total practice scores (pre and post)the educational program implementation among studied sample when p-value was <0.001

Correlation between Total Knowledge and Total attitude scores (pre and post) the educational program among studied sample (n = 60).

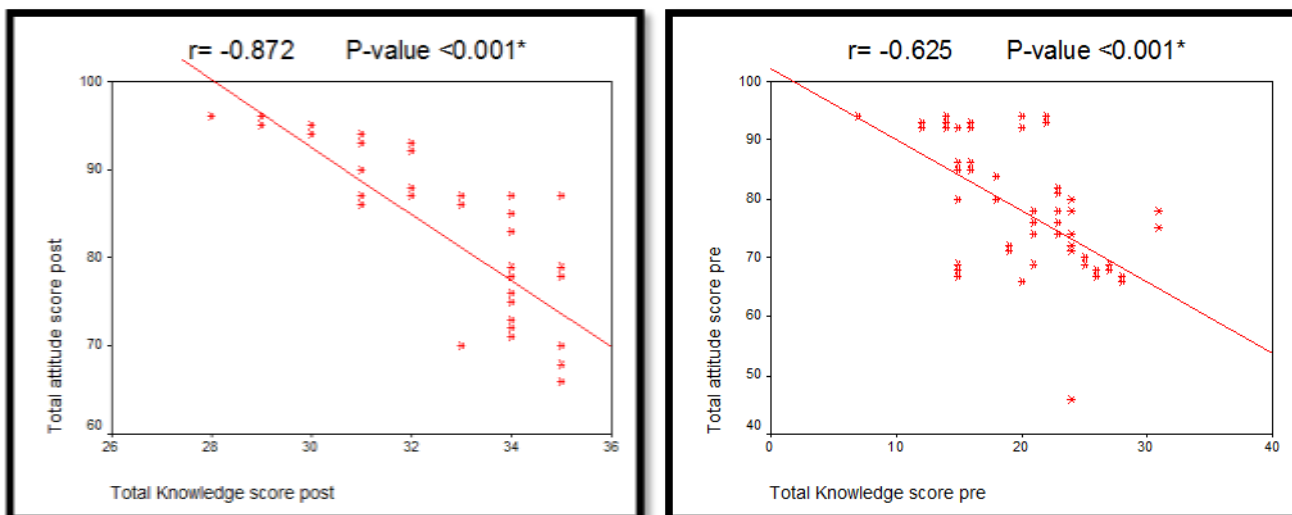


Figure (9): Scatter diagram representing correlation between total knowledge and total attitude scores (pre and post) the educational program implementation among studied sample (n = 60).

This figure shows that there was highly statistically significant and negative correlation between Knowledge and attitude score at pre and post the educational program implementation when p-value was <0.001*

Correlation between total practice and total attitude scores (pre and post) the educational program among studied sample (n = 60).

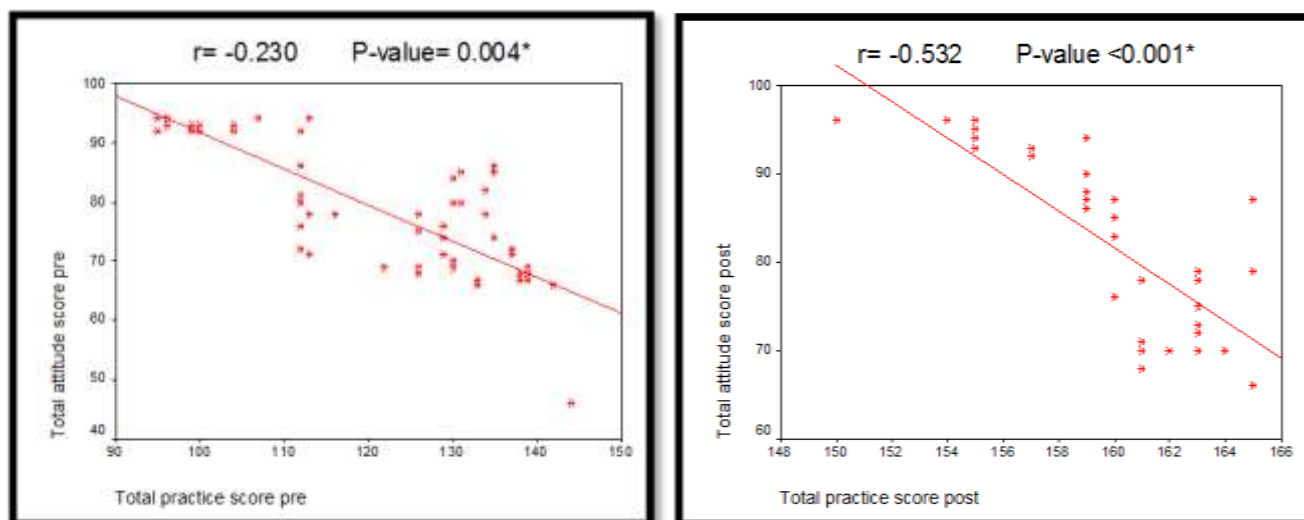


Figure (10): Scatter diagram representing correlation between total practice and total attitude scores (pre and post) the educational program implementation among studied sample (n = 60).

This figure clears that there was highly statistically significant and negative correlation between practice and attitude score at pre and post the educational program implementation when p-value was $<0.001^{**}$

DISCUSSION

Regarding to socio-demographic characteristic for the parents of children with autism under the study, the finding of the present study showed that, about more than half of the studied sample were mothers; this may be due to that the Fathers spend most of their time at work and are responsible for providing money for their children, while mothers are responsible for the household and child care. these results were supported by **Gabra et al.**⁽²⁰⁾ who conducted a study on 70 family caregivers of children with autism at Assiut University's psychological and educational counseling center at the west of the Assiut city (n = 38) and from a child and adolescent outpatient clinic in neurology and psychiatry department, Assiut Hospital University, at the east of the Assiut city (n = 32) and found that, more than half of the family caregivers were mothers of children with autism.

The present study revealed that, the mean age of parent's (33.23 ± 4.95), and more than half of them are in age group 30- <35years old, This reflects that parents at this age are mature enough to take responsibility for providing care for their children. This result was in accordance with **Ansari et al.**⁽²¹⁾ who conducted a study on 126 family caregivers of children with autism at the Child Psychiatric Unit, Psychiatric Hospital, and Kingdom of Bahrain who found that more than three quarter of the studied sample age ranged from 31-60 years old.

The current study results regarding Residence of the study sample revealed that More than three quarters of the parents were from urban area. This finding might be due to the environmental-related factors which contribute to this disparity. The exposure to hazardous air pollutants during pregnancy and early childhood may have potential association with increased risk for autism, while hazardous air pollutants usually concentrate in urban environments. Hygiene practices commonly in urban areas lowered microbial exposure in pregnancy and neonatal life that affects the risk for ASD. These results goes in the same line with **Mohamed et al.**⁽²²⁾ who conducted a study on 68 parents of children having autism at three governmental hospitals which provide behavioral therapy for children with ASD affiliated to Mansoura, Talkha and Port Said Cities, who found that more than three quarters of the parents were from urban area.

The present study revealed that, the majority of the father's degree of education was secondary school this result was in agreement with **Hoang et al.**⁽²³⁾ who conducted a study on about 2000 children those positively diagnosed with autism. The research was implemented in one city (Hanoi, capital of Vietnam) and two provinces (Thai Binh province in the Red River Delta Region and Hoa Binh province in the Northern Midlands and Mountainous Region).who found that Most of the fathers had completed secondary school education or higher.

Regarding to level of education of the mothers having children with autism under the study, the study revealed that, the majority of the mother's level of education was University degree. This result was in agreement with **García-López et al.**⁽²⁴⁾ in which the sample includes 135 biological Spanish father–mother dyads raising individuals with autism. Who found that, the majority of the mothers' level of education was University degree.

Regarding to the family income of the studied sample, present study shows that; more than half of the parents see that their income is exactly enough to their requirements. this is may be due to the spend a lot of to treat their children suffered from autism and because most of the mothers are house wife so that the family income exactly sufficient for the family's needs, this finding in agreement with **Oneib et al.**⁽²⁵⁾ who conducted a study among 105 children with autism and their parents followed in child psychiatry consultation of the hospital for the mental health for ASD for approximately 2 years, found that the family income and socioeconomic status of the family was mild or enough to the family needs.

The current study results illustrated that, more than half of the studied sample there were from 4-5 person on the family. This study was in agree with **Hamid et al.**⁽²⁶⁾ who conducted the study on 270 students, 90 students were autistic and the remaining 180 were non-autistic children for comparison. The autistic children from two specialized schools (school for autistic children) located in Gulshan and Mirpur, Dhaka and non-autistic children from nearby schools (excluding English medium school) were included in the study, found that more than half of studied sample size or numbers were up to 4member on the family.

Regarding to the history of mental illness in the family this study revealed that, more than three quarters of the parents reported that ,there is no history of mental illness in the family, this is disagreed with **Alotaibi et al.**⁽²⁷⁾ who carry out the study on 127 children with autism at Center for Autism Research, King Faisal Specialist Hospital and Research Center, Riyadh, Saudi Arabia, found that The most frequently reported positive family history was for speech delay, followed by intellectual disability, and ADHD. There were three cases with a family history of Down's syndrome and some of them have Psychiatric disability.

Regarding to the Parental consanguinity between the mother and father, this study shows

that, all of parents reported that there wasn't Parental consanguinity between the mother and father except one, this result was disagree with **Oneib et al.**⁽²⁵⁾ who found that one-quarter of sample of children are born from a consanguineous marriage.

The present study revealed that, more than tree quarter of the study sample wasn't attended any educational courses on how to deal with your child with autism, this may be due to due to the lack of specialized centers for autism and the lack of training courses. This study in agreement with **Alkazam and Al-Dujaili**⁽²⁸⁾ who conducted a study on (52) caregivers were selected from Imam Hussein Autism Center (IHAC) was (37) and (15) sample from Imam Ali Institute in Najaf city, found that, more than tree quarter of the study sample were not trained for autism spectrum disorder or attended any educational courses on how to deal with your child with autism.

Regarding to socio-demographic characteristic for the parents of children with autism under the study, the finding of the present study showed that, slightly more than half of the children in the study age ranged from 5- <10 years with Mean±SD 7.45±2.7, this id may be due to this is the main in which the specialist can confirmed the diagnosis of the children with autistic disorder, this finding agreed with **Nikadib et al.**⁽²⁹⁾ who carry put the study on 227 of parents having children with autism at (The Hospital Raja Perempuan Zainab II, Hospital University Sains Malaysia, Hospital Kuala Krai, and Hospital, Tanah Merah) found that, the mean age of AD children was 7.45 (3.54) years.

Concerning the gender of the children with autism under the study, the present study revealed that, more than three quarter of children with autism under the study were male. This was in line with the report of the Center for Disease Control and Prevention in 2018, with four times higher of boys' percentage than that of girls **Maenner et al.**⁽³⁰⁾. Therefore; this may be due to physical differences between male and female and the body composition differences of them.

Regarding to The order of the child within the family, the present study cleared that, half of the children under the study were the second child for the family. This is may be due to that the child orders are very important factors that affect the parent's ability to gain knowledge about the disorder. This study is disagreed with **Alshaigi et al.**⁽³¹⁾, who carried out the study on Two hundred parents of children diagnosed with ASD,

participated in the study. The diagnosis of ASD was done using DSM-IV-TR criteria in Riyadh, found that more than half of the children under the study were forth or more order of children with autism in family.

Regarding to The children with autism level of education, the present study shows that, slightly more than half of the study have Primary school, this result disagreed with **Bhuiyan et al.**⁽³²⁾. Who conducted the study on 154 children with autism at two special schools and two specialized hospitals of Dhaka city. Found that, the majority of the children were in pre-primary level of education.

The present study cleared that more than three quarters of children with autism under the study have Moderate degree of autism, This may be due to early detection and of the child disorder, and closed observation of the caregivers to their children and providing complete care and management for them, this result was disagreement with **Tan et al.**⁽³³⁾, who found that more than half of the children under the study sample have severe degree of autism.

Regarding to the child age that suspected of being abnormal, the present study cleared that Mean \pm SD of the suspected age of abnormality was 2.34 \pm 0.92 years, this may be due to that at this age the parents can observe some changes on their children and differences among the children and the other child in the family such as, changes in verbal and non-verbal communication, social relationship, delays in speech, attention to others and the child concentration with other people. this result was in agreement with **Nguyen et al.**⁽³⁴⁾ who carry out the study on 32 children diagnosed with autism, the was conducted at Can Tho Psychiatric Hospital and Can Tho Children Hospital, who found that The average age of first sign abnormality was 24.8 months.

The present study revealed that, the age in which the children diagnosed with autism was 3.07 \pm 1.17 years. This is may be due to the identification of autism is difficult before the age of about 12 months but diagnosis is ordinarily possible by the age of two years. This result was in agreement with **Bhuiyan et al.**⁽³²⁾, who conducted a study on 154 children with autism at 154 children with who found that, about the children's age at diagnosis of autism the majority children were diagnosed at the age of 3-4 years.

The present study revealed that, regarding to comparing the parents' knowledge about autism

pre and post the educational program implementation, in the pre of the educational program implementation the majority of the parents were have incorrect knowledge about (definition, types, signs and symptoms causes and methods of treatment) of autism, while the majority of the parents in post the educational program implementation have a frequency of correct answers about (definition, types, signs and symptoms causes and methods of treatment) autism disorder.

So that, this is may be due to the minority of parents attended previous training and educational courses about autism disorder and how to deal and meet their children needs. This result was agreed with **Keshk et al.**⁽³⁵⁾ who conducted a study on 60 mothers and their children with autism at Ali Al-Tamimi Center for Autism in Oniazah at Qassim region in kingdom Saudi Arabia: found that a highly satisfactory knowledge of Autism mothers regarding Autism after implementation of educational program compared with pre implementation.

The current study results clarified that, there was a highly statistical significance differences between pre and post the educational program implementation regarding all items of personal hygiene skills and wearing clothes skills. Also slightly near to have of the parents were having incompetent practices pre the educational program implementation while the majority of the parents having a competent practices regarding personal hygiene skills such as (training the child to brushing his / her teeth and training the child to clean his/herself after elimination). Wearing clothes skills (training child to wear clothes in right orders & Training child to getting off clothes) .sleeping alone skills as (reading nice stories appropriate to the child age, decreasing support touch and speak with the child in soft sound). This is enhancement may be related to there are basic elements in daily living activities in child's life, so parents have tried very hardly to meet their children's needs of daily living activities

The finding of the current is consistent with **Estes**⁽³⁶⁾ who carried out a study to measure "The effects of early autism intervention on parents and family adaptive functioning", who found that, there was an enhancement of the parent's practices regarding daily life activities of their children with autism, and found that it is important for enhancing the parents practices. This may be because of that, the children with autism may be

at danger for slower skills of the Daily Living progress than children with other developing disabilities. Because of children with autism having additional nonverbal problem delayed solving and/or language abilities receptive.

the current study illustrated that, there was a highly statistical significance differences between pre and post the educational program implementation regarding all items of the Social interaction practices for the parents of children with autism, also there was more than two thirds of the parent having incompetent social interaction practices pre the educational program implementation, while the majority of the parents having competent practices post the program. The present study finding is in consistent with **Bassam et al.**⁽³⁷⁾ who applied a study on 50 mothers of children with autism at two settings, namely; Speech and Hearing clinic at Al Ahrar Hospital and Speech clinic at Zagazig University Hospitals, found that the lowest mean score of mother's practices regarding the care provided to their autistic children was related to social skills disturbance pre the program implementation, while post the program implementation this mean slightly increase with a statistical significance differences.

Current study results revealed that ; the majority of the parents have incompetent total practices regarding their children with autism pre the educational program implementation that have been enhanced post the educational program implementation with a highly statistical significant differences at p value < **0.001****.this is may be due to the enhancement of the parents' knowledge and the more practices that the educational provided to them on how they can improve their children all daily living activities, social interaction, Attention and concentration, communication skills and motor activity skills for children. This result in consistent with **Hutton**⁽³⁸⁾ who conducted a study about "autism spectrum disorders and diet in children", found that the majority of parents had in competent practices pre health training program improving to competent practices post health training program implementation.

The present study finding mentioned that, more than half of the parents have negative attitude toward their children with autism. This may be due to that the parent refuse acknowledge about their children disorder and also this may be because of that the parents attitude need more time to be changed, there was a statistically

significant difference between (pre and post the educational program implementation regarding to total attitude score among studied sample at p-value (**0.003***). This result is in agreement with **Marcus et al.**⁽³⁹⁾ who carry out a study about "working with families, hand book of autism and pervasive development disorder" found that, more than half of parents had negative attitude about nature of disorder, feeling of frustration and psychological pressure.

Also this study result disagreed with **Mercus and Schpler**⁽⁴⁰⁾ who applied a study in New York about" parents as co therapists with autistic children "found that more than three quarters of the parents had positive attitude toward their children with autism.

The present study revealed that; there was a highly statistically significant and positive correlation between the parent's total practice score and total Knowledge score pre and post the educational program implementation. This result is consistent with **Chandran et al.**⁽⁴¹⁾ who carried out a study on primary caregivers of children with ASD from five different centers of Satya special school at Puducherry. A total of 60 primary caregivers, found that, there was a positive correlation between total knowledge and total practice among primary caregivers of children with autism pre & post the implementation of the video-assisted teaching program among caregiver of the children having autism.

The current study showed that; there was highly statistically significant and negative correlation between total Knowledge score and negative attitude score pre and post the educational program implementation when p-value was <0.001*.This study finding was in agreement with **Wang et al.**⁽⁶⁾ who conduct a study on 394 parents who visited the outpatient department of the Child's Development and Behavior Center of the Third Affiliated Hospital of Sun Yat-Sen University, who found that there are a highly statistically significant and correlation between the enhancement of the parent knowledge and the enhancement of the negative attitude toward their children with autism, when there are an improvement of the parent's awareness and knowledge there are improvement in the parent's attitude toward the child diagnosis.

In the light of this study; there was highly statistically significant and negative correlation between total practices score and total attitude score at pre and post program when p-value was <0.001**. This result disagreement with

Chandran et al.⁽⁴¹⁾ who carried out a study on primary caregivers of children with ASD from five different centers of Satya special school at Puducherry. A total of 60 primary caregivers, found that, there was a positive correlation between total practice and total attitude among primary caregivers of children with autism pre & post the implementation of the video-assisted teaching program among caregiver of the child having autism.

CONCLUSION

The educational programs have positive effect on enhancing knowledge, attitude and practices among parents of children with autism.

RECOMMENDATION

Based upon the finding of the current study and the research hypothesis; the following recommendations can be deduced:

1. Conducting a continuous practical training and health educational programs for all members of the families having children with autism focuses on the attitude and behavior modification techniques.
2. Psychiatric nurse working in this area should provide the parents of children with autism with a discharge plan which include increase the parent's awareness about the importance of follow up and the continuous check up for their children and to take the appropriate treatment after all treatment sessions.
3. It is important to develop a training program for workers in the educational system to learn skills on how to work with children with Autism. This will help to ensure that the children with Autism are taught the right behaviors and will receive the most benefit from their education.
4. Conduct awareness raising program to improve knowledge and attitude of the community towards the autistic children and their families. In addition to that media awareness to aid health team professionals in prompting tolerance and understanding of autism with a clear explanation and focus on increasing awareness, as individuals with autism will be better when integrated in the society.
5. Future research in this field requires studies with larger sample sizes and a fewer weaknesses, so that results can be more easily generalized with in a large area of the parents having children with autism.

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