

TEACHERS' PERCEPTION AND ATTITUDES TOWARD ATTENTION DEFICIT HYPERACTIVITY DISORDER IN PRIMARY SCHOOLS AT ASSIUT CITY

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ABSTRACT

Background: Attention-deficit hyperactivity disorder (ADHD) is the name of a group of behaviors found in many children and adults. Children with ADHD have trouble paying attention in school or at home. Children may be much more active and/or impulsive than what is usual for their age; these behaviors contribute to significant problems in relationships, learning and behavior. **Aim of the work:** The study aimed to assess knowledge and attitude of teachers toward (ADHD). **Subjects and Methods:** The study was descriptive cross sectional research design; it was conducted in ten public primary schools at Assiut city which selected randomly and the sample size was (360). Three tools used in the present study, the first tool include personal characteristics of the participants, the second tool Knowledge of Attention Deficit Disorder Scale (KADDS) to measure teachers' knowledge and perceptions about ADHD and the last tool teachers' attitudes scale toward children with ADHD to assess teachers' beliefs and attitudes toward ADHD. **Results:** The main findings of the study were more than two fifth (42.2%) of teachers had pervious dealing with ADHD and more than three quarters (76.1%) of them had unsatisfactory level of knowledge; while more than half (55.0%) of teachers had positive attitude toward ADHD. Also there was statistical significant correlation ($r=0.249$ & $P=0.000^*$) between total score of teachers' knowledge and attitude toward ADHD. **Conclusion:** The present study concluded that the teachers had poor knowledge while attitude of them were positive. **Recommendation:** The study recommended that teachers' knowledge must be improved by implementing the educational program about ADHD.

Key words: Attention Deficit Hyperactivity Disorder- Primary school- Perception and Attitude of teachers.

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is one of major clinical and public health problems because of its associated morbidity and disability in children, adolescents, and adults. Its consequences on society are enormous in terms of financial cost, stress on families, impact on academic and vocational activities, and negative effect on self-esteem (APA, 2011).

It is the most common neurobehavioral disorder of childhood; it refers to developmentally inappropriate degrees of inattention, impulsiveness, and hyperactivity (American Psychiatric Association, 2013). These symptoms begin by age six to twelve, and cause problems in at least two settings as school, home, or recreational activities. Studies of the prevalence across the globe have generally reported that 5-10% of school aged children are affected and it is 3-5 times more common in boys than in girls.

Others studied conducted in Africa, Jordan, and Saudi Arabia, reported that the estimated prevalence of ADHD was 5.4–8.7%, 6.24%, 16.4% respectively. In study carried out in Egypt, Menoufia Governorate, 2014 about prevalence of ADHD in primary children and

found 6.9% of these children had ADHD. According to DSM-5, the 3 types of attention deficit/hyperactivity disorder (ADHD) are predominantly inattentive, predominantly hyperactive/impulsive and combined (American Psychiatric Association, 2011 and Centers for Disease Control and Prevention, 2014).

Clinical manifestation of ADHD may change with age. The child is usually overactive, aggressive, excitable, impulsive and in attentive. They may be easily frustrated, irritated and show temper tantrums. Social relationship and adjustment are poorly developed (Datta, 2014).

The exact cause of ADHD is unknown; however, it is believed to involve interactions between organic, genetic and environmental factors. A variety of factors put child at risk for symptoms of ADHD including the family history especially father, brother or an uncle. Others risk factors include exposure to toxin or medication, prenatal complication, chronic otitis media, head trauma, meningitis, neurologic infection, and mental disorders as the affective disorders (Hockenberry & Wilson, 2015).

A diagnosis of ADHD is made primarily in clinical settings after a thorough evaluation, including careful history and clinical interview

to rule in or to identify other cause or contributing factors; completion of behavior rating scale, physical examination and any necessary or indicated laboratory tests (Kliegman et al, 2011).

ADHD management recommendations vary by country; *American Academy of pediatrics, 2011* guidelines outlines the therapeutic management; these depend on the child's age and severity of symptoms. Evidence supports behavioral therapy as the first line treatment, but others approaches include family education and counseling, medications, environmental manipulation and psychotherapy for the child.

Nurses, especially school nurses, are active participates in all aspects of management of the child with ADHD. Nurses in the community setting work with families in the home on a long term basis to help plan and implement therapeutics regimens and to evaluate the effectiveness of therapy. They coordinate services and serve as a liaison between health and education professionals directly involved in the child's therapy program. School nurses understand the child's special needs and work with teachers. Nurses provide support and guidance to children and families and also assist in providing education and supportive resources (Cunningham & Jensen, 2011).

AIM OF THE STUDY

- Assess knowledge of teachers toward attention deficit hyperactivity disorder.
- Determine attitude of teachers toward attention deficit hyperactivity disorder.

RESEARCH QUESTIONS

1. What is the level of teachers' knowledge about ADHD?
2. Are the teachers having positive attitude regarding ADHD?
3. Are there statistical significant differences between teachers' knowledge and their attitude toward ADHD?

SIGNIFICANT OF THE STUDY

Teachers are the first contact with children and their parents. So they play an important role in providing information about academic history, performance, social relations and daily living activities of pupils that help in assessment and diagnosis. The teachers should be informed about any disorder or disease may be children exposed to it for coping with them. There is lack of studied in Egypt related to perception and attitude of teachers toward

ADHD children, so the researchers conducted this study.

SUBJECTS AND METHODS

Research Design

Descriptive cross sectional research design was used in this study.

Setting:

This study was conducted in the public primary schools at Assiut city. The total number of primary schools at Assiut city is fifty two (52) schools; it's divided into West and East. West city contains (29) schools and East city contains (23) schools; Ten schools from the total number of schools were selected randomly namely; El-Talia school, Mohammed Faried, Al-Thawra, Ali Aben Aby Talab, El- Galaa, Elwaledia, El-Naser, Ali Mubark, El- Zahra and Al-WahdaElarabia.

Sample:

The total number of teachers in primary schools was 2167 considering the expected frequency of 50% and confidence level 95%; A require sample size was (327) by using Epi info version 3. Which selected randomly and 10% was adding to treat dropout; the sample expand to become (360). It represents 75.0% from total number of teachers from each selected school.

Tools of data collection:

Three proper tools were including in this study after reviewing the relevant literature to elicit information. These tools translated into Arabic form and ensure the validity of these tools; it was checked & revised by three experts from Community Health Nursing and Psychiatric Nursing, who they reviewed the instrument for clarity, relevance, comprehensiveness, understanding and applicability.

Tool I: A structured interview sheet was developed by researchers; It included personal characteristics of the participants (age, sex, residence, marital status, level of education, years of experience, previous dealing with ADHD children and previous attended of any symposium related to this subject.

Tool II: Knowledge of Attention Deficit Disorder Scale (KADDS): A self-report questionnaire used in previous reports developed by (Sciutto, Terjesen, & Frank, 2000) to measure teachers' knowledge of and perceptions about ADHD. KADDS consist of 29-item rating scale. This scale included three specific areas: general information about the nature and causes, signs & symptoms/ diagnosis and the treatment of ADHD. The answers were as true, false and don't know. In order to total

the scores, all correct answers were recorded as one and incorrect and don't know answers gained a score of zero. The correct answer to questions 1,2,3,4,6,7,9,11,12,14,17,18,23, 24, 25 is true. The correct answer to questions 5,8,10,13,15,16,19,20,21,22,26,27,28,29 is false.

The total grade of knowledge equal (29). The total score knowledge was determined as (Aly, 2010) who estimated the answer by taking points as the following:

- > 50 unsatisfactory - ≤ 50 satisfactory

Tool III: teachers' attitudes scale toward children with ADHD; this scale was developed by Kos, Richdale, & Jackson, 2004; to assess teachers' beliefs and attitudes toward ADHD by the use of 25 statements. A 5-point Likert-type scale was used ranging from strongly agreed, agreed, , neither agreed nor disagreed, disagreed, or strongly disagreed. Several items were again reversing scored to ensure conscious completion of the questionnaires. For each question, the mean and standard deviation were calculated with scores closer to 1 indicating that participants agreed with the statement and scores closer to 5 indicating that participants disagreed. Total score was calculated by summing up and converted into percent score. Teachers' attitude was considered positive if the score was 60.0% and more and negative attitude if score less than 60.0% (Bone, 2012).

Methodology

I- Administrative phase: An official approval letters were obtained from the Dean of Faculty of Nursing, Assiut University to Ministry of Education and to directors of selected schools. These letters includes a permission to carry out the study and explains the purpose and nature of the study.

II- Pilot study: A pilot study was conducted before starting data collection on (10%) of the sample which included in the sample for nonexistence of any modification in the sheet. The aim of pilot study is to test the clarity of the tool and to estimate the time required to fill the sheet.

III- Ethical Consideration:

- Research proposal was approved from ethical committee in the faculty of nursing
- There is no risk for study subjects during application of the research
- The study was followed common ethical principles in clinical research

- Oral consent was obtained from participants that are willing to participate in the study after explaining the nature and purpose of the study
- Confidentiality and anonymity was assured
- Study subjects have the right to refuse to participate or withdraw from the study without any rational any time
- Study subjects privacy was considered during collection of the data.

IV- Data collection:

Questionnaires were distributed to teachers after getting their oral consent to participate. The sheet took about 20-30 minutes depending upon the response of the participant. Every week about thirty (30) sheets were finished 2 days/ week. The data collected in the period from the first February 2015 until the end of April 2015. After collection of data the researches give the participants' teachers pershour.

Data Analysis

Data entry and data analysis were done using SPSS version 19 (Statistical Package for Social Science). Data were presented as number, percentage, mean, standard deviation. Chi-square test was used to compare between qualitative variables. Mann-Whitney test was used to compare quantitative variables between two groups and Kruskal Wallis Test for more than two groups in case of non-parametric data. Spearman correlation was done to measure correlation between quantitative variables. P-value considered statistically significant when $P < 0.05$.

RESULTS

Table 1: distribution of teachers regarding to personal characteristics; It was found that the mean age of teachers was 39.94 ± 8.61 while (61.9%) of them were females. Regarding residence slightly more than three fifth (60.8%) of teachers were from rural localities. Concerning the level of education; the table illustrated that nearly about two third (65.8%) of teachers had high education and the majority of them (86.1%) were married. The years of experience were ranged from (1.0 to 36.0) years and only (18.3%) attended symposium toward ADHD. Also the table illustrated that more than half (57.8%) of teachers had pervious dealing with ADHD children.

Table (1): Distribution of teachers according to Personal characteristics in primary schools at Assiut city, 2015

Items	No. (n= 360)	%
Age: (years)		
< 35	102	28.3
35 - < 40	77	21.4
40 - < 45	66	18.3
45 - < 50	55	15.3
≥ 50	60	16.7
Mean ± SD (Range)	39.94 ± 8.61 (22.0 – 58.0)	
Sex:		
Male	137	38.1
Female	223	61.9
Residence:		
Rural	141	39.2
Urban	219	60.8
Level of education:		
Secondary	81	22.5
Technical Institute	26	7.2
High Education	237	65.8
Postgraduate	16	4.4
Marital status:		
Single	38	10.6
Married	310	86.1
Widow	5	1.4
Divorced	7	1.9
Years of experience:		
< 10	125	34.7
10 - < 15	54	15.0
15 - < 20	54	15.0
≥ 20	127	35.3
Mean ± SD (Range)	15.36 ± 9.23 (1.0 – 36.0)	
Attending training courses about ADHD:		
Yes	66	18.3
No	294	81.7
Previous dealing with ADHD child:		
Yes	152	42.2
No	208	57.8

Table (2): behaviors of children having Attention Deficit Hyperactivity Disorder and methods of dealing with them as teachers respond; it was clear that nearly two third (66.4%) were hyperactivity children as reported by teachers and more than one third (39.5%) of teachers mentioned that were patience in dealing with these children.

Table (2): behaviors of children having Attention Deficit Hyperactivity Disorder and methods of dealing with them as teachers respond in primary schools at Assiut city, 2015

Items	No. (152)	%
Children behaviors:≠		
Aggressive	41	27.0
Decrease attention	53	34.9
Hyperactivity	101	66.4
Methods of dealing:≠		
Attracting attention	18	11.8
Reinforcement	25	16.4
Patience	60	39.5
Dealing firmly	18	11.8
Participation in the school activities	45	29.6

≠ More than one answer

Figure 1: indicated that more than three quarter (76.1%) of teachers had unsatisfactory level of knowledge toward ADHD.

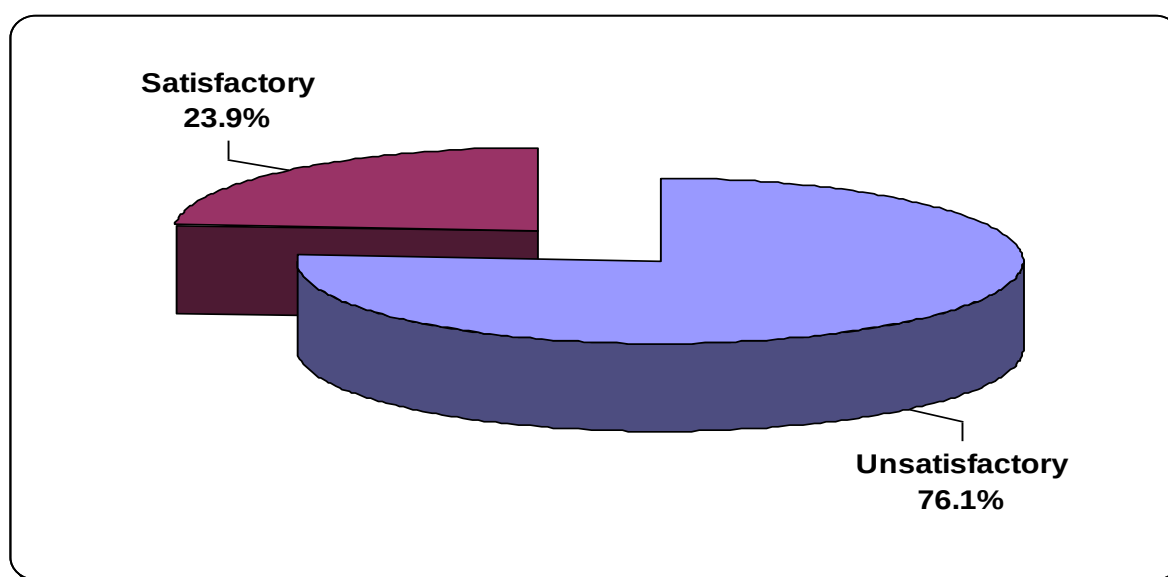


Figure 1: Total score of teachers' knowledge about Attention Deficit Hyperactivity Disorder in primary schools at Assiut city, 2015

Figure 2: illustrated that more than half (55.0%) of teachers had positive attitude toward ADHD.

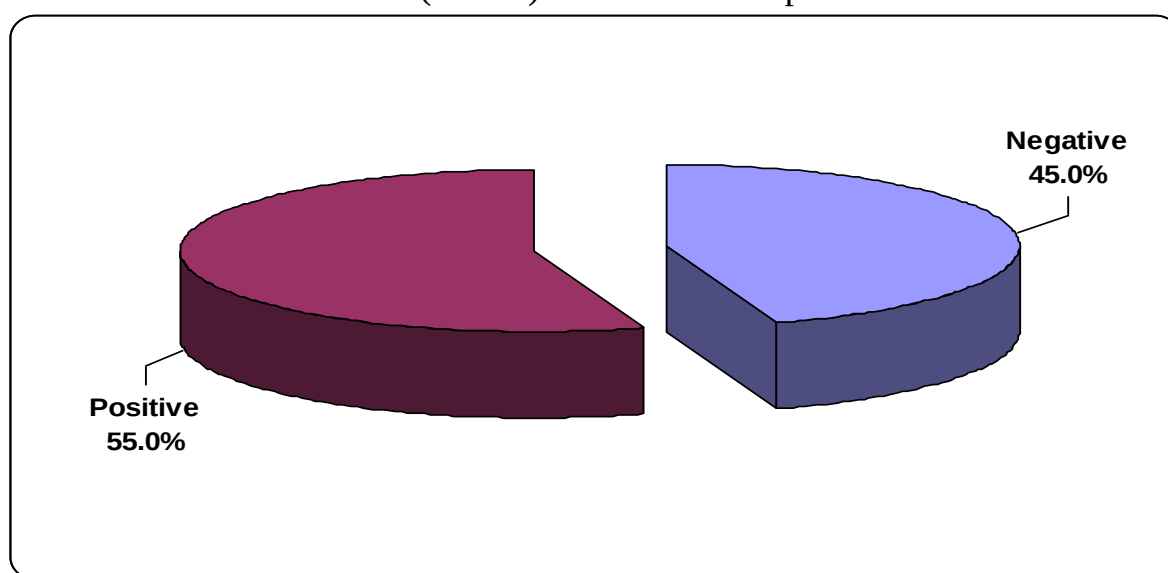


Figure 2: Teachers' attitude toward Attention Deficit Hyperactivity Disorder in primary schools at Assiut city, 2015.

Figure 3: revealed that there was statistical significant positive correlation ($r=0.249$ & $P= 0.000^*$) between total score of teachers' knowledge and attitude toward ADHD

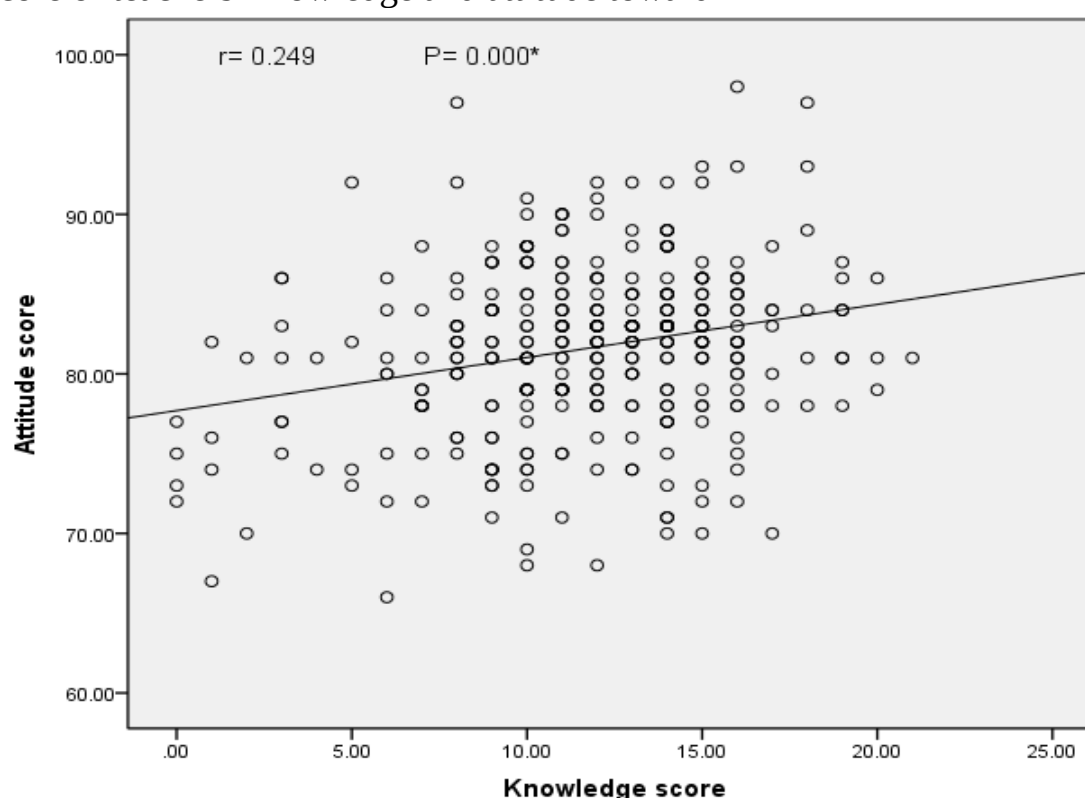


Figure (3): Correlation between total score of teachers' knowledge and attitude toward Attention Deficit Hyperactivity Disorder in primary schools at Assiut City, 2015

Table (3): illustrated that there wasn't statistical significant difference ($P=0.155$) between pervious dealing with ADHD children and teachers' knowledge while there was statistical significant difference ($P=0.008^*$) with teacher s' attitude.

Table (3): Relation between pervious dealing with Attention Deficit Hyperactivity Disorder children and teachers' knowledge and attitude in primary schools at Assiut city, 2015

Items	Pervious Dealing with ADHD child				X ²	P-value
	Yes		No			
	No. (152)	%	No. (208)	%		
Knowledge:					2.03	0.155
Unsatisfactory	110	72.4	164	78.8		
Satisfactory	42	27.6	44	21.2		
Attitude:					7.07	0.008*
Negative	56	36.8	106	51.0		
Positive	96	63.2	102	49.0		

Table (4): relation between total scores of teachers' knowledge and attitude according to some personal characteristics; it was observed that there was statistical significant difference between teachers' knowledge and attitude with residence ($P= 0.013^*$ & $P= 0.001^*$) respectively; while there was statistical significant difference between teachers' knowledge and level of education ($P=0.024^*$). Also there was statistical significant difference between teachers' knowledge and attending symposium about ADHD ($P=0.036^*$).

Table (4): Relation between total scores of teachers' knowledge and attitude according to some personal characteristics in primary schools at Assiut city, 2015

Items	Knowledge score	P-value (1)	Attitude Score	P-value (2)
	Mean $\pm$ SD		Mean $\pm$ SD	
Age: (years)		0.186		0.301
< 35	11.37 $\pm$ 3.48		82.33 $\pm$ 4.41	
35 - < 40	12.44 $\pm$ 3.90		82.25 $\pm$ 4.81	
40 - < 45	11.86 $\pm$ 3.62		80.41 $\pm$ 5.72	
45 - < 50	11.11 $\pm$ 4.21		81.33 $\pm$ 5.51	
≥ 50	11.90 $\pm$ 4.35		81.13 $\pm$ 5.69	
Sex:		0.263		0.466
Male	11.42 $\pm$ 4.15		81.27 $\pm$ 5.10	
Female	11.94 $\pm$ 3.69		81.82 $\pm$ 5.21	
Residence:		0.013*		0.001*
Rural	11.01 $\pm$ 4.07		80.55 $\pm$ 4.86	
Urban	12.21 $\pm$ 3.67		82.29 $\pm$ 5.26	
Level of education:		0.024*		0.826
Secondary	10.41 $\pm$ 4.34		81.31 $\pm$ 5.53	
Technical Institute	12.42 $\pm$ 3.73		81.31 $\pm$ 4.61	
High Education	12.17 $\pm$ 3.55		81.76 $\pm$ 4.99	
Postgraduate	11.00 $\pm$ 4.80		81.38 $\pm$ 6.98	
Years of experience:		0.178		0.534
< 10	11.54 $\pm$ 3.75		81.82 $\pm$ 4.69	
10 - < 15	11.31 $\pm$ 3.78		82.28 $\pm$ 5.02	
15 - < 20	12.85 $\pm$ 3.42		81.89 $\pm$ 4.47	
≥ 20	11.65 $\pm$ 4.15		81.00 $\pm$ 5.90	
Attendance training courses or symposium about ADHD:		0.036*		0.395
Yes	12.67 $\pm$ 3.21		81.20 $\pm$ 5.39	
No	11.53 $\pm$ 3.98		81.70 $\pm$ 5.12	

P1= Knowledge

P2 = Attitude

Mann-Whitney & Kruskal Wallis test were used in this table

DISCUSSION

Attention deficit hyperactivity disorder (ADHD) is a high prevalence condition with many potential medical, emotional-behavioral, social and academic consequences for a child or adolescent. In addition, its presentation to the primary care clinician may range from straightforward to very complex (**ICSI, 2012**). It's one of the most common mental disorders that develop in children and becomes apparent in the preschool and early school years. It is persistent and debilitating inattention, over activity, and impulsivity (**APA, 2011**).

The present study clears that the mean age of participant teachers was 39.94 ± 8.61 this similar to study conducted by **Perold et al., 2010** who reported that the mean age was 41.19 ± 8.61 . The present study found that (61.9%) of teachers were females this in the same line with **Youssef et al., 2015** who found that 74% ($n = 206$) were females and 22% ($n = 61$) were males teachers.

The participation of female teachers may be attributed to the following reason, the female has empathy toward children than male and she more contact with her children at home. Also this study similar with the current study in years of teaching experience whereas mentioned that the years of experience ranged from 6 months to 41 years and the current study revealed that the years of experience ranged from (1.0-36.0) years.

The findings of the current study agree with study conducted on Teachers' Knowledge and Misconceptions of Attention Deficit/Hyperactivity Disorder by **Alkahtani 2013**, in area of age of participants, years of experience, gender and level of education whereas found that the age of participant ranged from 22-58 years and years of experience ranged from 1-36 year. In terms of participants' gender found that forty four and a half percent (44.5%, $n = 191$) were males, and fifty five and a half percent (55.5%, $n = 238$) were females. Also who revealed that 96.5% of participants had a bachelor's degree? While contracted with current study in area of residence.

In another study corresponded with the different levels of education. More than three quarter (79.5%) of surveyed teachers selected bachelor's degree as their highest level of education. Approximately 20% of respondents selected postgraduate education; this is accordance with current study (**Guerra & Brown, 2012**).

Concerned with attendance of training course or symposium about ADHD the present study illustrated that less than one fifth (18.3%) of teachers had attended; these results disagree with **Garcia, 2009** who reported that 28% of teachers attended courses about the ADHD. From the researchers point of view the reason may be due to lack of symposium or health education about ADHD or may be attributed to the teachers themselves haven't interest or busy so don't attend this symposiums.

Regarding the total score of teachers' knowledge about ADHD, the present study indicated that more than three quarter of teachers (76.1%) had unsatisfactory knowledge; these findings are agreement with **Garcia, 2009, Perold et al., 2010 and Guerra & Brown, 2012**, they found that there is a substantial lack of knowledge about ADHD among teachers in primary schools.

Based on a review of the literature about Children with Attention deficit Hyperactivity Disorder and their Teachers 2006 suggested that Teachers with more knowledge about ADHD have a more favorable conduct and attitudes towards students with this disorder. This agrees with the present study who presented that there was statistical significant difference between total score of teachers' knowledge and their attitude toward ADHD. Also the present study in accordance with **Ghanizadeh et al., 2006 & Rodrigo et al., 2011.**, who they reported significant positive correlations between knowledge and attitude.

As regard to previous dealing with ADHD children the current study indicated that more than two fifth of teachers (42.2%) had previous dealing with these children. Previous dealing had significantly affected attitude while doesn't affect on overall knowledge of teachers. These findings in contrast with study carried out by **Youssef et al., 2015** about Knowledge of and Attitudes Toward ADHD Among Teachers who reported that having taught a child with ADHD significantly affected

Knowledge score. The result of the present study may be attributed to previous dealing with ADHD children provide teachers with specific information and skills related to this problem so the attitude of them change to become improve.

In relation to age and gender toward total score of knowledge the present study in accordance with **Bekle, 2004** who mentioned that neither age nor gender has an impact on total knowledge score. Also It is noteworthy

that although there was no significant difference in knowledge levels between male and female teachers.

Garcia, 2009, found that no statistical significant differences ($P=0.15$) between years of experience and total score of knowledge; these similar with present study. From researchers point of view this may be due to more than half of teachers don't have previous dealing with ADHD children.

CONCLUSION

Based on the results of the present study it can be concluded that the teachers had poor knowledge while attitude of them were positive.

RECOMMENDATION

Based on the results of the current study, the researchers came up with the following recommendations : Further studies should be conducted and gained a lot of attention about teachers' knowledge and attitude toward Attention Deficit hyperactivity Disorder. Also the study recommended that teachers' knowledge must be improved by implementing the educational program about ADHD.

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