

The Extent of Ordinary Classrooms Teachers' Knowledge and Perception of Attention Deficit Hyperactivity Disorder (ADHD)

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Summary

The present study aimed to investigate the extent to which ordinary classrooms teachers are informed are familiar with Attention Deficit Hyperactivity Disorder 'ADHD'. The researcher adopted the descriptive approach. The sample of the study consisted of (89) male and female teachers who teach students from grade (1) to grade (6) at public primary schools in Northern Mazar Directorate of Education in Jordan. A questionnaire was employed as the primary tool for collecting the data. The findings of the current study indicated an average level of knowledge of ordinary classroom teachers about ADHD. The findings also indicated that there were no statistically significant differences in the extent of ordinary classroom teachers' knowledge of ADHD due to the variables (gender, qualification, professional experience, grade level being taught).

Keywords:

familiarity with of ADHD, Ordinary classroom teachers, Attention Deficit Hyperactivity Disorder 'ADHD'.

1. Introduction

Rates of Attention Deficit Hyperactivity Disorder (ADHD) have increased dramatically in classrooms in recent years and previous literature has recognized the importance of teachers' knowledge and attitudes about ADHD when making referral and intervention decisions (Greenway & Rees, 2020). The high prevalence of ADHD, which includes at least one student per class, is a challenge for all professionals who come into contact with them, especially teachers, as ordinary classrooms' teachers face many problems with students, the most famous of which is the problem of ADHD, which results in a negative impact on the educational process, and therefore this topic has received wide attention by specialists in special education and others, and it has become necessary for all teachers to view it, but it has become necessary for researchers to focus on the extent of teachers' knowledge of ADHD, because it is based on this knowledge has positive effects on students.

Teachers can play a key role in identifying and supporting students with ADHD and in order to play this important role, it is imperative that teachers have a clear knowledge of ADHD (Alkahtani, 2013). This disorder entails special treatment for these students by providing

special education services, dealing with them individually, training them in the desired behaviors that help them to overcome this disorder, enhancing them positively, and giving them immediate feedback to increase focus and attention.

Attention Deficit Hyperactivity Disorder is one of the most serious disorders experienced by a large group of students, in addition to being associated with other disorders and difficulties such as learning difficulties, behavioral and emotional disorders, educational problems and low achievement. The study of Tse et al. (2007) confirmed the association of this disorder with the child's social skills and behavior, and it is the most common neurobehavioral disorder (Al-Sirsi et al., 2013).

ADHD is also one of the most prevalent childhood disorders, with estimates in general that its prevalence rates among school-age children range between 4-7%. American Psychiatric Association [APA, 2000]). It represents a major problem for children of school age and adolescence, and is behind many forms of learning difficulties such as deficits in cognition, memory, or academic learning difficulties (Al-Asmy, 2008), and Al-Rosan (2019) believes that those who suffer from this disorder are characterized by short attention span, and difficulty paying attention for sufficient periods of time, a high degree of distraction to any stimulus around them, poor organization in performing the required tasks, and the effect of the disorder may extend into adulthood.

Barkley (1998) indicates that ADHD is evident during the first years of school, and that there is at least one student in each general education class who has ADHD, as these children show many academic and behavioral problems, this is due to the nature of the stage requirements that conflict with the characteristics of the disorder in terms of the ability to sit for a certain period, complete duties, focus attention, and follow instructions. In view of the spread of this disorder in societies and public schools, one of the most important challenges facing teachers today is dealing with students who do not pay attention to what is said in class, and cannot settle in one place during the lesson period, as they are in constant movement (APA, 2000)). Barkley (2013) also points out that the symptoms of

attention deficit disorder may be more severe than the symptoms of hyperactivity in some children, and on the contrary, the symptoms of hyperactivity may be more severe than the symptoms of attention deficit in some of them.

Many studies and research have focused on attention deficit hyperactivity disorder (ADHD) over the past years. These studies have dealt with this disorder from several aspects, including the impact of the symptoms of the disorder on the child, the family, and the community surrounding the child. It is considered one of the disorders that normal and abnormal primary school students suffer from. The Diagnostic and Statistical Manual of Mental (Fifth Edition) issued by the American Psychiatric Association is considered one of the most important reliable sources for diagnosing attention deficit hyperactivity disorder and other disorders, where this version appeared in mid-May of the year (2013) and it carried with it new changes in a number of disorders, including: Attention Deficit Hyperactivity Disorder. After this disorder was usually diagnosed until the age of nine, symptoms usually start before the child starts school, and according to the DSM 5 criteria, some symptoms appear before the age of 12 (Morrison, 2014). Odeh and Fakir (2016) argue that this disorder overlaps in childhood with symptoms of other disorders, and this disorder accompanies the individual, causing impairments in social, academic, and functional performance. Children with ADHD also suffer from specific types of learning disorders (Abdel Alim, 2016).

Giannopoulou et al. (2017) mention that attention deficit hyperactivity disorder (ADHD) is a neurobiological disorder, affecting about 5.2% of school-age children worldwide. Children with ADHD present a particular challenge to their teachers, as they enter into the teaching process and do not respond to typical classroom management techniques. In order to meet this challenge, teachers must have accurate and up-to-date information about the disorder so that they can meet the needs of students with ADHD. Studies that have examined teachers' beliefs and knowledge regarding attention deficit hyperactivity disorder (ADHD) have highlighted the need to provide training to increase teachers' knowledge and understanding of this disorder.

Al-Hamidi (2017) notes that approximately 5-7% of school-age children in the United States suffer from ADHD, which makes them vulnerable to negative educational and social consequences. In addition, children with ADHD in the United States and other countries share low educational performance, social inefficiency, behavioral problems, and negative outcomes from its primary symptoms of hyperactivity, impulsivity, and inattention.

Students with ADHD face great pressure at school due to teachers' lack of understanding of their problem, which causes psychological pressure that directly reflects on their social interaction and academic achievement. Since

the teacher is the worthiest person to deal with students who have ADHD, due to the large time he/she spends with these students, which makes him/her responsible for study and research, so that he/she can deal with his/her students smoothly and easily, also the teacher's knowledge of this disorder makes it easy for him/her to provide the necessary support and assistance to them in the classroom at the appropriate time. Accordingly, it has become necessary to try to investigate the extent to which ordinary classrooms' teachers know about ADHD, and to identify aspects of their cognitive deficiencies in order to overcome the difficulties faced by a not simple percentage of school children. Suliman (2016) mentions that through his survey of studies that dealt with teachers' knowledge of this disorder, he found the availability of 31 studies, including 29 foreign studies and two Arab studies conducted in the Middle East, the United States of America, Australia, New Zealand and Europe in the period between 2003 and 2014.

Also, Al-Hamad (2010) confirmed the lack of studies that dealt with teachers' knowledge of ADHD, which reflects the fact that there are shortcomings in such studies. Especially since without the knowledge that teachers must acquire, classrooms will not be able to meet the needs of students with ADHD (Ghanizadeh et al. 2006). Hence, this study comes to examine the extent to which ordinary classroom teachers know about ADHD. Precisely, the study sought to answer the following research questions:

1. *To what extent do ordinary classrooms' teachers know about ADHD?*
2. *Are there statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) in the extent to which ordinary classrooms' teachers know about ADHD according to the following variables: (gender, qualification, professional experience, grade level being taught)?*

2. Previous studies

The researchers reviewed a number of studies related to the subject of this study, or closely related to its purposes, and the following will be presented according to the year of publication from the most recent to oldest latest to the previous ones.

Al-Moghamsi (2018) conducted a study aimed at assessing the level of knowledge of primary school teachers about ADHD and identifying some factors that affect that knowledge. It is a cross-sectional study conducted between primary government schools for males and females in Madinah during the period 1438/2017. In collecting data, a previously translated and verified questionnaire was used to identify and measure attention deficit disorder. The study included 416 teachers, whose ages ranged between 22 and 66 years. The mean percentage of the total knowledge

degree for ADHD was 38 ± 11.3 . Only 0.042 teaching experience and previous experience with a child with ADHD correlated significantly with teachers' knowledge of general information about ADHD, and special needs teachers had the highest knowledge of ADHD symptoms (mean rank is 283.7). They have the highest level of knowledge regarding ADHD treatment (average rank is 261.9) and teachers who have had previous experience with a child with ADHD express a higher level of general knowledge regarding ADHD, and the study concluded that knowledge about ADHD among primary school teachers in Madinah is suboptimal, especially with regard to treatment.

In the same vein, Lopez et al. (2018) conducted a study to examine the extent to which primary school teachers knew about ADHD in three domains (general information, symptoms and diagnosis, and treatment) in which 125 primary school teachers from different communities responded that they knew the ADHD scale. Teachers answered less than half of the items correctly, symptoms and diagnosis were the most well-known to teachers, and teachers who had ADHD children in the classroom demonstrated greater knowledge in general information and treatment, but to a lesser degree in symptoms and minimal diagnoses. 32.8% of teachers reported that they were somewhat unable to teach children with ADHD in an effective manner, and recommended special education as the best teaching method for these children. Teachers who received special training in ADHD scored better than those who did not, and the study concluded that teachers who received ADHD training were more knowledgeable and confident in their abilities when it came to teaching ADHD children.

Melhem (2018) conducted a study aimed at evaluating the level of knowledge of general education teachers about Attention Deficit Hyperactivity Disorder in Karak Governorate. The study sample consisted of (407) male and female teachers. To achieve the objectives of the study, an achievement test was prepared and the psychometric properties of the test were verified. The results of the study indicated that the level of teachers' knowledge of the disorder was low on the total degree of the test and its three dimensions (characteristics and diagnosis, therapeutic interventions, and general knowledge), and the results also showed that there were statistically significant differences in the field of characteristics, diagnosis and total degree depending on the gender variable in favor of males. While there are no statistically significant differences in the total degree, all domains are attributed to the grade. The results indicated that there are significant differences in the educational qualification in each of the characteristics, diagnosis and overall degree. The differences came in favor of both a bachelor's degree and a higher diploma and above. It also indicated that there were statistically significant differences for the experience variable in the total degree and in all

fields except for the field of general knowledge, and the differences came in favor of the students' ages (6-10) and (11) years and above.

Both Al-Saidi and Al-Harbi (2017) conducted a study aimed at identifying the level of knowledge of general education teachers about Attention Deficit Hyperactivity Disorder (ADHD) at the primary stage in the State of Kuwait, and revealing the impact of gender and subject matter. The study sample consisted of (250) male and female teachers in The primary stage for the administration of the Ahmadi and Jahra educational districts, and the researchers used a test prepared by Bruna (2004) to localize and codify the researchers, and the results indicated that the level of knowledge of general education teachers about Attention Deficit Hyperactivity Disorder (ADHD) was low, as the arithmetic mean of the level of knowledge reached (9.30) by (48.9%) The results also indicated that there are no statistically significant differences between male and female teachers in the level of knowledge about this disorder, and the results also indicated that the Arabic language teachers are more knowledgeable about this disorder than the teachers of other subjects.

Al-Shbul (2017) also conducted a study that aimed to identify the perceptions of primary school teachers in Jordan about ADHD, and to reveal the impact of specialization, and teaching experience, on teachers' perceptions of ADHD. The study sample consisted of (377) teachers from among the workers In the basic schools in the Directorate of Education for the First Amman Region, they were chosen in a simple random way, and a scale was built for teachers' perceptions of Attention Deficit Hyperactivity Disorders, and its validity and stability were confirmed by applying to an exploratory sample from outside the original research sample, and the results of the research indicated that the degree of perceptions of teachers about Attention Deficit Hyperactivity Disorder is medium, and it was found that the teachers' perception of attention deficit disorder is medium, while their perception of hyperactivity is low. It was noted that there were no differences between teachers in estimating their perception of Attention Deficit Hyperactivity Disorder, due to specialization and teaching experience. The study recommended the necessity of training primary school teachers, especially in the lower grades, to develop cognitive skills to identify students with Attention Deficit Hyperactivity Disorder.

In the same vein, Safaan et al. (2017) conducted a study aimed at determining teachers' knowledge about Attention Deficit Hyperactivity Disorder among primary school children. This study was conducted in two primary schools (Al-Batonun and Kafr-Tanbady) in the Shebin Al-Qum area, Al-Menoufia Governorate. A simple random sample included 500 primary school teachers. A structured interview questionnaire including sociodemographic data, experience and teacher training on ADHD was used. The main findings of the study revealed that 81.4% of teachers

did not receive any training courses during college on ADHD. Also, 59% of teachers had poor knowledge compared to only 10.2% who had good knowledge of ADHD. Furthermore, there was a significant relationship between the mean total teachers' knowledge of ADHD, age, marital status, education qualifications, years of educational experience, receiving training during college, and attending an in-service workshop on ADHD. The study concluded that teachers in the studied sample had very poor and insufficient knowledge about ADHD. Also, most teachers did not receive any training during the study period and did not attend an in-service workshop on ADHD. The study recommended the necessity of attending in-service training courses for teachers on Attention Deficit Hyperactivity Disorder and enhancing the awareness of teachers, parents and the community about Attention Deficit Hyperactivity Disorder.

Shroff et al. (2017) also conducted a study to assess knowledge and misperceptions about ADHD among school teachers in Mumbai, India. A total of 106 teachers from 12 English medium schools completed the ADHD Knowledge Scale and a demographic questionnaire. Overall, teachers lacked sufficient knowledge of ADHD, with only 49% of the answers being correct. The results of repeated measures ANOVA indicated that teachers' scores on the three subscales of the scale were significantly different, with the highest scores being on the level of sub-symptoms. Finally, teachers in Mumbai need to be trained in general information and handling ADHD students, with a focus on correcting common misconceptions about ADHD.

Suliman (2016) conducted a study aimed at identifying teachers' knowledge of ADHD in the primary stage in Egypt and revealing the impact of gender, teachers' experience with students with the disorder, attendance of training courses, age, educational qualification, and the number of years of teachers' experience with students with the disorder. The study sample consisted of (102) male and female teachers in the Benha Education Department of Beni Suef Governorate in Egypt. The researcher used the knowledge scale of attention-deficit disorders, prepared by Sciutto and his colleagues (2000), and the Arabization and codification of the researcher. The results of the study indicated that the degree of teachers' knowledge of ADHD is to a large extent weak, and also indicated that there are no significant differences between males and females in the overall knowledge of the disorder. There are no significant differences between teachers who have experience with the disorder and teachers who do not have experience in the overall knowledge of the disorder. It also showed that there were differences between teachers who attended training courses and those who did not in the total knowledge of the disorder in favor of those who attended, and there were no significant differences in the total knowledge of the disorder due to the academic qualification.

On the other hand, McKnight (2015) conducted a study in the United States of America that aimed to reveal the extent to which ordinary classroom teachers are familiar with the characteristics and needs of students who suffer from distraction. The sample of the study consisted of 33 teachers teaching 1,700 students with this disorder in southern New Jersey. The results showed that the members of the study sample were in agreement on many aspects related to the ideas, beliefs, and attitudes toward working with this category, and at the same time they had the same level of knowledge and training. But the majority of these teachers felt confident and well-prepared to deal with these students, and even more so the majority of teachers expressed their ability to apply distinguished didactic strategies in dealing with this category.

Similarly, Youssef et al. (2015) conducted a study to assess teachers' knowledge and attitudes toward ADHD in Trinidad and Tobago, a small island developing country in the Caribbean. A tool was adapted and empirically tested and using appropriate samples, 440 and then 277 questionnaires were distributed, and the correct questionnaires were returned (response rate, 63%). The total cognitive scores were low, i.e. 12.6/26. In-service education and training have greatly improved ADHD knowledge scores. Attitudes toward children with ADHD were generally positive, although most teachers felt that children with ADHD should be taught by professional teachers. The findings suggest that greater efforts should be made to provide teacher training in particular in identifying and managing children with ADHD.

Moreover, the study of Al-Omari et al. (2015) aimed to reveal knowledge and attitudes about attention deficit hyperactivity disorder among primary school teachers in Jordan. This study investigated Jordanian teachers' knowledge of ADHD and their attitudes toward children with ADHD. A representative sample of 130 teachers was selected from 13 primary schools in the Jordanian city of AL-Zarqa. The findings revealed a gap in teachers' knowledge of ADHD that included all aspects of ADHD issues and control. The attitude of teachers towards children with ADHD was also lower than expected, as many misconceptions emerged about the causes, management, and control of Attention Deficit Hyperactivity Disorder (ADHD). The lack of pre-service teacher training to deal with this disorder has contributed to these results. The scarcity of studies on this condition, the almost lack of formal and informal support for children with ADHD, and the findings confirm the need to implement special programs targeting school teachers and pay attention to pre-service teacher training to meet the needs of children with ADHD.

In Al-Qahtani's study (2013) which aimed to verify teachers' knowledge and misperception of ADHD, 429 teachers participated in this questionnaire. The Knowledge of Attention Deficit Disorder Scale (KADDS), along with a

demographic questionnaire, was used as survey tools, data collection, descriptive statistics, and correlation tests used to analyze the data. The results indicated that teachers' knowledge of attention-deficit/hyperactivity disorder (ADHD) is insufficient. The level of teachers' knowledge of ADHD was positively correlated with their previous training and experience with ADHD, i.e. the number of courses taken at the undergraduate or graduate level, and the number of workshops related to ADHD. Despite some limitations, the results of this study are valuable for identifying areas in which there is a misunderstanding or lack of knowledge among teachers.

Obaidat (2013) conducted a study aimed at evaluating the level of knowledge of general education teachers in Jeddah about Attention Deficit Hyperactivity Disorder. The study sample consisted of (616) male and female teachers, including 333 male and 283 female teachers. In order to achieve the objectives of the study, the researcher prepared an achievement test consisting of 30 items distributed over three dimensions. The results of the study indicated that the level of teachers' knowledge of the disorder is low on the total degree and the three dimensions of the test, and they were arranged respectively (characteristics, diagnosis, therapeutic interventions and general knowledge). While the study did not find significant differences in the level of teachers' knowledge due to the variables of gender, educational qualification, number of years of experience and the grade level being taught.

Bradshaw and Kamal (2013) conducted a study in Qatar that aimed to reveal the extent to which independent school teachers in Qatar know and are trained to deal with students who suffer from attention deficit hyperactivity disorder. The sample of the study consisted of (233) male and female teachers from independent schools who had attended a workshop specialized in the disorder for a period of 10 days. The KADDS questionnaire developed by Scitutto et al. has been applied. (2000) and it consisted of 36 general questions. The results of the study showed the poor knowledge of teachers about the disorder.

Shawky and Abdel-Fattah (2012) also conducted a study to reveal the level of knowledge of primary school teachers about attention deficit disorder accompanied by hyperactivity in terms of general characteristics, medical and educational intervention, and knowledge of the differences between teachers in terms of academic qualification and professional experience. The study was applied to a sample of 450 teachers, the results of the study indicated that the extent of knowledge of primary school teachers was medium in the general characteristics of medical and educational intervention, and the results indicated that there were no differences in the number of years of experience and educational qualification.

Nur and Kavakci (2010) conducted a study aimed at investigating the knowledge of teachers' attitudes towards attention deficit hyperactivity disorder in Turkey. The study

sample consisted of (87) kindergarten teachers. The two researchers used a scale that consisted of ten items to measure the level of teachers' knowledge of attention deficit hyperactivity disorder. The results of the study indicated that teachers' level of knowledge of the disorder is low and that there is no effect of age or number of years of experience on their level of knowledge.

Garcia (2009) study assessed the level of knowledge of primary school teachers about attention-deficit disorder and hyperactivity and appropriate classroom interventions. The study sample included 32 male and female teachers from elementary grades in the state of Southern California, and the researcher used a scale of 39 items to measure the level of teachers' knowledge of the disorder. The results of the study indicated that the teachers' knowledge was average about the disorder, and the results of the study showed that there were differences in the knowledge of the disorder between the trained and untrained teachers, and there are no differences in teachers' knowledge of the disorder due to the number of years of the experience factor. While the study found that primary school teachers have more knowledge than middle and secondary teachers in the dimension of characteristics and diagnosis. The study also found significant differences in knowledge of the disorder for teachers who have special education courses and also have students with special needs.

In the study conducted by Hong (2008) to assess teachers' knowledge of the basic stages of ADHD symptoms and their ability to define it, the study sample consisted of 258 early childhood teachers, and the interviews were used to get to the teachers' perceptions about ADHD, the results indicated that the teacher's experience is one of the most important factors in his ability to define attention deficit hyperactivity disorder, and the results also indicated that there are statistically significant differences in favor of the more experienced teacher.

3. Methodology

The current study followed the descriptive approach which is often adopted to study a specific problem or scientific phenomenon in order to arrive at logical explanations for it. In fact, this approach was used to study the extent to which ordinary classrooms' teachers know about ADHD. The population of the current study consisted of all teachers who teach students from 1st to 6th grade at public primary school in the Northern Mazar Directorate of Education Jordan during the first semester of the academic year 2020/2021. The study sample consisted of (89) male and female teachers, including 38 male and 51 female teachers, who were chosen randomly.

The researcher, after reviewing the theoretical literature and previous studies related to evaluating the extent to which ordinary classrooms' teachers know about ADHD, using a questionnaire which consisted of (39) items

that are distributed over three dimensions. The questionnaire’s apparent validity was verified by presenting it to a committee consisting of (9) specialized arbitrators from faculty members in Jordanian universities in the specializations of special education; To ensure the suitability and ability of the tool to achieve the objectives of the research, the questionnaire was modified based on the notes recorded and the amendments attached by the arbitrators, and the validity of the internal consistency of the tool was verified by applying it to a pilot sample consisting of (30) individuals from outside the target study sample. In order to calculate the values of the Pearson correlation coefficients for the relationship of the paragraphs with the dimension to which they belong, where the values of the correlation coefficients ranged for the first dimension (.428*-.719**), in the second dimension (.552** -.839**), and in the third dimension (.417* -.855**), all of which are statistically significant values. Cronbach’s alpha coefficient was also calculated, as an indicator of internal homogeneity, where the total stability coefficient (Cronbach’s alpha) was (0.897%), which is a very high percentage and indicates the stability of the tool.

Based on the nature of the study and the objectives it sought to achieve, the data were analyzed using the Statistical Package for Social Sciences (SPSS) programs, where the correlation coefficient (Pearson) and Cronbach’s alpha were used to calculate the stability of the study tool. Frequencies and percentages of personal variables were used, and a quadruple multiple analysis of variance was used to measure the extent to which ordinary classrooms’ teachers know about ADHD according to personal variables (gender, educational qualification, professional experience, and grade level being taught), arithmetic averages and standard deviations of the dimensions and items of the tool.

4. Findings

The results related to the first question, which measured the extent to which ordinary classrooms’ teachers know about ADHD; showed that the level of their knowledge was at a medium level, and with an arithmetic mean for the tool as a whole (3.64%). See Table (1) below:

Table (1). Arithmetic Means and the Standard Deviations of the study’s overall dimensions, taking into account the descending order of these dimensions according to their Arithmetic Means (n = 89):

No.	The dimensions	AM	SD		R	L
1.	Knowledge of the educational approach to modify the behaviour of the	3.86%	0.67%		1	H

	students with ADHD and help them to adapt.					
2.	General knowledge of ADHD.	3.805%	0.51%		2	H
3.	Knowledge of the medical approach to treat ADHD.	3.28%	0.72%		3	M
The research instrument’s dimensions as a whole		3.64%	0.54%		-	M

Notice: AM: Arithmetic Means; SD: Standard Deviations; R: Rank; L: Level (H: High; M: Medium; L: Low).

The third dimension (knowledge of the educational approach to modifying the behavior of students with ADHD and helping them to adapt) came with an arithmetic mean of (3.86%) and a high degree and first place, followed by the first dimension (general knowledge of ADHD) with an Arithmetic Mean of (3.80%) and a degree of High and second, followed by the second dimension (knowledge of the medical approach to the treatment of ADHD) with a mean of (3.28%), a medium degree, and the third and final rank.

As for the second question, which focused on the extent to which there are statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) in the extent to which ordinary classrooms’ teachers know about ADHD according to the following variables: (gender, qualification, experience, and the grade level being taught), where Arithmetic means and standard deviations were extracted. The below Table (2) shows the findings derived from the enrolled participants’ responses:

Table (2). Arithmetic averages and standard deviations of the extent to which ordinary classroom teachers know about ADHD according to the variables of (Gender, Qualification, Professional experience, and the Grade level being taught):

V	C	X/Y	GK A	KM A	KE A	TD
G	Male	X	3.74%	3.32%	3.82%	3.62 %
		Y	0.53%	0.53%	0.77%	0.59 %
		X	0.59%	0.59%	3.24%	3.65 %

	Female	Y	0.49%	0.49%	0.69%	0.51%
Q	Bachelor's Degree	X	3.80%	3.21%	3.80%	3.61%
		Y	0.53%	0.72%	0.69%	0.56%
	Higher diploma or above	X	3.80%	3.51%	4.05%	3.77%
		Y	0.42%	0.69%	0.54%	0.46%
PE	1 to 5 years	X	3.77%	3.40%	4.03%	3.71%
		Y	0.39%	0.62%	0.53%	0.44%
	From 6 to 10 years	X	3.92%	3.20%	3.67%	3.62%
		Y	0.60%	0.83%	0.66%	0.59%
	11 years and over	X	3.75%	3.28%	3.88%	3.63%
		Y	0.49%	0.70%	0.70%	0.56%
GLBT	From 1 st grade to 3 rd grade	X	3.86%	3.42%	3.96%	3.74%
		Y	0.49%	0.62%	0.65%	0.49%
	From 4 th grade to 6 th grade	X	3.78%	3.22%	3.81%	3.60%
		Y	0.52%	0.75%	0.67%	0.56%

Notice: 'X': 'Arithmetic Mean'; 'Y': 'Standard Deviation'; 'V': 'Variables' (G: Gender/ Q: Qualification/ PE: Professional Experience/ GLBT: Grade Level Being Taught); 'C': 'Category'; 'GKA': 'General knowledge of ADHD'; 'KMA': 'Knowledge of the medical approach to treat ADHD'; 'KEA': 'Knowledge of the educational approach to modify the behaviour of the students with ADHD and help them to adapt'; 'TD': 'Total Degree'.

The above Table (2) shows an apparent variation in the Arithmetic Means and deviations of the extent to which ordinary teachers know about ADHD according to the variables of: (gender, qualification, professional experience, the grade level they teach). And, in order to demonstrate the significance of the statistical differences between the Arithmetic Means, a multivariate analysis of variance was applied on dimensions and the data collection tool as a whole. See Table (3) below:

Table (3). A multivariate analysis of variance for the significance of (Gender, Qualification, Professional experience, and the 'Grade level being taught' on the ordinary classes teachers' knowledge and perception about ADHD:

SoV	Ds	SS	DoF	MS	F	SS
G	GKA	0.278%	1	0.278%	1.055%	0.37%
	KMA	0.011%	1	0.011%	0.021%	0.886%
	KEA	0.313%	1	0.313%	0.716%	0.400%
	TD	0.106%	1	0.106%	0.348%	0.557%
Q	GKA	0.005%	1	0.005%	0.019%	0.981%
	KMA	1.158%	1	1.158%	2.202%	0.141%
	KEA	1.009%	1	1.009%	2.306%	0.133%
	TD	0.416%	1	0.416%	1.372%	0.245%
PE	GKA	0.443%	2	0.222%	0.843%	0.434%
	KMA	0.482%	2	0.241%	0.461%	0.632%
	KEA	1.348%	2	0.674%	1.539%	0.221%
	TD	0.145%	2	0.073%	0.239%	0.788%
GLBT	GKA	0.151%	1	0.151%	0.575%	0.450%
	KMA	0.356%	1	0.356%	0.680%	0.412%
	KEA	0.197%	1	0.197%	0.451%	0.504%
	TD	0.223%	1	0.223%	0.735%	0.394%
Error/Residual	GKA	21.830%	83	0.263%	-	-
	KMA	43.436%	83	0.523%	-	-
	KEA	36.332%	83	0.438%	-	-
	TD	25.183%	83	0.303%	-	-
Total	GKA	1307.770%	89	-	-	-
	KMA	1001.225%	89	-	-	-
	KEA	1361.770%	89	-	-	-
	TD	1205.012%	89	-	-	-

Notice: 'SoV': 'Source of Variance'; (G: Gender/ Q: Qualification/ PE: Professional Experience/ GLBT: Grade Level Being Taught); 'Ds': 'Dimensions' (GKA: General knowledge of ADHD/ KMA: Knowledge of the medical approach to treat ADHD/ KEA: Knowledge of the educational approach to modify the behaviour of the students with ADHD and help them to adapt); 'TD': 'Total Degree'; 'L': 'Lawley-Hotelling Trace'; 'P': 'P-value/Probability Level'; 'W': 'Wilks' lambda'; 'SS': 'Sum of Squares'; 'DoF': 'Degrees of Freedom'; 'MS': 'Mean Squares'; 'F': 'F-value/ F-statistic'; 'SS': 'Statistical Significance'.

The analysis of the findings demonstrated that there were no statistically significant differences ($\alpha \leq 0.05$) due to the effect of the 'gender' variable on all dimensions and on their total degree. It also indicated that there were no statistically significant differences ($\alpha \leq 0.05$) due to the effect of the 'educational qualification' variable on all dimensions and on their total degree. In addition, there were to the absence of statistically significant differences ($\alpha \leq 0.05$) due to the effect of the 'professional experience' variable on all dimensions and on their total degree. Similarly, it was further reported that there were no statistically significant differences ($\alpha \leq 0.05$) due to the effect of the 'grade level being taught' variable on all dimensions and on the total degree of these dimensions as a whole.

5. Discussion of the findings:

The findings related to the first question showed that the level of knowledge of ordinary classroom teachers about ADHD was at a medium level, as this result is attributed to the teachers' high level of awareness of the importance of acquiring knowledge about all categories of students with their different characteristics and abilities, including students with ADHD. This can be explained by the good preparation of ordinary classroom teachers during their education in universities through the provision of university courses that provide knowledge about the category of people with ADHD, in addition to the training programs they receive during their tenure in the teaching profession.

These findings are in agreement with the findings of the study by Shboul (2017) and Garcia, 2009), which all indicated that general education teachers have an average level of knowledge of ADHD, while these results differed from the findings of the study of Safaan et al. (2017), Shroff et al. (2017), Suliman (2016), Youssef et al. (2015), AlOmari et al. (2015), Bradshaw and Kamal (2013), and Nur & Kavakci (2010), all of which indicated that ordinary classroom teachers had a low level of knowledge about ADHD, as it differed with the results of the study of Al-Qahtani (2013), which indicated that teachers of ordinary classes have an insufficient level of knowledge about ADHD.

While the findings showed that there were no statistically significant differences ($\alpha = 0.05$) due to the effect of gender in all dimensions and in the total degree of the dimension. This result is attributed to the fact that the general education teacher preparation programs are the same for males and females; these programs contain courses that introduce them to and explain this disorder in terms of its concept, characteristics, symptoms, methods of educational interventions, and behavioral problems that students may present in the first grades.

These findings were in agreement with Obaidat (2013) and Suleiman (2016) studies' findings which both indicated that there were no statistically significant differences in the level of teachers' knowledge of ADHD due to the gender variable. While these results differed with the findings of the Melhem study (2018), which indicated that there were statistically significant differences due to the gender variable and in favor of males, and they also differed with the study of Safaan et al. (2017) which indicated that there is a statistically significant effect of the gender variable on teachers' knowledge of ADHD.

It also indicated that there were no statistically significant differences ($\alpha = 0.05$) due to the effect of the educational qualification in all dimensions and in the total degree of the dimension. This result is due to the fact that the study plans for preparing ordinary classrooms' teachers, whether at the bachelor's or higher diploma levels, contain courses specific to this category, and that extracurricular activities within universities and institutes specialized in preparing teachers contribute to the development of student-teacher knowledge about the categories of special education in schools, including students with Attention Deficit Hyperactivity Disorder.

These findings were in agreement with the findings of the study of Obeidat (2013), Shawky and Abdel Fattah (2012), and Suleiman (2016), all of which indicated that there were no statistically significant differences in the level of teachers' knowledge of ADHD due to the educational qualification variable. While these results differed with the findings of the Melhem study (2018), which indicated that there were statistically significant differences due to the educational qualification variable, and they also differed with the study of Safaan et al. (2017), which indicated that there is a statistically significant effect of the educational qualification variable on teachers' knowledge of ADHD.

In addition to the absence of statistically significant differences ($\alpha = 0.05$) due to the effect of professional experience in all dimensions and in the total degree of the dimension. This result is attributed to the training programs received by general education teachers during their service, which concern the categories of special education and the category of students with attention deficit hyperactivity disorder. Consequently, all teachers, regardless of their years of experience, receive the same training programs that enrich their knowledge and provide them with appropriate teaching strategies and appropriate educational interventions to deal with this category of people with special needs.

These findings were in agreement with the findings of the study of Obeidat (2013), Shawki and Abdel Fattah (2012), the study of Suleiman (2016), the study of Nur &

Kavakci (2010), and the study of Garcia (2009). The results of which all indicated that there were no statistically significant differences in the level of teachers' knowledge of ADHD due to the variable of experience. While these results differed with the findings of the study of Melhem (2018) and the study of Shboul (2017), whose results indicated that there were statistically significant differences due to the variable of experience in the total degree, and they also differed with the study of Safaan et al. (2017) which indicated that there is a statistically significant effect of the experience variable on teachers' knowledge of ADHD, and it also differed with the results of the Hong Kong study (2008) Which indicated that there were statistically significant differences in the level of teachers' knowledge of ADHD due to the variable of experience and in favor of the more experienced.

It also indicated that there were no statistically significant differences ($\alpha = 0.05$) due to the effect of the grade level in all dimensions and in the total degree of the dimension. This result is due to the fact that the teacher, regardless of the grade level he/she teaches, does not focus on the academic aspect only, but also focuses on the behavioral aspects of students as well. If he/she has students with ADHD in the classroom, he/she uses the appropriate educational interventions for them or refers them to the school counselor or the resource room teacher. These results agreed with the findings of the study of Obeidat (2013) and Melhem (2018), which indicated that there were no statistically significant differences due to the grade variable.

6. Conclusion

As previously mentioned in the abstract, the current research study aimed to know the level of knowledge of ordinary classroom teachers about ADHD, where the current study proposes to develop teacher preparation programs and include them with modern theoretical and practical knowledge about ADHD to help them deal optimally with this category or refer them to the educational alternative that is most suitable for them. It also suggests conducting other studies on ADHD that take into account variables, tools, and a broader sample, and also suggests conducting studies that take into account families, supervisors, service providers and everyone related to ADHD, in addition to conducting awareness, instructive and educational programs for ordinary classrooms' teachers, providing them with full knowledge about how to deal with students who are infected with it. It also suggests organizing training programs and specialized courses for those during their service years, to develop their level of knowledge of ADHD, and the best educational, therapeutic, and psychological methods to deal with it.

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