

أبحاث باللغة الإنكليزية

1 – Study regarding the level of awareness and understanding about ADHD among teachers when dealing with ADHD students.

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"Keep motivating yourself by
looking at the full half of the glass.
It is natural that we feel stress
because we are ultimately humans"

(SuhairOraif)

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Abstract

Attention deficit and hyperactivity disorder (ADHD) is one of the most common disorders, which describes students with learning and behavioral difficulties. It is a severe developmental disorder with inattention, impulsivity, and hyperactivity symptoms. Sometimes, teachers intend to refer ADHD students to mental health professionals to prevent these problems. The objective of this research is:1) To investigate Saudi elementary and kindergarten

teachers' understanding and knowledge of ADHD. 2) To demonstrate how the impact of teaching strategies increases awareness of ADHD and helps students with ADHD to improve their academic performance. 3) To recommend to the Ministry of Education in Jeddah to set up a general training program for learning disabilities for all teachers in Saudi Arabia. The study focused on K-6 female teachers; four schools were selected in this study. A mixed-methods design was used to evaluate teachers' knowledge and understanding of ADHD. The researcher gathered data from the questionnaire and interviews. For the questionnaire, (N=15) teachers were selected for kindergarten and (N=15) for Elementary. (N=8) teachers were interviewed to discuss their beliefs and strategies for dealing with students with ADHD. The interview questions were about how teachers understand the situation of ADHD students. The qualitative and quantitative data were collected separately. The fifteen kindergarten teachers who participated in the questionnaire had an average number of 11.33 of knowledge about ADHD. The 15 Elementary teachers had an average number of 9.53%. In general, the findings showed that both Kindergarten and teachers had some knowledge about the general characteristics of ADHD, but they had little understanding of causes and interventions.

In conclusion, Saudi teachers indicated that they had truly little training about ADHD, especially in the classroom, which affects their acknowledgment of this disorder. This study did not assess attitudes and behavior toward children with ADHD. Therefore, it is important that future researchers must assess teachers' attitudes and behavior toward those children.

Keywords: Saudi Arabia; Jeddah; Knowledge; understanding; Elementary; kindergarten; attention deficit hyperactivity disorder; dealing with ADHD students; students with ADHD; Saudi teachers; ADHD in Saudi Arabia; ADHD.

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ملخص البحث:

يعد اضطراب نقص الانتباه وفرط النشاط (ADHD) أحد أكثر الاضطرابات شيوعاً، حيث يصف الطلاب الذين يعانون من صعوبات التعلم والسلوك. وهو اضطراب شديد في النمو مصحوب بأعراض قلة الانتباه والانفعال وفرط النشاط. في بعض الأحيان، يفضل المعلمون إحالة طلاب اضطراب فرط الحركة ونقص الانتباه إلى متخصصي الصحة العقلية لمنع هذه المشكلات.

الهدف من هذا البحث هو:

التحقق من فهم ومعرفة معلمات مدارس الابتدائية ورياض الأطفال في المملكة العربية السعودية باضطراب فرط الحركة ونقص الانتباه، لتوضيح كيف أن تأثير استراتيجيات التدريس يزيد من الوعي بهذا الاضطراب ويساعد الطلاب على تحسين أدائهم الأكاديمي. التوصية لوزارة والتعليم بالسعودية بوضع برنامج تدريبي عام لصعوبات التعلم لجميع المعلمين في المملكة العربية السعودية.

ركزت الدراسة على معلمات من أربع مدارس من شمال جدة. تم استخدام تصميم متعدد الأساليب لتقييم معرفة المعلمات وفهمهم لاضطراب فرط الحركة ونقص الانتباه. جمعت الباحثة البيانات من الاستبيان والمقابلات. بالنسبة للاستبيان، تم اختيار (عدد = 15) معلمة لرياض الأطفال و (عدد = 15) لمرحلة الابتدائية. (عدد = 8) تمت المقابلة معهن لمناقشة معتقداتهن واستراتيجياتهن للتعامل مع الطلاب المصابين باضطراب فرط الحركة ونقص الانتباه. كانت أسئلة المقابلة حول كيفية فهم المعلمات لحالة الطلاب

المصابين اضطراب فرط الحركة ونقص الانتباه. تم جمع البيانات النوعية والكمية بشكل منفصل. بلغ متوسط عدد معلمات رياض الأطفال الخمسة عشر الذين شاركوا في الاستبيان 11.33 من المعرفة حول ADHD. معلمات الابتدائي الخمسة عشر حصلوا على 9.53%. من المعرفة حول ADHD. بشكل عام، أظهرت النتائج أن كلاً من رياض الأطفال والمعلمين لديهم بعض المعرفة حول الخصائص النموذجية لاضطراب فرط الحركة ونقص الانتباه، لكن لديهم القليل من الفهم للأسباب والتدخلات.

في الختام، أشارت المعلمات السعديون إلى أنهم تلقين القليل من التدريب حول اضطراب فرط الحركة ونقص الانتباه، خاصة في الفصل الدراسي، مما يؤثر على معرفتهم بهذا الاضطراب. لم تقيم هذه الدراسة المواقف والسلوك تجاه الأطفال المصابين باضطراب فرط الحركة ونقص الانتباه. وبالتالي، من المهم أن يقوم الباحثون المستقبليون بتقييم مواقف المعلمين وسلوكهم تجاه هؤلاء الأطفال.

كلمات مفتاحية: Saudi Arabia؛ جدة؛ معرفة؛ فهم؛ ابتدائي؛ روضة أطفال؛ قصور الانتباه وفرط الحركة؛ التعامل مع طلاب ADHD؛ الطلاب الذين يعانون من اضطراب فرط الحركة ونقص الانتباه؛ مدرسون سعوديون اضطراب فرط الحركة ونقص الانتباه في المملكة العربية السعودية؛ ADHD.

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Chapter one

Introduction

The most critical stage of a person's life is the early childhood period. In this stage, the child's personality develops while interacting with the surrounding environment and developing mental attention processes that play an important role in the mental growth of a child (Munshi, 2014). Differences in students' learning in a school can be attributed to their exposure to different standards of teaching (McGinn, 2010). Students with ADHD are the essential part of the school community. However, these students are paying the price for their problems because of the low grades, their inattention, impulsivity and hyperactivity (Segal & Smith, 2016). Recently, surveys have shown that about 11% of children between four and seventeen years old (6.4 million) have been diagnosed with ADHD (CDC, 2012). Thus, it is important for teachers to have the needed awareness and skills for better understanding children with ADHD (ADHD Foundation, 2014).

According to the American Academy of Child and Adolescent Psychiatry (AACAP) estimation, all teachers have in their classrooms at least one child with ADHD (Education World, 2007). Thus, (ADHD) is one of the most common mental disorders that develop in children, with great effects on the child's social, psychological, educational functioning and academic achievement (Khalil and Jenahi, 2015).

Children with ADHD, show behavioral and academical problems because of the interaction between the academic needs of the

schools, and the characteristics of this disorder (Homidi, Obaidat and Hamaidi, 2013). Many parents and children have had complaints from some teachers' behaviour. There are also many teachers, who have opened the door for all children to learn and grow at the expense of their personal and psychological comfort (Munshi, 2014). This expense raises real challenges for teachers because students with ADHD need more attention from teachers, more work and more time.

Students with (ADHD) have a hard time in doing a task, not because they do not want, but because their brains will not allow them (Segal &Smith, 2016). Therefore, teaching them is not easy, besides, these challenges can cause stress that affects teachers' performance in the psychological and professional level (Segal &Smith, 2016). My motivation for conducting this research came from what I have noticed through my experience as a teacher and coordinator.

In the core of the context of my career, I found many cases that include students with ADHD and normal active students. For example, teachers sometimes are confused and do not how to differentiate between a normal student with behavioral problems and a student with mental behavioural problems. I recognized that some Saudi teachers, including me, do not know how to effectively manage students with ADHD. After many years of reading about ADHD, I learned that those students need more attention from us as professionals. The need for teachers to identify some "behaviours" such as ADHD behaviour is important for children who start to learn at an age-appropriate level (Garner, 2016).

Many teachers are concerned about their abilities to manage those children, provide safe and comfortable environments for them, and setting the level of teaching and learning.

Recently, surveys have shown that about 11% of children between four and seventeen years old (6.4 million) have been diagnosed with ADHD (CDC, 2012). Thus, it is important for teachers to have the needed awareness and skills for better understanding children with ADHD (ADHD Foundation, 2014). There were some available studies to show knowledge of primary school and kindergarten teachers about ADHD in Saudi Arabia. There were no available studies, however, to show the level of understanding and knowledge among those teachers. Therefore, I conducted this study aiming to evaluate both, knowledge and understanding of female teachers about ADHD.

This study attempts to help teachers improve their understanding and professional expertise of their beliefs about ADHD. As a novice researcher, it is good to expand my knowledge about research methodologies, especially when seeking to enlist as many assistants as possible (Glass, 2001).

Adopting a mixed methods approach is to highlight the teachers' awareness and understanding of ADHD. Further, to explore the extent of teachers' professional knowledge and expertise in meeting the needs of this group of students. Mixed methods provide a more comprehensive picture of this disorder better than each method alone (Wisdom et al., 2012).

I am seeking associations between teachers' knowledge about ADHD, and teachers understanding to this disorder. To answer

the research question, I need to underline that my study is to highlight the challenges that teachers are facing while dealing with ADHD students which affects students' performance (Geldenhuys & Oosthuizen, 2015). Mixed methods approach can improve my ability to answer complicated questions in a prevalent way, an effective style and internally useful (Borkan, 2004)

This Study is about the awareness and understanding about ADHD among teachers when dealing with ADHD students. Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common mental disorders that develops in children (Munshi, 2014) and has specific symptoms. These symptoms appear in the preschool age and early school years (Al Hamed et al., 2008). ADHD, is a complex neuropsychiatric disorder of the brain with an estimated prevalence of up to 6.4% of school-age children (Shimizu, Bueno & Miranda, 2014).

Children with ADHD may suffer different symptoms, they may also be disruptive and exhibit challenging behaviour with badly behaved at home and school (McAuley, Chaban & Tannock, 2009). The nearly half of ADHD children' symptoms appear when children are at 5 years old (Chae, J. et al, 2001). ADHD is a group of pathological symptoms that begin in childhood and continue into adolescence and adulthood (McMillan, 2008).

The difference in the behaviour of children in the early stages of life makes people confused in distinguishing deviant between natural and unnatural of those behaviors. This confusion may be from the parent's perspective of a natural, but in other people's view is something unfamiliar and unnatural and unaccept-

able from the community. In addition, some children with ADHD can be nervous, impulsive, unable to follow rules or wait turns, and act in an impulsive way acts on rush regardless of results! However, not all children with ADHD have these problems (Mahar & Chalmers, 2007).

The mental abilities of children with ADHD are close to normal. The main problem is the inability to focus, and then not to take advantage of information and stimuli around them, and often re-study phase because of repetition. Some children with ADHD grow up and fail academically, most of them are weaker than the rest of their family and peers regarding the education level. In the comparison with students without ADHD, students with ADHD have low average marks and more failed grades (Www2.ed.gov, 2009).

Most teachers in Saudi Arabia, if not all, have at least one child with ADHD in their classroom. Some have knowledge of what ADHD is, how it affects a child's ability to learn. Others understand how to implement strategies that make classroom suitable for these children. However, despite all the research and information that are available online, still many teachers do not understand ADHD. They are not aware of how to best manage children with ADHD and help them to learn. Many teachers studied cases about ADHD during the school curricula. But they may forget or ignore such cases or treat students with ADHD in ineffective ways while holding the view that those students are naughty.

These negative attitudes towards these children, undermine the relation between the students and the teachers and increase the

school failure in managing students with ADHD. According to Segal &Smith (2016), Schools face multiple challenges, but with effective plans and practical strategies for learning inside and out of the classroom, students with ADHD can succeed in the classroom. Further, trained teachers and collaboration between parents and school team, those students can meet the learning challenges to experience the success at school (Segal &Smith, 2016).

Most of the cases of ADHD are recognized and diagnosed by teachers. Teachers need more training, thus, to become aware of which student is at risk, and then meet and support his/her skills (McAuley, Chaban & Tannock, 2009). Therefore, it is essential to raise awareness among teachers on how to treat such cases and prevent problems before they occur.

The value of pursuing the research question is to define the focus of the research project, to help readers to understand the subject and how the researcher will address the topic. These questions reflect on the learning extension to fill a gap in understanding and knowledge about ADHD, or to choose some difference, or use some information to address the research issues (Matthews, 2001).

Research questions:

- What are the factors that make some teachers successful in managing students with ADHD and others unsuccessful?
- Does the level of awareness and understanding about ADHD among teachers affect students with ADHD in the classroom?

Rationale:

To present findings of research about teaching students with ADHD. To investigate teachers who do not know how to identify ADHD or how support ADHD children (Goldrich, 2012). This study also attempted to investigate the knowledge and awareness among teachers when dealing with ADHD students. To provide a new perspective on teaching students with ADHD in Saudi Arabia. To propose strategies that teachers can merge in teaching to improve the academic development of a student with ADHD while continuing to teach all the students in the class.

Objectives:

To Review the literature about the teacher's knowledge and understanding of ADHD.

To explore the views and attitudes of teachers towards teaching ADHD students.

To assess knowledge and understanding of the primary schools and kindergarten teachers in Jeddah, towards understanding ADHD as well as reasons related to ADHD knowledge among them (Munshi, 2014).

To recommend to the Ministry of Education in Jeddah to set up a general training program for the learning disability for all teachers in Saudi Arabia not only for the special education teachers.

Ethical consideration:

According to BERA (2011), a formal consent was obtained obtain from a person in authority in the jurisdiction concerned. Therefore, the researcher planned to ask a permission, and col-

laboration from Local Education Authorities (Alqahtani, 2009). However, and because of the complication of getting approval from the Ministry of Education, final approval may take many months to obtain. Hence, the researcher avoided public schools and conducted the research in private schools.

According to BERA (2011), an ethical issue could appear when studying in sensitive situations affected by the cultural differences or religion. Saudi Arabia follows Sharia Law, besides the traditional customs of Saudi Arabia (Foreign & Commonwealth Office, 2013), which will make an issue of conducting research on male teachers. Regarding this issue, the participants were all females.

Saudi culture:

According to many researches, culture is important when conducting a study about disability. For example, emotional problems in some communities such as disability seen as fate in the future existences for disabled people (Jament, 2009). The consideration of Saudi society values and how they affect public understanding of students with disabilities is an important matter (Alquraini, 2010).

This leads to low expectations for disabled people in the education in Saudi system (Alquraini, 2012). There is a gap in publications formed in the Saudi social model of disability. This gap covers social, cultural, ecological, and educational sites of special needs Gallagher, Connor, & Ferri (2014 cited in Altamimi et al., 2015).

This suggests the developing research culture in KSA needs backing to move past the first phase of research into classroom

experiments, efficiency, and research involvement (Altamimi et al., 2015). Therefore, when Abed et al. (2014) enlisted Elementary school directors, he selected from all four quarters of Jeddah, to ensure, social class, religious diversity, demographic and geographic (Abed et al., 2014). Thus, for this study the researcher selected four school from the four quarter of North Jedda, Saudi Arabia.

Chapter 2: Literature review

Introduction:

This chapter presents a review of literature about the characteristics of ADHD in students, and how teachers can manage these students through their understanding and knowledge about this disorder. This literature was necessary to improve the researcher knowledge about ADHD, understanding teachers of the problem about ADHD and gave new ideas that supported the research approach.

Many schools in Saudi Arabia have teachers who qualify for some programs which serve students with disabilities. However, those teachers lack understanding of how to manage students with Attention Deficit Hyperactivity Disorder (ADHD). Therefore, Education standards continue progressing, and the accountability of the schools and teachers continue increasing daily (Williams, 2012) to perform practical strategies for learning inside and out of the classroom for students with (ADHD Segal & Smith, 2016). Thus, the No Child Left Behind Act (NCLB), gives the right for all students to be taught by the best qualified teachers, which in turn leads schools to become more comprehensive (U.S. Department

of Education, 2004).

Munshi (2014) stated that although 53.8% of Saudi teachers know that ADHD is a low-level of intelligence, only one-third of them know there is a gender variance, and only 17.7% knew that ADHD is an inherited disease. because result, reflect teachers' knowledge about the reality of ADHD disorder (Munshi, 2014), and it was important because it shows the misconception about ADHD among Saudi teachers. Therefore, managing students with ADHD depends on teachers' awareness and understanding of this disorder. Training teachers on the other hand, can plan and provide daily strategies that successfully includes students with ADHD when they have a comprehensive understanding of these management strategies (Das, 2015).

Children with ADHD:

There are three reported studies about exploring the prevalence of ADHD in Saudi Arabia. One of these studies was for Al-Haider (2008), who examined the simultaneous presence and treatment characteristics of ADHD. The studies reviewed 416 patients, but 25.5% were diagnosed to have ADHD (Al-Haidar, 2008). However, Al-Haidar's study is a medicalized and deficit-oriented approach.

The behaviors related to ADHD, change as children grow older. For example, a preschool child may show over activity of climbing or jumping, running and often moving from one activity to another (Spellings et al., 2006).

Usually, kids diagnosed with ADHD have problems in following instructions and paying attention properly to what they need

to give attention to (Mahar & Chalmers, 2007). They also do not listen, they have poor handwriting because of the deficits in visual-motor integration and motor coordination (Yoshimasu et al., 2011). Children with ADHD missed most of the details, they lack starting any task and exhibit problems in behaviour (Homidi, Obaidat & Hamaidi, 2013).

Graham (2007) pointed that ABS (2000), described ADHD as a behavioral disorder. Another study described ADHD as a developmental disorder in children and teenagers, which can lead to extreme and impulsive actions (Al Hamed et al., 2008). Some studies reported prevalence rates that are differing among school-aged children from about 2% to 18 % of kindergarten and primary school-aged (Alqahtani, 2010). Many studies described ADHD as children's problem with learning performance and behavioral difficulties (Anderson et al., 2012). Another study described ADHD as a severe developmental disorder with inattention, impulsivity and hyperactivity symptoms (dents et al., 2016). Further, children who had been identified by their teachers in the first year of school as having severe ADHD symptoms, they fall behind their peers in the academic performance, at least until the end of elementary schooling at age 11 years (Faraone & Graham, 2009).

Teaching kids with ADHD:

Abed et al. (2014) stated that ADHD in school-aged children in Saudi Arabia is spreading and there are no studies to find out why. Regrettably, few schools in Saudi Arabia have qualified teachers for some programs that serve children with disabilities in

general, but those teachers do not have knowledge about teaching students with ADHD (Abed et al., 2014).

Teachers do not only teach students the skills and knowledge that are part of the curriculum form, but they also teach them how to behave (Nimisha & Arora, 2014). Most Saudi teachers did not learn how to understand ADHD symptom, or how to prepare and support those students, especially the general education teachers (Goldrich, 2012). Some teachers indicated that they had little or no training on how to deal with students with ADHD in the classroom (Topkin, Roman & Mwaba, 2015). Some teachers can be very frustrated when they must teach students with ADHD, but they can do things to make classroom better environment for those students (Bekas, 2011). Glass and Wega (2001) indicated that the classroom is usually the place of the most problems arise. They suggested that the existing behaviour problems of some children with ADHD could be related to class size and teachers cannot or do not want to make appropriate modifications (Burley &Waller, 2005).

According to Youssef, Hutchinson &Youssef (2015), teachers face challenges when teaching kids with ADHD; it is also not surprising that there are some reports about their negative attitudes toward those children (Youssef, Hutchinson &Youssef, 2015). There is thus a lack of ADHD-specific awareness for many general education teachers, in the KSA as well as the USA and other countries worldwide (Wilkinson et al., 2013 cited from Piffner, Barkley, & DuPaul 2006). However, in Saudi Arabia, there is no study about knowledge of Primary school and Kindergarten

teachers about ADHD (Munshi, 2014).

Some findings showed that teachers who work with children's affairs began to raise their knowledge about ADHD and other related disabilities (Jament, 2009). Another finding suggested that most of the classroom teachers lacked knowledge of what is the proper form of the involvements and adjustments (Nowacek & Mamlin, 2007). Other findings demonstrated that teachers who have a former experience in teaching students with ADHD are more confident to teach students with ADHD than teachers without this experience (Kosa, Richdale Hayc, 2006).

Educationally, the teacher must often provide encouragement and continually compliment the children who accomplish their task in a positive manner (Shaughnessy & Waggoner, 2015). Effective teachers should repeatedly give good compliments to children with ADHD. They must praise the child before, and not after the task is finished (Spellings et al., 2006). A study for DuPaul & Stoner (2003) emphasizes that teachers should always try to make the classroom a good environment to help children with ADHD succeed academically, emotionally and socially.

Teachers' roles in ADHD diagnosis and managing students with ADHD:

According to Taylor et al., (2015), ADHD affects between 3 and 5 percent of school-aged children, many of them may need medication to relieve the symptoms. However, ADHD requires not only treatment but needs attention from both teachers and parents (Anderson et al., 2012). Besides, the readiness to accept and use a treatment requires two reasons: quantity of ADHD

knowledge and number of years teaching experience (Vereb & DiPerna, 2004). Sciutto et al. (2000) assessed teachers' knowledge and misperceptions about ADHD. they Specifically, investigated elementary teachers' knowledge regarding symptoms, diagnosis, and treatment of this disorder Sciutto et al., 2000).

Teachers often discussed the reports of a child's behaviour in the clinical estimation of ADHD. However, teacher classification to ADHD symptoms in students could have limitations (Hamed, Kauer & Stevens, 2015). A study conducted by Guerra & Brown (2012) found that teachers have the greatest area of knowledge when identifying the symptoms/diagnosis of ADHD.

Another study by Gang (2011) found that to create good solutions for students with ADHD, teachers and specialist professionals may need to communicate with one another about their expectations. However, and according to Moon's (2007) study, teachers tend to ignore the knowledge about the diagnosis and behavioural/educational methods of necessary treatment to meet the needs of these children in effective ways.

A study by Shanley (2012, cited in Ward, 2014) showed that most of the time, teachers play a critical role in impacting parents who are waiting for an ADHD assessment for their kids A study by. Parents, on the other hand, must be aware of the influence of schools and teachers, who can tell parents that if they do not medicate their children, they will not be able to attend the classroom. Although parents rely on teachers, Kern et al. (2015) found that teachers can provide incorrect advice which can be not suitable for parents. This highlights the need to examine what

teachers know and do not know about ADHD as they play an important role in implementing strategies and interventions for those students (Kern et al., 2015)

Many studies have demonstrated that teachers played a significant role in the help-seeking process for students with ADHD. Early intervention is the best way to prevent the increase of disruptive behaviour of the children with ADHD. According to Burley & Walker (2005), intervention may include teacher training, parent training, effective strategy training, and medication. Therefore, teachers are the first person in investigating and observing effective and suitable interventions (Olson, 2003). However, if teachers did not have enough knowledge and training regarding ADHD, they may give wrong information for parents about their child. For example, and according to Perold, Louw and Kleynhans (2010) study, teachers in South Africa public school lacked knowledge about ADHD. This lack of knowledge can lead teachers to give inappropriate and incorrect advice to parents about their child (Kern et al., 2015)

Teacher is often the first person who is accountable to identify student with ADHD, and more and more she can help managing such children (Youssef, Hutchinson and Youssef, 2015). It is more likely that teachers can maintain the behaviour of children with ADHD by either positive reinforcement or negative reinforcement, which may keep the child in the task or escape from it (Burley & Waller, 2005).

A study for Spellings et al. (2006) has suggested that a teacher can determine when, how, and why the child is impulsive,

hyperactive, and inattentive. Another study by Homidi, Obaidat & Hamaidi (2013), suggested that managing students with ADHD requires a consideration from primary teachers who may not know how to identify ADHD. Besides, they do not know how to use teaching strategies and techniques for kids with ADHD (Homidi, Obaidat & Hamaidi, 2013). Therefore, teachers should consider combining techniques to help students overcome difficulties in working memory when teaching ADHD students (Jacobson & Reid 2010).

A study by Sciutto et al., (2016), examined prior exposure and ADHD training with teachers' knowledge and misconceptions of the disorder in a multinational sample. Although teachers might be pessimistic, they mostly understood themselves as being experts in dealing with the difficulties of students with ADHD (Kos, Richdale & Jackson, 2004). However, the need for training will further support teachers' knowledge and understanding for ADHD. Therefore, the classroom teacher is often the first person who is accountable to identify student with ADHD and can potentially provide significant help to these children (Youssef, Hutchinson and Youssef, 2015). It is more likely that teachers can maintain the behaviour of children with ADHD by either positive reinforcement or negative reinforcement, which may keep the child in the task or escape from it (Burley & Waller, 2005). A study by Spellings et al. (2006) has suggested that a teacher can determine when, how, and why the child is impulsive, hyperactive, and inattentive. Another study suggested that managing students with ADHD requires a consideration from primary teachers who may not know how to identify ADHD, therefore, they do not know how

to use teaching strategies and techniques for kids with ADHD (Homidi, Obaidat & Hamaidi, 2013). Therefore, teachers should consider combining techniques to help students with ADHD overcome difficulties in working memory when teaching these students (Jacobson & Reid 2010).

A study by Scitutto et al., (2016), examined prior exposure and ADHD training with teachers' knowledge and misconceptions of the disorder in a multinational sample. Although teachers might be pessimistic, they mostly understood themselves as being experts in to dealing with the difficulties of students with ADHD in the classroom (Kos, Richdale & Jackson, 2004). However, the need for training will further support teachers' knowledge and understanding for ADHD.

Classroom management for children with ADHD:

Burley & Waller (2005) stated that some teachers prefer to remove students with ADHD from their classroom, while other teachers feel that medication is the best way to control those students' behaviour. Another study by Colberg (2010), highlighted on the tone of the classroom management sets, starts when students enter the classroom, and how teachers handle the classroom management which will impact the school year. Students with ADHD need a clear understanding of the classes' rules, and teachers' role is to establish these rules for them and explain the importance of these rules (Burley & Walker, 2005).

According to Vitanza (2014), teachers can provide simple educational strategies, such as clear teaching classroom rules and expectations. For instance, children with ADHD may have greater

difficulty than other children to comply with classroom expectations if they do not have a complete understanding of the rules (Vitanza, 2014). Further, putting these strategies into classroom routines can be useful to prevent and manage the behaviour problem in the classroom and may lead to improvements in student achievement (Burley & Waller, 2005).

According to McGinn (2010), Children are different in learning, and schools must credit these differences to the quality of teaching. Therefore, Kruglanski et al. (2015) provided an extensive study to address the classroom management CRM issues from the viewpoint of teachers and students with ADHD. However, many teachers believed that students with ADHD are spoiled students with behaviour problems. A study by Badeleh (2013), showed that only 22% of surveyed teachers had attended any ADHD training and over 52% did not believe that ADHD is a genuine disorder. Some researchers, therefore, suggested that increasing education about ADHD for teachers may lead to a lower in incorrect referrals (Sciutto, Terjesen, & Bender 2000 cited in Ward, 2014).

Another study by Mahar & Chalmers (2007) stated that many untrained teachers presume that the child with ADHD is unable to focus. Those teachers reject the possibility of ADHD because they do not have enough knowledge and awareness about this disorder (Mahar & Chalmers, 2007). For example, a child with ADHD can focus on the electronic game or watch a TV show for a long time.

The prevalence of ADHD in Saudi Arabia

There were a few studies conducted in Saudi Arabia to elaborate prevalence of ADHD among primary school students that revealed the prevalence ranged from 12.6% in Riyadh city, and 16.4% in Dammam city, which indicate that it is not an uncommon disorder in our community (Munshi, 2014). According to Al Hamed et al. (2008) study, the overall prevalence of combined ADHD in Dammam city was, 16.4%, with a prevalence of 12.4% for hyperactivity–impulsivity and 16.3% for inattention disorders respectively. The prevalence of hyperactivity–impulsivity disorder was significantly higher among children who lived with single parents than those who lived with both parents (25.0% vs. 12.2%) (Al Hamed et al., 2008).

Another study for Alqahtani (2010) showed that the overall rate of ADHD in Assir city was 2.7%, and in specific, the rate of attention types, 2.0%; hyperactive/impulsive type, 1.4% and combined type, 0.7%.

Homidi, Obaidat & Hamaidi (2013), provided a study to identify the prevalence of attention–deficit/hyperactivity disorder (ADHD), as well as its subtypes, the sample was from primary school children in Jeddah, KSA. The results show that there is a difference between ADHD spread among children from elementary school due to the variation in age (Homidi, Obaidat & Hamaidi, 2013). Further, the result showed the total prevalence percentage of ADHD for female students was (4.2%) according to Homidi, Obaidat & Hamaidi (2013) study result.

Another study for Abu Taleb & Farheen (2013) Sabia City showed that a total of 13.5% of students were positive regarding ADHD, students' males (15%) were higher than students' females (12%). Further, the highest percentage ADHD was among students who were first born (20.7%) followed by those who were last born (14.8%) (Abu Taleb & Farheen, 2013).

Theoretical framework:

Regarding students with ADHD, teachers often complain greater stress due to higher requests on their time and lack of resources, knowledge, and understanding of this disorder. All these problems are affecting the child with ADHD to learn and succeed in the classroom. Professional development opportunities offer a chance for teachers to interact with ADHD specialists and experts to enhance their knowledge base about ADHD, thus to build a base of resources that link teachers with information and support for students with ADHD (ADHD Professionals, 2016).

According to Soroa, Gorostiaga & Balluerka (2013), training teachers on how to manage students with ADHD is for the benefit of those students and their families. In order to find out precisely what level of knowledge teachers have about ADHD, it is important to find an assessment tool that is reliable and valid to provide accurate data about teachers' knowledge of ADHD (Soroa, Gorostiaga & Balluerka (2013). The earlier literature review revealed that teacher effectiveness about managing students with ADHD was built on two theoretical frameworks, namely knowledge and awareness of this disorder. The best way to recognise these frameworks is the careful consideration of the measure-

ment tools that have been used to assess teachers' knowledge and understanding as well as the research questions explored (Fives, 2003).

Following an extensive reading of related literature, I found that most researchers used the assessing tools ADHD Knowledge scale (KADDS) and ADHD Knowledge Questionnaire (KADD-Q). Abed et al. (2014), examined the knowledge and beliefs of Saudi teachers about children with ADHD, he used (KADD-Q) to manage a sample of teachers followed by interviews with a part of the total respondents. 26 female teachers and 28 male teachers 32 boys, 21 schools for girls and 32 schools for boys participate in the study, 74% returned a complete questionnaire (Abed et al.,2014).

Another study found that American and Canadian primary schools' teachers have a good knowledge of ADHD because they used KADDS (Mulholland, 2016). Several studies proved the power and reliability of KADDS; this strength ensured the scale measured knowledge and conceptions of ADHD without the need for questionnaire design and testing (Ward, 2014). Other study consists of three subscales, the first measured general information related to ADHD, the second measured symptoms or diagnosis of ADHD, the third subscale measured knowledge to treat ADHD (KADDS, Topkin, Roman & Mwaba, 2015). The result showed that 45% of the teachers correctly identified the responses to the questions in the questionnaire (Topkin, Roman & Mwaba, 2015). Soroa, Gorostiaga& Balluerka (2013) believed that they provided the first study designed to test the knowledge

of elementary school teachers about ADHD by using KADDS. However, the response format was divided to two, so does not provide information in detail about the real awareness that teachers have about ADHD (Soroa, Gorostiaga & Balluerka 2013).

Munshi (2014) used interview questionnaire to assess teachers' knowledge and misconception. "The answers included five-level Likert item: 1 – strongly disagree; 2 – disagree; 3 – do not know; 4 – agree; 5 – strongly agree" (Munshi, 2014, p.445). Abed et al. (2014) used semi-structure interview to assess teachers' information about ADHD. Further, Alamri (2014) used semi-structured interviews with a sample of eight teachers to explore and elaborate on the results of the initial questionnaire analyses. Furthermore, Colberg (2010) interviewed Classroom teachers to discuss their beliefs and strategies for dealing with students with ADHD. However, this research used semi-structured interview to assess teachers understanding about ADHD. A study by Burnard et al. (2008) presented a practical approach to the analysis of qualitative data using existing data from qualitative studies to prove the purposes of the research. Despite whether the researcher analysed data by hand or by computer software, the process of the content analysis is the same, in that it includes identifying themes and categories that 'arise from the data (Burnard et al., 2008).

Many findings suggested that mixed methods used to distinguish research designs by merging qualitative and quantitative data to employ both types of data (Driscoll et al., 2007). For instance, Jament (2009) used a mixed methods approach to collect data, thus to address the problem to some extent through inquiry

and triangulation of data. This nature has restricted control over participants' bias, values the rules and motives for participation in the study (Jament, 2009). Thus, the dependent variables will place into participants' questions, based on the reasoned purpose of the research to interpret the results (Ohan et al., 2011).

In quantitative research, data analysis most of the time occurs after the researcher collects all data. However, the qualitative data analysis often begins during the first data are collected or instantly after the data are collected (Burnard et al., 2008). Many researchers collected quantitative data about participants' professional background, to analyse the important differences which based on a set of elements (Ward, 2014). For example, some of them used a theoretical framework to research teachers' attitudes towards ADHD; however, both have their innate problems (Mulholland, 2016). Another used mixed method approach with a quantitative stage, followed by a qualitative stage, to explore several background factors (Alamri, 2014). Others used mixed-methods research design to compare two features stages by collecting quantitative and qualitative data separately (Abed et al., 2014). Some use of a qualitative design to characterize the challenges that impact on participants. Thus, to explain that such a paradigm allows the researcher to understand their ideas, feelings, and perspectives on some specific issues (Greene et al., 2002). Another finding suggested questions on socio-demographic factors, general knowledge coexisting cases, and management of ADHD (Munshi, 2014).

Chapter three, Research Method

Design

This research used a mixed–methods research design, covering two separate stages to address the questions related to the knowledge and understanding about ADHD among teachers. The researcher utilized separate stages because knowledge and understanding about ADHD are different, therefore, they should be kept separate in mixed methods research (Creswell, 2010).

The reason for using mixed methods is to avoid the great bias that can arise from involving one method, during observation, and theory studies (Denzin,1989 cited in Rocco et al., 2003). The rationale for using the mixed methods approach is to clarify the valuable methodological choices for this research because of its strengths that serve specific purposes of this study (Venkatesh, Brown, & Bala, 2013). Especially, when thinking about the endless possibilities for combining qualitative and quantitative data (Punch, 2009) about teachers’ knowledge and understanding regarding ADHD disorder.

The quantitative data provided a complete understanding of the ADHD related to teacher’s knowledge of ADHD (Abed et al. 2014). The researcher collected the quantitative by using a survey instrument that included closed–ended questions. The qualitative data and analysis aimed at refining and clarifying quantitative results, by evaluating teachers’ understanding about ADHD in greater depth (Creswell, 2003). Besides, to determine whether teachers have knowledge and understanding about ADHD, especially when dealing with ADHD students. The researchers collect–

ed the qualitative by using the interview instrument that included open-ended questions.

The advantage from merging two methods in educational research is to collect more data, which can enhance the validity of the research agenda (O'Byrne, 2007). The researcher collected the quantitative data about the professional background of teachers, to analyse the important differences which based on (Ward, 2014) Educational level, Educational degree and the role of the teacher in the school. Analysis of qualitative data includes an explanation of the results of the study. According to Burnard et al. (2008) the process of the qualitative data analysis is more objective than the process of quantitative data analysis related, because the common belief among sociologists is that the critical and objective view of the social reality does not exist (Burnard et al., 2008).

Participants and sampling

A good sampling is the best representation of the study population (Leedy and Ormrod, 2001). The study population composed of female, because in Saudi Arabia, girls and boys attend gender separated schools, for cultural and religious reasons (Abed et al., 2014). The researcher contacted the schools' principals to ensure implementation, permission and collaboration. The researcher selected four schools, two Locals and two Internationals. This research occurred in the north of Jeddah city, Saudi Arabia. The schools' names were selected from the list of the Ministry of Education. The researcher used Google Earth map to locate the schools' areas from four districts in the North of Jeddah.

This research utilized a simple random sampling to ensure that every teacher in the target population has an equal chance to be a part of the sample (Korb, 2012). According to Suresh, Thomas & Suresh (2011), a list of random numbers is one of the most recommended ways to select a simple random sample. The researcher thus obtained a complete list of every teacher in the target population to acquire simple random sampling (Suresh, Thomas & Suresh, 2011). For example, (school1) has ($n=12$) kindergarten teachers, the researcher thus requested the full list of these teachers, the names were coded from 1 to 12 and the sample was ($n=7$) (see Ap1).

A total of thirty-eight teachers were chosen according to the lists that were provided by the schools' principals.

These teachers were randomly selected from four lists of 87 teachers. The three selected schools presented two lists each, one for the kindergarten teachers and one for the elementary teachers. The fourth school provided one list because it is a kindergarten school. The Excel software version 3.0 was utilized to generate the random sampling of the teachers. The researcher interviewed a sample of eight teachers and surveyed a sample of thirty teachers from K-12. Thirty teachers were randomly selected for the questionnaire, ($n=15$) from kg's, ($n=15$) from Elm and ($n=8$) for the interview.

Instruments

The researcher developed the interview and questionnaire carefully in the English language for the purpose of this study. Before completing the questions, the researcher reviewed some similar

studies related to the teachers' knowledge and understanding regarding ADHD. The interview and the survey questions were translated into Arabic for none-English speakers. The survey and interview questions were validated by three specialists under their experience in fields of special needs, general education and sociology. The questions were also validated by the research's Supervisor.

The questions aimed at assessing the level of teachers' knowledge about ADHD (Abed et al., 2014). The questionnaire consists of 15 questions covering three parts; causes, characteristics and teachers' roles. The survey consisted of multiple choices (closed-ended) questions: "True/ False/ Do not know" to measure teachers' Knowledge about ADHD. The answers included "True/ False/ Do not know" about ADHD, such as behaviour, treatment, learning disability and teachers' role in diagnosis ADHD (Abed et al., 2014).

Individual and focus group interviews are the most popular methods of data collection utilized in qualitative research (Gill et al., 2008). In this research, A small sample of semi-structured, more face to face individual interviews was also conducted. Semi-structured interviews helped to gain thorough information from teachers who did not participate in the questionnaire.

The note-taking tool for the interview was a table, the researcher herself developed this table by encoding the interview questions and answers to fit with the text's structure (see Table 6&7). Each table contained column(n=8) for the teachers' numbers and row (n=6) for the information.

The five columns were labelled from left to right as teachers' numbers (T1, T2,T8). The six rows were labelled as following:

First table (Factors): Training, Resources, Courses, Special lessons, Behavioral Management. Second table (sources): University studies, Courses and semi-courses, Experience, Internet, Parents (see Table 6 & 7).

The main domains for the interview questions were ADHD symptoms, causes and how the understanding about ADHD among teachers. The interviews gave the teachers the opportunity to explore their understanding about ADHD. They wrote freely about their views experiences and what make teachers successful when dealing with student with ADHD.

According to many studies, there are advantages and disadvantages of the Interviews. Advantages: Collect full information with better perception, more personal comparing to the questionnaires, allowing me to have a high response rating, there is more control over the order of the questions (Abawi, 2013). Therefore, in looking for the complete response in this research, the interviews were the most probable to provide the deepness of the information about the teachers' understanding with regard of ADHD that could be valuable for the research result (Harrell & Bradley, 2009).

Disadvantage: Many researchers suggested that the essential theoretical disadvantage is the not having enough of reliability; and interviewer bias may weaken the validity of unstructured interview (Thompson, 2016). Moreover, the disadvantage of using

mixed methods is the time encoding the qualitative data. I try to avoid installing the value of qualitative data. However, it can become a time-consuming too long and complicated process, because it needs analysis and encoding of data and integrating unstructured to structured data (Driscoll et al., 2007).

Procedure

The researcher herself, collected the data by interviewing Elementary and kindergarten female's teachers. The interview was in their schools, at a regular day working hours, during the break and free class time and over a period of 3 weeks. The researcher distributed and collected a total of 30 questionnaires in person in a period of 2 weeks and conducted the interview in a period of 1 week. The participants' information sheets and consent were at the top of the questionnaire same for the interview.

The researcher provided a space to allow teachers to write their age, the educational degree, the grade they currently teaching, the school's name and the years of experience. The researcher gave time to the participants to read and understand the information sheets and to decide whether they like to participate or not. the researcher collected Information on whether their Education included information about ADHD or not, as well as if they develop skills to manage children with ADHD.

The researcher also asked teachers to write whether they had involved or not in extra training regarding ADHD during their teaching time. Consents were gathered from teacher who was willing to participate. Surveying took nearly 10 minutes to complete and interviewing took 15 minutes. All the information of the

participants kept confidentially and examined for the research.

Ethical consideration:

According to BERA (2011), a formal consent was obtained obtain from a person in authority concerned. However, there will be a complication of getting approval from the Ministry of Education in Saudi Arabia, final approval may take many months to obtain. Therefore, the researcher did not ask a permission, and collaboration from Local Education Authorities. Hence, it was better to avoid public schools and conduct research in private schools. Besides, getting the formal consent authorization from the schools' principals gave the researcher more time to conduct the research. All the information of the participants kept confidentially and examined for the research. Data from the questionnaires were electronically recorded on the researcher's computer with a password-protected folder. It will be destroyed after the completion of the research (Ward, 2014).

An ethical approval was obtained from the university to have a permission that allow the researcher to conduct the study (see Ap2).

Chapter four

Findings, analysis and evaluation

introduction

This chapter presents the results of the data analysis; the data were collected and addressed through interview and questionnaire. The interview was divided into two parts. Part one provided a summary of the teachers' sources of ADHD information. Part

two presented an overview of the teachers' answers about managing students with ADHD. The questionnaire was about ADHD knowledge.

Two crucial goals led the collection of the data and the following data analysis. First, to assess teachers' knowledge about ADHD. Second, to evaluate the understanding nature of teachers when dealing with students with ADHD. Using mixed method means joining qualitative and quantitative approaches. A qualitative approach in research needs validity which means "suitability" of the tools, processes, and data (Leung, 2015). Reliability, on the other hand, the central idea in measurement, it essentially means consistency (Punch, 2009).

Results

To ensure reliability, the researcher verified the data in person by hand then coded and entered the data into a personal computer. The researcher used SPSS statistical program version 21 for the data entry and analysis. The use for this program is to analyse teachers' knowledge, the demographic characteristics of the teachers and teachers' percentage response (Total of Teachers) to Knowledge's questions. The 38 teachers who participated in this study had an average number of years' experience of 4.95 years (SD = 3.448 years) (see Ap3).

Questionnaire

As shown in table1&2, the mean percentage of score reflecting the teachers' knowledge about ADHD by the school type. The researcher reaches this number by comparing the answerers of the teachers. All kindergarten teachers answered the fifteen

questions regardless if the answers are right or wrong. However, one teacher gave full correct answers for all the questions.

Table 3 presented the 15 kindergarten teachers who participated in the questionnaire had an average number of knowledge about ADHD of 11.33. The 15 Elementary teachers had an average number of knowledges about ADHD of 9.53. Although the teachers' general qualifications ranged from secondary education to Bachelor degree in table 4 a majority ($n = 18$, i.e., 60%) held a bachelor's degree. Four teachers had general education training ($n = 4$, i.e., 13.3%). The results from the teachers' answers for the questionnaire indicated that they answered correctly at a rate of 65% (range = 36.7%–93.3%). Although that teachers were knowledgeable that the level of awareness and understanding about ADHD could affect students with ADHD in the classroom. However, the teachers were found to be more knowledgeable about the symptoms of ADHD and less knowledgeable about ADHD causes.

Table 5 presented the number of the correct answers for the thirteenth question number 13 "Diagnosis and identification of ADHD needs to come by a medical evaluation from a family doctor, psychologist, or psychiatrist outside of the school system!" was 83.3% ($n=25$) and the number of wrong answers 13.3% ($n=4$) while the percentage of teachers who had reached their answer to the question "do not know" 3.3% ($n=1$).

Questions number 14 and 15 had high scores. By looking at question 15 "Teachers' job is to observe the child and find interventions that work to make that child successful", the researcher

found that the number of correct answers for the first question “ was 93.3% (n=28) and the number of wrong answers was 13.3% (n=4), while the percentage of teachers who had reached their answer to the question “do not know” 1.1% (n=1).

For the question number 15” The level of awareness and understanding about ADHD among teachers affect students with ADHD in the classroom”, the number of the correct answers was 83.3% (n=25) and the number of wrong answers was 13.3%(n=4), percentage of teachers who had reached their answer to the question “do not know” is 3.3%(n=1). The number of the correct answer for question number 9 “Teacher plays an important role in the diagnosis of ADHD”, was 86.7% (n=26) and the number of wrong answers 10.0% (n=3) while the percentage of teachers who had reached their answer to the question “do not know” 3.3% (n=1). Finally, the number of the correct answer for question number 5 “More boys than girls are diagnosed with ADHD”, was (50%) and the number of wrong answers (10.0%) while the percentage of teachers who had reached their answer to the scores on the ADHD causes (86.7%) were significantly higher than the symptoms (76.7%). The score about the role of the teachers were also (93.3%) were significantly higher than knowledge about ADHD (36.7%)

Figure 1 displays teachers’ knowledge about ADHD, appearing what they knew, their misunderstanding, and what they acknowledged that they do not know.

Table 1. & 2. Analysis of the total score by school type (Kg's teachers, N=15) (Elem teachers, N=15).

Elemantry	Correct	Wrong	Do not know
T1	13	1	1
T2	8	2	5
T3	2	0	13
T4	9	3	3
T5	9	3	3
T6	11	3	1
T7	11	2	2
T8	9	3	3
T9	11	4	0
T10	9	5	1
T11	12	3	0
T12	8	2	5
T13	10	3	2
T14	9	5	1
T15	12	3	0
Total Mean score	9.53	2.80	2.67

**Table3. Analysis of Teachers' Knowledge by School Type
(Questions 1-15) (N = 30)**

Kindergarten	Correct	Wrong	Do not know
T1	9	5	1
T2	8	6	1
T3	12	2	1
T4	10	3	2
T5	10	5	0
T6	14	0	1
T7	13	1	1
T8	12	0	3
T9	11	0	4
T10	12	3	0
T11	12	2	1
T12	9	4	2
T13	11	2	2
T14	12	2	1
T15	15	0	0
Total Mean score	11.33	2.3	1.3

Type of school	No. of Participant	Minimum Individual Scores	Maximum Individual Scores	Mean of Individual Scores
Kindergarten	15	8	15	11.33
Elementary	15	2	13	9.53

Table 4. The demographic characteristics of the participants

(N = 30)

Variable	Frequency (n)	Percentage (%)	<u>Level</u>
Kindergarten	15	50.0	
Elementary	15	50.0	
Educational Level			
Secondary degree		12	40.0
Bachelor degree		18	60.0

Table 5. Teachers' Percentage Response (Total of Teachers) to Knowledge questions

		True %	False%	do not know %
.1	ADHD is purely a behavior problem	(n=1) 36.7	(n=15) 50.0	(n=4) 13.3
.2	Medication is the only way to treat ADHD	(n=2) 76.7	(n=4) 13.3	(n=3) 10.0
.3	.ADHD is a learning disability	(n=2) 66.7	(n=8) 26.7	(n=2) 6.7
.4	Most kids with ADHD are both hyperactive and inattentive	(n=1) 60.0	(n)23.3	(n=5) 16.7
.5	More boys than girls are diagnosed with .ADHD	(n=1) 50.0	(n=5) 16.7	(n=1) 33.3
.6	ADHD can cause problems in how well .children do in school, in their ability	(n=23) 76.7	6.7 (n=2)	(n=5) 16.7
.7	ADHD can cause problems in how well children do in school, in their ability to make and keep friends, and in how they .function in society	8 6 . 7 (n=26)	(n=3) 10.0	(n=1) 3.3
.8	There are no treatments to improve .ADHD symptoms	(n=2) 66.7	(n=3) 10.0	(n=7) 23.3
.9	Teacher plays a big role in the diagnosis .of ADHD	(n=26) 86.7	(n=3) 10.0	(n=1) 3.3
.10	Children with are not at higher risk for unintentional injuries, delinquency, and .anti-social behavior	(n=14) 46.7	(n=5) 16.7	(n=11) 36.7
.11	Student with ADHD often leaves seat in classroom or in other situations in which .remaining seated is expected	(n=16) 53.3	(n=10) 33.3	(n=4) 13.3
.12	Students with ADHD are dumb, lazy, or .out of control	7 6 . 7 (n=23)	(n=4) 13.3	(n=3) 10.0
13	Diagnosis and identification of ADHD needs to come by a medical evaluation from a family doctor, psychologist, or psychiatrist outside of the school sys-!tem	8 3 . 3 (n=25)	(n=4) 13.3	(n=1) 3.3
.14	Teachers' job is to observe the child and find interventions that work to make that !child successful	(n=28) 93.3	(n=1) 3.3	(n=1) 3.3

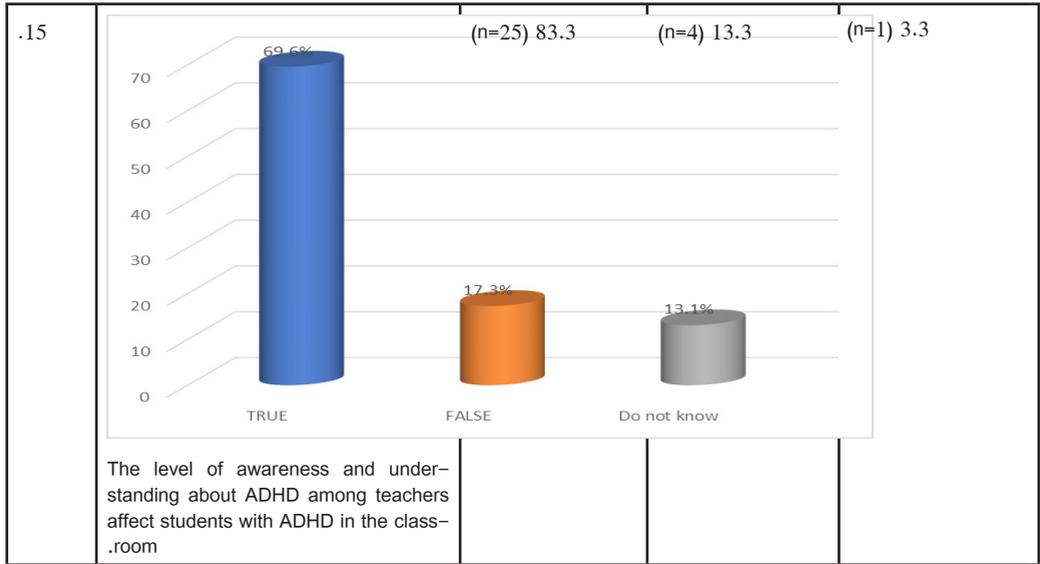


Figure 1: Teachers' Overall Knowledge of ADHD

The interview

The domain question of the interview was **“What are the factors that make some teachers successful in managing students with ADHD and other not?”** The researcher utilized open coding.

According to Burnard et al. (2008), the open coding is to offer a summary word for each theory that has been discussed in the transcript. The researcher read each answer and marked the notes that have the same ideas or meaning that summarized up (Burnard et al., 2008) what was being written in the papers. The researcher utilized and initial coding framework of the data generated from the current interview (see Ap4). The researcher finalized the coding framework for Q5 after reducing of the categories in the initial coding framework (see Ap5).

Table 6. provides the details concerning the responses of the eight teachers who answered Q.5 in the interview. All the eight teachers held a bachelor's degree and taught at least two to three children with ADHD. Five of those teachers work to the kindergarten schools.

Table 6. Summary of the teachers' answer of Q.5

Factors	(T1(Kg	(T2(Kg	(T3(KG	(T4(Elem	(T5(Kg	(T6(Elem	(T7(Elem	(T8(Kg
Training	✓						✓	✓
Resources		✓	✓		✓			
Courses	✓					✓	✓	✓
Special lessons	✓					✓		
Behavioral Management		✓	✓	✓		✓	✓	✓

Table 6 showed that 6 from 8 teachers' responses was "Behavioral management".

Six out of the eight teachers (T2; T3; T4; T6; T7; T8) repeated this this response:

'...teacher has to be patient and calm when she is dealing with student with ADHD... She has to know how to deal with this situation, she must be wise not rude'.

However, one Teacher (T7) expressed her belief training, courses and behavioral management will make the teachers successful when dealing with student with ADHD.

‘...I think she must be patient and take a lot of courses and training to succeed’.

Another response for (T1)

‘... in my opinion, it is so fair if all teachers to attend some classes of how can deal with those kids’.

In their perspective, teachers confirmed that Behavioral Management is not enough to have correct knowledge and beliefs About ADHD. Training and courses are the best ways to increase awareness, as indicated in (see Table 6).

Summary of the sources of ADHD Information

After the written interview finished the researcher discussed with teachers in a critical way about their information sources regarding ADHD. The researcher also examined how teachers got information about this disorder. The discussion question was (How did you know about ADHD? (See Table 7).

Teachers revealed that they learned about ADHD from sources ranging from their experience to courses and semi-course. However, seven from eight teachers said that internet was the most helpful regarding the availability and the easy access to the source’s information.

Table 7 showed that three of eight teachers listed University Studies as their first source of information. Three of the eight teachers said that their experience in teaching children with ADHD

was the most common source of information.

Two of eight teachers said parents.

‘...There are no courses to train parents’ how to be open mind about their children with ADHD’.

This statement was from two out of the eight teachers (T3, T7).

(T4) who disagreed said that:

‘...There are many resources that can help parents to understand their child situation, and to learn how to be open mind’.

Most teachers believed that the internet (YouTube, websites, and research) was the best to provide correct knowledge, followed parental involvement, and courses. Half of the teachers considered courses and semi-courses to spread awareness about ADHD.

Table 7. Summary of the Sources of ADHD Information (How did you know about ADHD?)

Sources	T1	T2	T3	T4	T5	T6	T7	T8
University studies				✓		✓	✓	
Courses and semi-courses	✓	✓	✓	✓			✓	✓
Experience	✓	✓		✓				
Internet	✓	✓	✓	✓	✓	✓		✓
Parents			✓				✓	

Discussion

Findings of this study agree with the results of Abed et al. (2014) and Munshi (2014). Saudi teachers showed specific gaps and incorrect opinion in their knowledge of causes and interventions of ADHD. Saudi teachers believed that there are general myths surrounding ADHD. Saudi teachers agreed that ADHD is a medical condition with a valid diagnosis, an impact on the educational success for children with ADHD (Kos, 2008). Therefore, Saudi teachers believe that managing behaviour of students with ADHD is a big problematic for them.

Many teachers agreed that misbehavior of children with ADHD because they are naughty. These findings suggested that Saudi teachers need to be more knowledgeable about ADHD characteristics and less informed about causes and treatment Abed et al. (2014). Overall, teachers in this study reported not having even a little training about ADHD. Regular teachers reported less training than special education teachers (Jones & Chronis-Tuscano, 2008). In this study, Saudi teacher, especially Kindergarten teachers, suggested that teachers who deal with children with ADHD must consider the characteristics and aspects that are belonging within the learning environment and develop treatment plans for each them Kos, 2004)

There was an agreement about teachers' training. According to this study findings, Saudi teachers did not learn how to understand ADHD symptom, or how to prepare and support those students, especially the general education teachers (Goldrich, 2012; Topkin, Roman & Mwaba 2015). Study result showed that

most teachers had information about ADHD from internet or parents who have children with ADHD. However, they did not have enough training.

There was some contradiction in findings related to the teaching experience which can influence teachers' knowledge of ADHD. Vereb & DiPerna (2004), found that managing students with ADHD requires two reasons: quantity of ADHD knowledge and the number of years teaching experience. Findings of this study also agree with the result of Kosa, Richdale Hayc (2006) that related to teachers' experience. They found a considerable positive connection between knowledge and years of teaching experience (Kosa, Richdale Hayc, 2006). But, a statistically essential factor in the Sciutto (2000) study was the connection between the number of students with ADHD the teachers' experience and ADHD knowledge (Abed et al., 2014). However, in this research, there was no revealed result about teaching children with ADHD and the relation between the years of experience and the knowledge about ADHD. Furthermore, the findings of the present study do not support the findings of Sciutto et al. (2000), who stated that American teachers who have many years of teaching experience had a higher knowledge score than teachers with few years teaching experience.

Result of this study showed that teachers have an important role in diagnosis ADHD. In agreement with (Olson, 2003), the result in this study found that the score about the role of the teachers was high. Olson stated that teachers are the first person in investigating and observing effective and suitable interventions. The

result also agreed with the study findings of Youssef, Hutchinson & Youssef (2015). Youssef and his colleagues stated that teacher is often the first person who is accountable to identify student with ADHD, and more and more she can help managing such children (Youssef, Hutchinson & Youssef, 2015).

In agreement with Kos, Richdale & Jackson (2004), Saudi teachers with more years of teaching experience tended to have more knowledge about ADHD than less experienced teachers. However, this conception was incorrect related to study result, as there was no relationship between current knowledge about ADHD and teaching experience (Kos, Richdale & Jackson, 2004).

Results of this study suggested that the ability of teachers to identify ADHD causes and the appropriate involvements does not increase with teaching experience. As a result, for this study, training programs, courses and semi-courses are the best solutions to guide teachers today. Probably is that the teachers who graduated new from college can be more accepting to the studies that support the presence of ADHD (Kos, Richdale & Jackson, 2004). This result agreed with the result of Burley & Walker (2005), intervention may include teacher training, parent training, effective strategy training, and medication.

There was an additional importance of the current study based on the teachers' knowledge about ADHD by the type of school. In agreement with Carlson et al. (2009), kindergarten's teachers who are even not specialist in general education, they prepare average of five strategies for disable children. In this study, the result showed that kindergarten teachers are more knowledge-

able than Elementary teachers. Results of this study agreed with the result of Nimisha & Arora (2014). Primary teachers showed less score about ADHD knowledge than Kindergarten teachers. Nimisha & Arora (2014), found that an essential lack of knowledge about ADHD among teachers in primary schools.

Related to the result of this study, Primary teachers do not use enough teaching techniques for those kids because they do not have enough knowledge about ADHD (Homidi, Obaidat & Hamaidi, 2013). Considering the result of teachers' knowledge and understanding about ADHD, it was revealed that 93.3% of teachers like to have an effective role in managing students with ADHD. 6.6% stated that it is not their job to manage those students and they do not like to be involved.

The final step of this study was to assess teachers' understanding about ADHD-related professional development for teachers through the interview questions. Findings of this study agreed with the results of Kos (2004) who found that training is the best opportunity to change teachers' misperceptions and to increase their knowledge and support their understanding. The misconception about ADHD came from misunderstanding of teachers to this disorder. Munshi (2014) confirmed the value of professional development by the results of her study, which indicated that 28.5% of the teachers know that the ADHD might be seen in adulthood and this show a significant lack of knowledge and many misperceptions about the long-term outcome of ADHD. As a result of the interview, when Saudi teachers face a difficult classroom environment with an ADHD child, they interpret the

child's behavioural difficulties as a sense of distress rather than an understanding of their own behaviour as an issue need to be considered (Ward, 2014).

Recommendation

This result led us to consider that there is a lack of information about ADHD among Saudi teachers. Therefore, teachers should receive appropriate training on how to recognise ADHD symptoms, how to manage students with ADHD and how to set strategy to encourage those students.

It is known that all teachers are the part of the children's lives, and the children spend half their day with schools' teachers, elementary and kindergarten schools have the responsibility of caring for all children, not only children with ADHD.

Teachers, on the other hand, need to learn how to differentiate between the naughty child and the child with ADHD. Also, not all parents can afford the expensive fee to register their child in the special program section in the schools. Besides, schools' working team must work on the application of techniques and amendments to fit the capabilities and methods of learning of each student with ADHD individually. Therefore, I would like to recommend to Ministry of Education in Saudi Arabia, to set up a general training program for the learning disability for all teachers in Saudi Arabia not only for the special education teachers.

Chapter five

Conclusion

This study provided additional information on the teacher's knowledge and understanding of ADHD. There were basic limitations to this study because it included a small sample which limited the generalization of the results of the study. However, the high scores of the correct answers have led to increased efficiency in responding to knowledge-related questions regarding ADHD disorder. Children with ADHD experience numbers of difficulties, especially regarding their academic performance and social skills. Saudi teachers tend to have negative beliefs about related behaviour problems such as students with ADHD. Teachers tend to be pessimistic about teaching those children and feel that they require extra time and effort to teach them.

The study revealed that Saudi teachers have a negative perspective on teaching students with ADHD, which confirms that these children negatively affect the views of teachers with regard to the merged Education programme. However, all teachers suggested that there is a time for improvement in teachers' knowledge. At the same time, teachers need more training to increase their awareness of developments in ADHD.

Saudi Teachers indicated that they had very little or no training in ADHD, especially in the classroom, which affects their knowledge about this disorder. Some of their knowledge was acquired through internet which is usually incorrect and not based on scientific research. others, through universities studies and semi-courses, which are good resources. This study did not as-

sess attitudes, and behaviour toward children with ADHD. Thus, it is important that future research will assess teachers' attitudes and behaviour toward children.

Implication:

A child who excesses activity might be considered as a normal child. However, if the child with plus activity continued significantly and excessive movement after a three-year age, here must be presented to the doctor. From this point, it is not easy for the teacher to deal with many normal active students and deal with different natures and personalities. It is difficult as well as dealing with students with ADHD.

Some Saudi teachers may complain the hyperactivity for some children, and some are discomfort and lack of endurance and patience for the actions of those children. The primary reason for this problem because most Saudi teachers do not have enough information about ADHD and enough training about managing students with ADHD. Saudi parents on the other hand, always secretive regarding the mental and emotional health of their children, and do not like to talk about the status of their child's illness. Both situations build a gap that affects the children with AHAD.

Finally, children with ADHD hold on their shoulders a social burden from the moment they enter the school. The ability to listen, obey, hold on the impulsive behaviour, collaborate, follow the instructions, play nicely, and to build good relations with other children, are important conditions for success in school.

Children with ADHD are always suffering from oppressing by their family, school and peers. Teachers' responsibility is to learn

how to differentiate between the naughty child and a child with ADHD. Teachers are the most important agents of the social grow during childhood (Soroa, Gorostiaga and Balluerk, 2013). In regard with ADHD, teachers are one of the most appropriate groups to receive training and information about this disorder. Therefore, schools must effort training courses for all teachers, especially Primary class teachers. Responsibility does not fall only on the teachers, but the school and the parents. If parents admitted that they have a child with ADHD, it would be easy for them to provide the school with a report about their child situation, and then, the school must inform the class teacher.

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Appendices

Appendix 1 (Participants and sampling, pp16).

Schools	Level	Random numbers	The details
School1	Kindergarten	10 05 02 01 03 12 09	This table of 7 random numbers was produced based on the list provided: The Numbers were randomly selected from within the range of 1 to 12. Duplicate numbers were not allowed.
	Elemantry	11 12 03 05 08 17 04 10 09 15	This table of 10 random numbers was produced based on the list provided. Numbers were randomly selected from within the range of 1 to 17. Duplicate numbers were not allowed
School2	Kindergarten	08 12 01 10 15 11 13	This table of 7 random numbers was produced based on the list provided: Numbers were randomly selected from within the range of 1 to 15. Duplicate numbers were not allowed.
School3	Elemantry	04 01	This table of 4 random numbers was produced based on the list provided: Numbers were randomly selected from within the range of 1 to 10. Duplicate numbers were not allowed.
	Kindergarten	03 02 05 09 08	This table of 2 random numbers was produced based on the list provided: Numbers were randomly selected from within the range of 1 to 10. Duplicate numbers were not allowed.
School4	Elemantry	12 05 01 04	This table of 4 random numbers was produced based on the list provided: Numbers were randomly selected from within the range of 1 to 13. Duplicate numbers were not allowed.
	Kindergarten	10 05 06	This table of 3 random numbers was produced based on the list provided: Numbers were randomly selected from within the range of 1 to 10. Duplicate numbers were not allowed.

Appendix2 (Ethics_Response_Form approved, pp18)\s

Appendix 3 (The average number of teachers' years' experience (SD = 3.95 year), pp19.

The summary of Descriptive Statistics for teachers' experience

	N	Mini- mum	Maximum	Mean	Std. Devi- ation
Experience	38	1	15	4.95	3.448
Valid N (listwise)	38				

Appendix 4(An example of the initial coding framework for Q5, pp22)

Final coding framework	Initial coding framework
1- Training	- Classes, training
2- Courses	- Courses, special lesson and training.
3- Special classes.	- Courses
4- Behavioral management	- Special lesson
5- Resources	- Training.
	- Training,
	- Behavioural management.
	- Courses and training.
	- Resources.

Appendix 5(The final coding framework for Q5 after reducing of the categories in the initial coding framework, pp22)