

## Attention Deficit Hyperactivity Disorder (ADHD) Among Outstanding Pupils .A Field Study in Some Classrooms of the Fourth Elementary Year in the Province of Ouargla

اضطراب فرط النشاط الحركي لدى التلاميذ المتميزين دراسة ميدانية في بعض  
الفصول الدراسية في السنة الابتدائية الرابعة بمقاطعة ورقلة

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### Abstract

This study aims to determine the extent of attention deficit hyperactivity disorder (ADHD) among the fourth elementary year outstanding pupils in the province of Ouargla. It used the exploratory descriptive method and was conducted on a sample of 100 randomly chosen pupils. It found that the fourth elementary year outstanding pupils do not suffer from ADHD, and that there are significant differences in ADHD among outstanding pupils depending on their gender and the subject they study.

**Keywords:** Attention deficit hyperactivity disorder (ADHD); academic excellence

### الملخص:

تهدف الدراسة الحالية لمعرفة مدى وجود اضطراب فرط النشاط الحركي لدى تلاميذ  
الرابعة ابتدائي بولاية ورقلة المتفوقين دراسياً، حيث استخدمت الدراسة المنهج الوصفي الاستكشافي  
و طبقت على عينة قوامها 100 تلاميذ تم اختيارهم بطريقة عشوائية ، وتوصلت الدراسة الحالة إلى  
أن التلاميذ الرابعة ابتدائي المتفوقين دراسياً لا يعانون من فرط في النشاط الحركي ، وأنه توجد  
فروق جوهرية في فرط النشاط الحركي لدى التلميذ المتفوق دراسياً باختلاف الجنس والمادة  
الدراسية.

الكلمات المفتاحية : فرط النشاط الحركي، التفوق الدراسي.

## **Introduction**

The development of education depends on the development of studies that keep pace with the modern era. School has become the most important educational institution after the family because it bears the responsibility of social upbringing. However, some disorders may appear and disrupt its system affecting the child and the people surrounding him. The most prominent of these disorders is attention deficit hyperactivity disorder (ADHD) among children. It is a complex problem for children and dealing with them becomes a great challenge to their parents, teachers, and even pediatricians. Children suffering from this disorder are unable to control their actions, but the most dangerous thing in this case is the deterioration of their school performance.

It is a matter of fact that outstanding pupils are the basic wealth of society as they are important and necessary pillars for its advancement. They produce human knowledge and develop it for application. Therefore, determining the factors that influence their academic progress, highlighting their strengths and reinforcing them, and discovering their weaknesses and working to overcome them have become an imperative imposed by the scientific and technological challenge. Improving the academic achievement of outstanding pupils could be done through enhancing curriculum, educational resources as well as teaching aids and ameliorating the social conditions surrounding the pupils and other factors that affect them directly or indirectly.

Shore et al. (1991) states that talented pupils suffer from the constant pressures exerted on them to keep up and respond to the traditional experiences and educational programs they face. Despite what they own in terms of high mental abilities, speed of learning and curiosity, passion for knowledge and the desire to understand the world around them, they cannot be reconciled with the educational programs and curriculum offered to ordinary pupils. Therefore, talented pupils suffer from boredom due to their presence in a normal classroom. They spend almost half of their time waiting for their classmates to catch up with them. Moreover, the teaching tasks and experiences given to them through the ordinary curriculum do not amount to their abilities and do

not satisfy their urgent need for more mental stimulation for their mind that does not stop working needs tasks and educational activities that challenge their abilities and predispositions, and help them reach the maximum potential. Therefore, the school turns to a center of expulsion for these pupils where their presence is associated with many negative emotions and continuous frustrations.

ADHD is a problem facing children in the beginning of their lives. It is one of the most complex issues that threaten their educational future. Therefore, we have to study and discover the extent of ADHD among outstanding pupils, and to what extent it may affect their academic excellence.

### 1. Study's problem

One of the most important supports of modern education foundations is that pupils are the cornerstone on which the society is built, because, in the end, they will carry the banner of the nation, continue the process of tender, and maintain its progress and prosperity.

The elementary stage of education is the cornerstone of the educational system. It is the basis for the subsequent educational stages, in which the pupil's abilities and potentials, in all aspects, are developed, and his psychological, social and emotional characteristics emerge. It is characterized by the early detection of any dilemma that can be addressed more easily and quickly without obstacles or difficulties. The most prominent of these conditions is the ADHD.

Recent studies indicate a clear existence of ADHD among children, which requires special care from their surrounding environment: parents, school or state institutions in all sectors<sup>1</sup>. One in 20 children is often diagnosed. Most cases are diagnosed in the first and second elementary years of school. It is common 4-20% among 6-12 years old children. It is more prevalent among males than females and among children born from consanguineous marriage more than others<sup>2</sup>.

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<sup>1</sup> Abdelamir, Hamida Obaid (2013). *Effect of no-play therapy on 8-10 years old children with ADHD*. **Journal of Physical Education** (06). P 54.

<sup>2</sup> Fawzia, Mohammadi (2011). The effectiveness of two training programs in adjusting ADHD and adjusting the difficulty of writing, Complementary dissertation

Psychologists, in general, and school psychologists, in particular, state that it causes psychological, educational, social and legal problems, as well as problems of vandalism caused to materials and installations, because they think that they are undesirable by their families and friends, which makes them feel distressed. This makes them always worried about their actions and the annoyance they cause to their families in front of others<sup>3</sup>.

In this regard, the study of Essayed Assammad Wani (1989) entitled "Attention deficit hyperactivity disorder among children" aimed to studying the most common problems among children of this group. The findings of the study showed that the level of ADHD among males is higher than females, and it is more prevalent among young children than adults. Moreover, findings revealed that the most important behavioral problems suffered by children with ADHD are the lack of concentration, dispersion, learning difficulties, instability, impulsion in their actions, speed of their response, difficulties in organizing their works, loss of nerves, bad treatment with others, breaking things, and rejection from the group, non-cooperation as well as few friends.

Many studies such as the one of Geronimo (1990) have shown that outstanding pupils suffer from some psychological and academic problems such as attention deficit. A'yadh Al-Ghamidi (2009) found that there are many problems facing teachers in the presence of outstanding pupils in the elementary education in Kuwait such as lack of achievement, need for completion, similarity of self-assertion factors and weakness of social participation; as they have unusual capabilities and predispositions compared to their peers; they need special educational services, and appropriate strategies and methods of education so that they can achieve self-realization and activate their abilities. Because talented pupils are important assets for their societies,

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to obtain the doctorate in school psychology, Unpublished, University of Qasdi Marbah, Ouargla, Algeria

<sup>3</sup> Tariq S. Al-Karagully( 2006). **Attention Deficit Hyperactivity Disorder: An Overlooked Problem In Children.** *Attention Deficit* Vol. 5 (1): 48-54

it is necessary to take care and pay attention to them for the well-being of the society<sup>4</sup>.

This does not mean that if outstanding students suffer from psychological or social problems, this will inevitably prevent them from excellence. We can find many students who have obtained highest grades though they live in hard conditions such as orphanhood, poverty or disability. They defied the difficulties and reached their objectives by hard work, perseverance and patience<sup>5</sup>.

El-Khalifa also found that one of the most important problems facing outstanding students in educational are emotional, personal, and economic<sup>6</sup>. He states that children with ADHD are a great challenge for their parents and teachers as they are unable to control their actions. The most serious problem in this case is often the diminution of their level of achievement, the constant criticism and the obstacles they face all the day, although the issue of their intelligence is outside accounts.

Furthermore, studies have indicated that pupils with ADHD are less cognitively complex, more erroneous, more sensitive to others' perceptions and judgments, quicker to answer, and more adventurous without taking the consequences into consideration as indicated by Nabil Essayed (1996) in his study entitled "Study of some mental capacities, and physiological variables in terms of their relation to ADHD among children". He found that there are significant differences between hyperactive and hypoactive children in terms of the indicative ability to remember, the ability to understand images and words as well as spatial capacity for hyperactive children<sup>7</sup>. However, studies did not

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<sup>4</sup> Hallahan, D.P. & Kauffman . J. M (1994). **Exceptional Children: Introduction to special Education** (5 ed) Eenglwood Cliffs. New Jersy: Prentice Hall  
internationainc. on the site <http://people.virginia.edu/~dph/DPH-VITA.htm>

<sup>5</sup> Ibrahim Hassan El-Dourai (2007), The problems faced by the outstanding student, check up on 11/05/2011 at: <http://www.bmhh.com/vb/showthread.php?t=6239>

<sup>6</sup> Fawzia, Mohammadi (2011). The effectiveness of two training programs in adjusting ADHD and adjusting the difficulty of writing, Complementary dissertation to obtain the doctorate in school psychology, Unpublished, University of Qasdi Marbah, Ouargla, Algeria.

<sup>7</sup> Najah Ibrahim, Houssein Sayegh. (2006), Effectiveness of an instructional program in the treatment of ADHD among children, Unpublished Magister dissertation, Ain Shams University, Egypt.

reach a decisive conclusion on the relationship of this with intelligence, although some of them indicated the reduction of its level<sup>8</sup>.

Hence, the present study is a leading attempt to fill the gap in the literature on ADHD by investigating whether or not it exists among the outstanding pupils of the elementary stage. More precisely, it seeks to answer the following question:

Do the fourth elementary year outstanding pupils suffer from ADHD?

### **Sub-questions**

1.1 Are there statistically significant differences in ADHD among the fourth elementary year outstanding pupils depending on their gender (male, female)?

1.2 Are there statistically significant differences in ADHD among the fourth elementary year outstanding pupils depending on the subject (Arabic, French)?

## **2. Study's importance**

The importance of this study lies in the interests of clinical school psychology and mental health. It is reflected in:

- Addressing an important and serious topic in the lives of children as any problem or disorder that affects them is a source of concern for all society;
- Benefitting all people interested in the topic of ADHD (parents, teachers, childcare workers and mental health workers);
- Determining the mechanisms of dealing with this children with ADHD

## **3. Study's objectives**

This research aims at:

- Determining the spread range of ADHD among the fourth elementary year outstanding pupils;

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<sup>8</sup> Ali Hamza, Adnane (2014). The role of psychological and social characteristics of the family body in the ADHD among the elementary school girls. **Journal of Midad El Adab** (09), P557.

- Determining the differences in ADHD among the fourth elementary year outstanding pupils according to their gender and study subject as variables of the study;
- Obtaining findings and recommendations that benefit mental health professionals in the diagnosis and therapy of this disorder;

#### **4. Procedural definitions**

##### **4.1 Definition of Attention Deficit Hyperactivity Disorder (ADHD)**

It is a compulsive behavioral disorder that appears in hyper and impulsive inappropriate activity among children.

- **Attention deficit:** It means the child lack of attention to the well-known stimulation before him/her and the difficulty to focus.
- **Hyperactivity:** It means the frequent movements done by the pupil such as climbing things and feeling bored when sitting for a long time.
- **Impulsivity:** It means that the child does things and thinks about them later.

##### **4.2 Outstanding pupils**

They are the pupils (both boys and girls) that obtain high scores in the achievement tests (08/10) of both Arabic and French subjects provided that they are not repeaters.

#### **5. Study's limitations:**

- **Spatial limitations:** The present study was conducted in the elementary schools of the first district in the city of Ouargla.
- **Time limitations:** The present study was conducted in the school year 2015-2016.
- **Human Boundaries:** The present study was conducted on a sample of 100 fourth elementary year outstanding pupils.

#### **Theoretical background:**

The problem of ADHD is one of the biggest behavioral problems experienced by children, especially those in elementary stage because it affects the school atmosphere. The current studies confirm

that the problem of ADHD causes anxiety, tension and annoyance for the family and the supervisors of the educational process and pupils. Given the importance of the topic, this section deals with the important elements in ADHD: definition, symptoms, causes, ways and methods of diagnosis, and methods of therapy as well as prevention.

## 1. Definition of ADHD

Diagnostic and Statistical Manual of Mental Disorders, fifth edition (SM-5) indicates that "AHDH means the child's inability to pay attention that may affect his focus while performing various activities and not completing them successfully" (DSM.5, 2013).

It is also an excessive spontaneous disorder and a compulsive activity style that appears in the form of a series of successive body movements, a rapid shift of attention, a weak ability to focus on a particular topic, and impulsivity that leads to social folly<sup>9</sup>.

It is also defined as an excessive impulsive behavior inappropriate to the situation and has no direct objective; it grows inappropriately to the age of the child, negatively affects his behavior and achievement and increases in males more than females<sup>10</sup>.

Boutros Hafeed Boutros defines it as "The excess of the child's activity, the lack of focus, the practice of many random activities and the disturbance to people surrounding him"<sup>11</sup>.

However, biologists define it as "a genetic disorder transmitted by heredity in many cases and results in chemical imbalances or deficit in neural connections connected to a part of the brain and responsible for chemical properties that help the brain to regulate behavior"<sup>12</sup>.

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<sup>9</sup> Ola, Abdelbaki Ibrahim. (2007). **Treatment of ADHD among children**. 2<sup>nd</sup> Ed. Egypt.

<sup>10</sup> Mahdi, Difallah (2003). **ADHD among children and students**, Complementary dissertation to obtain the magister, Unpublished, Faculty of Education, Umm El-Qura University, Saudi Arabia.

<sup>11</sup> Boutros, Hafeed Boutros (2008). **Psychological problems**. Dar al-Masirah for publication, distribution and printing, Amman, Jordan,P: 402.

<sup>12</sup> Moushira, Abdelhamid and Ahmed, El Yousfi (2005). **AHDH among children**, Arab Center for Education and Development,P:17



Neuroscientists think that it is a "neurological-behavioral disorder caused by a defect in the structure and functions of the brain, which affects behavior, thoughts and emotions. It is a disorder that can be treated and alleviated in order to help the child to learn and control himself control, which may contribute to raising the level of self-confidence and facing the cruelty of other children. The child is often diagnosed between 5 and 9 years old and the symptoms persist during childhood and adolescence. All symptoms or some of them may persist in 30-60% of cases to adulthood".

According to these definitions, ADHD is a pathological condition characterized by physical movements beyond the normal or the acceptable limit. This can be determined through comparing the child's degree of voluntary and involuntary activity with other children's of the same sex, as well as through comparing the behavior of this child with that of an active one's whose efficiency is purposeful and productive. It is not just an increase in the level of activity, but it is a very noticeable that the child can hardly sit. It is a common disorder and more prevalent among males (three times higher than females).

**2. Types of ADHD:** Scientists have divided ADHD into two types:

**2.1 Attention deficit with hyperactivity:** It is usually associated with:

- Attention deficit associated with failure to finish tasks, ease of attention deficit, lack of listening, difficulty of focusing on school tasks and difficulty of continuing to do activities.
- Impulsivity associated with acting without thinking, excessively moving between activities and difficulty of organization.
- Works, screaming and the need for more supervision.
- Hyperactivity associated with trying to climb things, difficulty of staying calm, staying in one place or hyperactivity during sleep or when performing continuous activities.
- All of these symptoms occur before the age of seven. They last for least six months cannot be due to other factors.

**2.2 Attention deficit not associated with hyperactivity:** It is a simple attention problem due to the lack of hyperactivity among children, but

they have the other symptoms that arise in those with excessive attention deficit<sup>13</sup>.

### 3. Symptoms of ADHD

Attention deficit, hyperactivity and impulsivity are some symptoms of ADHD among children who are always in activity and movement almost to the point that they are the subject of complaint in different situations in the home or school. There are signs of attention deficit, hyperactivity and impulsivity, namely:

#### 3.1 Symptoms of attention deficit

One of the most important signs of attention deficit is the failure to finish the task and the ease of dispersion; the child seems not to hear and cannot focus on school activities<sup>14</sup>.

#### 3.2 Symptoms of hyperactivity

Most studies have shown that some children with hyperactivity suffer from learning problems, that their academic achievement is weak, and that they are different in their educational performance from ordinary children. As it is known, attention plays an important role in the learning process. Children with hyperactivity cannot pay attention to a task more than a few minutes. What make them lose attention are sounds or side scenes, as well as the disturbance of motor functions. Moreover, these children usually show unorganized excessive physical activity. Furthermore, one of the characteristics of children with hyperactivity is impulsivity. This term refers to the child's direct response to stimulation i.e. response without thinking, and it is specific for these children who are directed by their fancies<sup>15</sup>.

The symptoms of ADHD often occur with 3 years old children and reach their peak when they get 8-10. When such children play, people observe their inability to control running. They often drop things

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<sup>13</sup> Abdelamir, Hamida Obaid (2013). *Effect of no-play therapy on 8-10 years old children with ADHD*. **Journal of Physical Education** (06).P :61.

<sup>14</sup>Nabil, Abdelfattah Hafeed (2000). **Learning difficulties and remedial education**, 1<sup>st</sup> Ed., Zahraa Eccharq Library, Cairo, Egypt,P:40.

<sup>15</sup>Mohammed, Nouri El-Qamash and Khalil, Abderrahmane El-Maaytah (2007), **Disorder**, p: 192.

from their hands and cannot throw the ball well compared to peers in their age<sup>16</sup>.

### **3.3 Symptoms of impulsivity**

Among the signs of impulsivity are practices without thinking, moving from one activity to another, the need for serious supervision to complete the school activities, disrupting the discipline, and not waiting for one's turn like other children. Fathi Abderrahim (1998) describes impulsive children as "These children seem to do things and then think about them"<sup>17</sup>.

In general, Mahmoud Samir Mounir believes that the indicators of ADHD are: anxiety, lack of focus and attention, rudeness as well as impulsivity<sup>18</sup>.

## **4. Causes of ADHD**

Scientists have differed in determining the causes of ADHD among children. Some of them think that it occurs due to organic genetic reasons, and others believe that it is due to social environmental causes.

### **4.1 Genetic causes:**

The idea of inherited temperament is important in this field since there are children who appear very active from birth, so genetic factors are very important in the emergence of ADHD<sup>19</sup>. It was found that some children seem active from birth, because genetic factors play a role in this regard, and brain and endocrine disorders, as well as

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<sup>16</sup>Zakaria, Sherbini (2001). **Psychological problems among children**. 1<sup>st</sup> Ed., Dar El Fikr El Arabi, Cairo, P: 168.

<sup>17</sup>Abdennasser, Anis Abdelwahab (2003). **Special difficulties in learning the theoretical foundations and diagnosis**, Dar El-Wafaa for printing, publication and distribution, Alexandria,P:102.

<sup>18</sup> Mahmoud, Samir El-Mounir (2005). **Modern scientific encyclopedia of children education**, 1<sup>st</sup> Ed., Dar El Yakine, Egypt,P:284.

<sup>19</sup> Houda, Housseini Bibi (2000). **Reference in educational guidance**, Beirut, P: 222.

tumors, cause hyperactivity. The examination must be rigorous and the therapy must be successful and effective<sup>20</sup>.

Some scientists explain that the most important factors of ADHD are genetic factors, where the problem of ADHD is significantly among families. In the study of ten (10) cases with ADHD, they noted that there are eight (8) cases in which this disorder was inherited, i.e., 80% of the cases. There is a possibility of 50% that one or both parents are suffering from it. The other two cases were due to other reasons such as smoking, alcoholism or exposure to secondhand smoke by the mother during pregnancy<sup>21</sup>.

#### 4.2 Social causes

Barkley et al (1992) concluded that ADHD arises from parent-child treatment and interaction. The child is more disobedient in many situations such as with the teacher at school where the child's hyperactivity in the classroom causes a problem for the teacher.

Prioro et al. (1998) indicates that the socio-economic level of the family affects the emergence of behavioral problems. The study of Pineda et al (2001) have shown that the symptoms of ADHD are very clear in the classes with low social level, the broken family because of parental neglect of the child<sup>22</sup>.

Some studies noted that failure, frustration, lack of encouragement, low self-esteem and depression may be the causes of the behavior of children with ADHD rather than the disorder itself. Other studies, in their parenting indicative programs, have confirmed that the disorder is significantly related to the parent-child and teacher-child treatment<sup>23</sup>.

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<sup>20</sup> Said, Hosni El-Azza (2002). **Education of gifted and talented students**. 1<sup>st</sup> Ed., Dar El Shorouk for publication and distribution, Amman Jordan, P:12.

<sup>21</sup> Boutros, Hafeed Boutros (2008). **Psychological problems**. Dar al-Masirah for publication, distribution and printing, Amman, Jordan, P:406

<sup>22</sup> Zakaria, Sherbini (2001). **Psychological problems among children**. 1<sup>st</sup> Ed., Dar El Fikr El Arabi, Cairo, P:160.

<sup>23</sup> Radi El Wakfi (2003). **Introduction in Psychology**, 2nd Ed., Dar El Shorouk for publication and distribution, Amman, P:66.

### 4.3 Organic causes

Improper attachment between the two lobes of the brain is often a cause of ADHD. Brain damage or a simple brain dysfunction are neurological symptoms characterizing it. It causes the emergence of the syndrome that reflects this disorder in the cognitive functions of the brain consisting in disturbances in auditory and visual attention, memory, recognition, impulsivity and emotional functions that appear in ADHD and anxiety<sup>24</sup>.

### 4.4 Environmental causes

There are several environmental causes according to F. Fold (1991) and Othmane Farraj (1999):

- Lead intoxication may be the result of eating or using some games, leading to cases similar to the symptoms of ADHD, as well as the acetyl salicylic acid, which exists in the composition of some substances added to some foods to give flavor or artificial color, leads also to similar cases.
- Environmental pollution during pregnancy or early childhood stages in which brain and nervous system development occurs.
- Increased or decreased thyroid secretion.
- Excessive allergy to some foods or odors, such as foods that include artificial colors, food additives, aspirin, sweets and sugars frequently eaten by children.
- Some drugs and medications, especially those taken by the mother during pregnancy.
- Illness of the pregnant mother with one of the symptoms that stop feeding the fetus with oxygen, such as diabetes, tangle of the umbilical cord or difficult childbirth<sup>25</sup>.

## 5 Methods of ADHD diagnosis

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<sup>24</sup> Walid, Essayed Khalifa and Mourad, Ali Issa (2008). **How does the brain with ADHD learn?** 1st Ed.; Dar El Wafaa for printing, publication and distribution, Alexandria,P:113.

<sup>25</sup> Moushira, Abdelhamid and Ahmed, El Yousfi (2005). **AHDH among children**, Arab Center for Education and Development,P:29.

The American Society of Mental Health state that the symptoms of ADHD are as follows. Eight of these symptoms must be present and continuous for six months or longer.

- He (She) finds it difficult to remain seated.
- He often expresses his boredom or nervousness by his hands or feet or by wiggling in his seat.
- He has difficulty in playing quietly.
- He speaks much and excessively.
- He often turns from one activity to another before completing any of them.
- He has difficulty in keeping his attention during performing tasks or play activities.
- He has difficulty in following lessons or instructions from others.
- He can be easily distracted by any external stimulations.
- He often interrupts, snoops or intrudes others.
- He often answers questions with impulsivity and without thinking even before finishing them.
- He has difficulty in waiting for his role in games or group situations.
- He is often preoccupied or physically injects himself in dangerous activities without considering their consequences, such as changing activity without looking around or jumping from high places without regard to the consequences.
- He often loses the things necessary to perform the tasks or activities at school or at home.
- He often seems do not listen to what is said to him.
- He does not achieve the required level on the line of developmental disorders<sup>26</sup>.

## **6. Therapy of ADHD**

There are many methods of treating ADHD based on the observed symptoms, not according to the causes of this disorder, and in

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<sup>26</sup> Abdelamir, Hamida Obaid (2013). **Effect of no-play therapy on 8-10 years old children with ADHD**. Journal of Physical Education (06).P :62.

compliance with recent studies and researches used therapeutic plans and programs namely:

### **6.1 Medical treatment**

The cases of ADHD are not fully treated by medications, and there is no fully effective drug to treat this disorder, because the cases of ADHD are not a single symptom but a set of symptomatic syndrome vary from child to child (Faisal Mohammed and Khalil Khalili, idem, p. 121).

Therefore, medical therapy is given with the consent of doctors to submit the child to therapy according to the advice of specialists; this is a personal decision, i.e. they are responsible and they must make decision after a comprehensive assessment of the child, taking a blood sample for analysis and confirming that the child suffers really from ADHD so as not to prescribe improper therapy that may cause damage to him<sup>27</sup>.

Some drugs are prescribed to reduce his hyperactive activity and to help increase his focus. Some studies have dealt with the effectiveness of drugs. Therefore, stimulants or steroids of the central nervous system are prescribed as: "Ritaline, Casserdine and Serth". Some have defended their benefits and others have criticized using them among all without distinction in uncontrolled way<sup>28</sup>.

Moreover, doctors prescribe vitamins to strengthen the body because these children drain most of their energy in activity, which affects the movement of the body as a whole; these vitamins include: Vitamin B-COMPLEX. Using then high doses of the vitamin affects such a case of "ADHD" because it is a mild stimulant that calms the condition of ADHD among children, and increases ability to focus and attention.

It was noted that some children positively respond to this medication while others do not significantly do, and others do not

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<sup>27</sup> Boutros, Hafed Boutros (2008). **Psychological problems**. Dar al-Masirah for publication,distribution and printing, Amman, Jordan,P:410.

<sup>28</sup> Abdeaziz, Sartawi et al (2009). **Methods of diagnosis and treatment of learning disabilities and dyslexia**, Dar Wael, Jordan,P:473.

respond at all. Studies suggest that this complex increases stimulation when the child stops taking it. However, advanced studies have agreed that high doses have positive results<sup>29</sup>.

So we conclude that drugs and pharmacological compounds have proven effective in reducing hyperactivity disorder, but they should be taken by consulting a specialized physician to avoid side effects, and it is advisable to go to other treatments more effective and efficient.

## **6.2 Psychological therapy (Behavioral and cognitive ):**

It is very important and is used to treat certain behavior in the affected child such as improving performance in school, or teaching social ethics where a special program is developed for the child and implemented at home in cooperation with parents, as well as in the school in cooperation with the teacher. Behavioral therapy depends on reinforcement system of good actions, and it is very effective, and depends mainly on drawing the child's attention by something he loves and tempt him to be patient in order to gradually adjust his behavior, the child is first trained to focus for 10 minutes, and after we make him focus for 10 minutes, we move to increase it to 15 minutes, and so on. The success of this strategy in the amendment requires two things:

I: Patience and forbearance towards him to the maximum degree.

II: The child must know the incentive (award), and it must be put before him to remind him whenever he forgets; the award is given to him once he can perform the work, and any failure to perform is not accepted, i.e., there is a conditional link between the award and performance.

The methods include:

**6.2.1 Verbal support:** Verbal and material positive support for appropriate behavior by giving the child a set of points when complying with the instructions; the final result is to reach a number of

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<sup>29</sup> Report ,( 2010).**The Exclusive of law Rules on Children**, On, Printed in Austria. On The site [http://www.coe.int/t/dghl/monitoring/ecri/library/PressReleases/61-02\\_03\\_2010\\_Austria\\_en.asp](http://www.coe.int/t/dghl/monitoring/ecri/library/PressReleases/61-02_03_2010_Austria_en.asp)



points that qualify him for reward, gift, participation in a trip, etc. These methods to modify behavior are successful and tested in many negative behaviors, including "ADHD", but must be seriously and clearly dealt with so as not to lose their meaning and value among the children, taking into account the nature of the child, and that he cannot be stable and calm for a long time. So, they are used in matters that exceed the acceptance threshold because of their danger. This must be explained for the child, and the limits he could not exceed must be indicated<sup>30</sup>.

**6.2.2 Scheduling tasks:** Scheduling required tasks, works and duties, and paying attention to achievement in divided stages with reinforcement and reward. The child can be dealt with in such a case by developing a clear daily program he must strictly apply, and insisting on it through the so-called "The cost of the response", one of the techniques of behavioral modification; this method means (the child loses part of the boosts he has as a result of his unacceptable behavior, which will reduce or stop that behavior) such as cancelling some games or even taking them facing all regularities done by the child outside the limits of instructions<sup>31</sup>.

**6.2.3 Frequent training:** Frequent training on doing activities that increase focus and perseverance, such as image collection, classification of things (by shape / size/ color), repetitive writing, decomposition and composition of games, etc. [Http://www.al3laj.com/ADHD/streat.htm](http://www.al3laj.com/ADHD/streat.htm)

**6.2.4Agreements:** This means making a clear agreement with the child on the basis of doing certain behaviors for certain awards. They aim here to promoting positive behavior and training the child. We can prolong the duration of the contract over time, and the provided awards must be small and direct.

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<sup>30</sup> Mahmoud, Samir El-Mounir (2005). **Modern scientific encyclopedia of children education**, 1<sup>st</sup> Ed., Dar El Yakine, Egypt,P:294.

<sup>31</sup> Nabil, Abdelfattah Hafeed (2000). **Learning difficulties and remedial education**, 1<sup>st</sup> Ed., Zahraa Eccharq Library, Cairo, Egypt, P: 295.

**6.2.5 Point system:** It is very similar to the agreement method but it is developed by putting signs on a table set up for the child's appropriate and inappropriate behavior, by clarifying the appropriate sign for each behavior; this system can be done by giving the child the sign "Fish" in appropriate behavior, and the child shall exchange these signs with some small games, additional privileges or participation in a trip. The child may receive such a sign if he sits at home for reasonable periods without showing hyperactivity<sup>32</sup>.

**6.2.6 Language clarity and message delivery:** It means that the child knows what is expected of him clearly and without anger. His father has to tell him the appropriate behavior at that time. The father says for example: "Jumping from one place to another prevents you from finishing drawing this beautiful painting" or "If you finish these duties, this will be wonderful". What is important here is the clarity of language and purpose for the child, preparing him for what is expected of him, and encouraging him to do and commit to it.

### **6.3 Educational therapy:**

It includes the special therapy in a many cases due to the lack of academic achievement. It also includes individual education and increasing the proportion of teachers to the number of children. It is generally preferred that there is a small number of children in the same classroom, performing activities in small groups, in addition to sitting in the front seats to increase regulation, control for the most severe cases, surveillance and follow-up in recess and sports lessons and when riding the bus and sitting in the canteen.

This therapy is essential and useful in general. Teachers have to adhere to the guidelines and strategies to be followed with children with this disorder:

- Presenting rules and ensuring that pupils understand them.
- Announcing daily schedules and duties in a clear manner.
- Drawing the pupils' attention to any changes in schedules.
- Setting time limits for school tasks.

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<sup>32</sup> Mahmoud, Samir El-Mounir (2005). **Modern scientific encyclopedia of children education**, 1st Ed., Dar El Yakine, Egypt,P:295.

- Making pupils with this disorder sit with quiet pupils (positive models).
- Providing frequent and regular breaks.
- Using eye-catching tools with signs and colors.
- If the pupil makes a mess, engaging him in an activity such as answering a question or reading.
- Praising pupils for the positive things they have done during the course.
- The teacher must transform the competition into a partnership while providing fun and satisfaction.
- Avoiding any activity of more than twenty minutes during which the pupil remains silent.
- Providing subjects using computer.
- Simplifying and increasing the use of illustrative aids.
- Making students take simple decisions during the day to develop this skill<sup>33</sup>.

#### **6.4 Nutritional therapy**

The relationship between ADHD and children's nutrition cannot be ignored. It was noted that the symptoms of this disorder may be associated with the excessive intake of sugar and artificial sweeteners, as well as the over-consumption of food containing artificial colors even those labeled authorized.

According to a recent study, some experts recommended that parents should reduce the sugar taken by the child. After diagnosing approximately 1400 children, the behavior of about one-third of them were clearly deteriorated when eating foods high in sugar. In the same context, researches proved also that protein-rich food can degrade deactivate the effect of sugar among children sensitive to or affected by it. So, if your child eats too many foods containing sugars and refuses to avoid them, give him a rich source of protein such as milk, eggs and cheese.

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<sup>33</sup> Fawzia, Mohammadi (2011). **The effectiveness of two training programs in adjusting ADHD and adjusting the difficulty of writing**, Complementary dissertation to obtain the doctorate in school psychology, Unpublished, University of Qasdi Marbah, Ouargla, Algeria,P:74.

### **6.5 Relaxation therapy**

Through training the child to muscle relaxation in a specific program in which each group of sessions is specialized in training a specific group of the body muscles, then other sessions are devoted to train all muscles to relax and gradually replace the muscle tension and ADHD.

### **6.6 Therapy by bioremediation sessions:**

These sessions are performed for the brain electrical activity to adjust the cortical activation, increase the focus of attention and weight the random hyperactivity. This technique is also used for muscle electrical activity to help reduce tension and mental hyperactivity.

### **6.7 Therapy through training on self-control program**

It includes a series of sessions in which the child is trained to self-control in a set of targeted behaviors, by following each individual's bioremediation and relaxation as tools for this program<sup>34</sup>.

## **6 ADHD prognosis**

Some of these children gradually improve without therapy, while the problem persists in most children to adolescence or even adulthood. The image and symptoms of the disease may change over time; hyperactivity disappears while attention deficit and impulsivity, for example, continue. Some of them (approximately 30%) continue to have this problem life time.

In terms of numbers, the condition continues to reach puberty in 15% to 20% of the patients, but not with the same symptoms or intensity as in childhood; hyperactivity disappears as mentioned above and other symptoms such as attention deficit and ease of injury and accidents continue. Despite their low academic achievement, their performance in jobs is no different from ordinary people.

In order to not be negative and pessimistic, we must point out that early therapy of the condition and the control of the family

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<sup>34</sup> Mohammed, Nouri El-Qamash and Khalil, Abderrahmane El-Maaytah (2007), **Disorders**, P:154.

circumstances surrounding the patient change the course of the disease to the best and give promising results.

In this sense, we conclude that ADHD is one of the most serious behavioral disorders among children. It also turns out that it is important to take care of the of this category so that we can have a well-balanced individual (Psychologically, socially, academically and healthfully), given that is physical movements beyond normal and acceptable limits due to genetic, organic, psychological and environmental causes. Therefore, therapeutic methods, especially those behavioral and cognitive, have had a positive effect on helping of this category through the results obtained from the application of different therapy programs.

## **Field study**

### **1. Study's method**

We have relied, in this study, on the comparative descriptive exploratory method that is characterized by the accurate mention of the features and characteristics of the described object. Hassan Hisham defines it as “a method of scientific analysis and interpretation to reach specific purposes of a particular social function”<sup>35</sup>.

Therefore, the comparative descriptive exploratory method fits with the nature of this study. It depends on data collection, tabulation, and analysis, linking its significations and reaching conclusions that contribute to understanding and perception of reality, in order to determine the prevalence of ADHD among outstanding pupils

### **2. Study's Sample**

The sample of this study consisted of the fourth elementary year outstanding pupils in the elementary schools of the city of Ouargla during the period from 1/4/2015 until 3/5/2015. The sample was intentionally chosen after excluding the sample of the exploratory study as it is shown in the following table:

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<sup>35</sup> Madhi Sair Hamid El-Maslokhi El-Enezi (2011), **Some psychological problems of outstanding and ad students**, check up on 14/05/2011 on the site. <http://esraa-2009.ahlamountada.com/t5716-topic>

**Table (1): The study's sample**

| <b>Variable</b> | <b>Number</b> | <b>Total</b> | <b>Percentage</b> |
|-----------------|---------------|--------------|-------------------|
| Sex             | Male          | 45           | 45%               |
|                 | Female        | 55           | 55%               |
| Subject         | Arabic        | 62           | 62%               |
|                 | French        | 38           | 38%               |

The adopted sample was intentionally chosen from the fourth elementary year outstanding pupils whose averages are above 8/10 from the first district elementary schools in the city of Ouargla, where 30 pupils of both sexes were excluded in the basic study.

### **3. Data collection tools**

A three-dimensional tool (attention deficit, hyperactivity, impulsivity) was built up and resulted in 26 positive items, and three alternatives were used to answer “always-sometimes-never”.

#### **3.1 Psychometric characteristics of the Study's tool**

The psychometric characteristics of the tool were:

**3.1.1 Validity:** The following three methods were used to verify the validity of the tool:

**a. Trustees' validity:** The tool was distributed to five trustees (professors of psychology and education sciences at the University of Qasdi Marbah, Ouargla) to trust it in terms of content, language and relevance to the proposed category. After retrieving the questionnaires, they were unloaded and finalized in the image shown in the annexes.

**b. Comparison extreme group validity:** The validity was calculated by the statistical package system for social sciences spss.19. The results are shown in the following table:

**Table (2): Calculation of validity using comparison extreme group**

|               | N | Arithmetic mean | Standard deviation | calculated T | Statistical significance |
|---------------|---|-----------------|--------------------|--------------|--------------------------|
| High category | 8 | 30.12           | 1.35               | 9.68         | 0.01                     |
| Low category  | 8 | 43.50           | 1.66               |              |                          |

The results of Table (2) show that the calculated (t) was 9,68, which is a significant value at the significance level of 0.01. Therefore, we can say that the questionnaire is valid.

**3.1.2 Calculation of reliability:** Reliability was calculated by split-half and Chronbach alpha coefficient methods using the spss.19. The results are shown in the following table:

**Table (3): Calculation of reliability using Cronbach alpha coefficient**

| Reliability indicators | Sample | Split-half            |                      | Cronbach alpha coefficient |
|------------------------|--------|-----------------------|----------------------|----------------------------|
|                        |        | “R” Before ajustement | “R” After ajustement |                            |
| Hyperactivity tool     | 30     | 0.62                  | 0.77                 | 0.78                       |

Table (3) shows that the tool’s reliability is high.

After verifying the tool’s psychometric characteristics, the researcher considers it valid for application in the study. The next section attempts to present, interpret and discuss the questions raised in the study.

## **4. Presentation, analysis and discussion of the study’s results**

### **4.1 Presentation, analysis and discussion of the general question**

The general question is:

Do the fourth elementary year outstanding pupils suffer from ADHD?

The obtained results are shown in the following table:

**Table (4): The result of the general question**

| Pupils           | Arithmetic mean | Number of individuals | Percentage |
|------------------|-----------------|-----------------------|------------|
| Have ADHD        | 52              | 03                    | 3%         |
| Do not have ADHD |                 | 97                    | 97%        |

Table (4) shows that there are three outstanding pupils with ADHD, while 97 pupils have no ADHD. We conclude that the fourth elementary year outstanding pupils in the city of Ouargla (the first district) do not have ADHD because outstanding pupils are characterized by emotional maturity and balance; they usually receive the attention of the family and the school, which strengthens their ability to persevere, brilliance and success. Abdesselam Abdelghaffar and Philip Saber Seif (1967) believe that “the outstanding pupil is marked by intelligence, determination, self-sufficiency and physical balance compared to ordinary pupils”<sup>36</sup>.

The findings of the study are in line with Garland and Ziegler’s (1999) study, concluding that "outstanding pupils tend to show less emotional and behavioral problems than pupils with average mental capacities”<sup>37</sup>.

Another study conducted by Lynn Pathini Chance (1992) shows that “the requirements of academically outstanding students in schools are seven consensual ideas: problem solving skills, individual concerns, problem focus content, critical and creative thinking, social skills, flexibility, and independent study. I think these qualities reflect the

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<sup>36</sup> Tariq S. Al-Karagully( 2006). **Attention Deficit Hyperactivity Disorder: An Overlooked Problem In Children. Attention Deficit** Vol. 5 (1), P: 54.

<sup>37</sup>Samira, Charqui (2007). **The relationship between ADHD and cognitive method**, Complementary dissertation to obtain the Magister in cognitive psychology, unpublished, University of Batna, Algeria,P:174.



comfort and psychological balance away from ADHD that causes problems and severe crisis”.

This is more encouraging about the educational future of outstanding students. The absence ADHD is due to the appropriate academic atmosphere and the care they have by the teachers and the school staff in general; the Ministry of National Education has made many amendments to educational programs in line with the psychological side of pupils, as well as the recruitment of qualified teachers to deal with pupils and take into account all aspects of their growth (psychological, emotional, social ...). In addition, the positive vision to the pupil contributed much in his self-consensus.

However, this study contradicted the studies of: Essayed Assammad Wani (1989), Geronimo (1990) and A'yadh Al-Ghamidi (2009) who proved that outstanding pupils suffer from many problems, namely ADHD, impulsivity and aggression, as well as problems of vandalism against materials and facilities, making them undesirable by their families and friends; they feel sorry for themselves, which pushes them to withdraw and isolation and feel constant anxiety about their actions and the embarrassment they cause to their families before others.

#### **4.2 Presentation, analysis and discussion of the first sub-question**

The sub-question is: Are there statistically significant differences in ADHD among the fourth elementary year outstanding pupils depending on gender (male, female)?

The obtained results are shown in the following table:

**Table (5): Differences in ADHD according to gender**

| Sex  | N | M    | D   | Calculated T | Tabulated T | Degree of freedom | Significance level |
|------|---|------|-----|--------------|-------------|-------------------|--------------------|
| Male | 4 | 39.1 | 7.6 | 2.43         | 2.35        | 98                | Significa          |

|         |   |      |     |  |  |  |       |
|---------|---|------|-----|--|--|--|-------|
| s       | 5 | 1    | 8   |  |  |  | nt at |
| Females | 5 | 36.0 | 4.6 |  |  |  | 0.01  |
|         | 5 | 9    | 1   |  |  |  |       |

Table (5) shows the value of T-test was equal to 2.43 and it is significant at the significance level of 0.01, indicating that there are differences in ADHD among the fourth elementary year outstanding pupils.

This result is due to the fact that the differences between males and females play a major role in the emergence of many problems because of the difference in the morphological characteristics of each of them. Moreover, the education style and the traditions prevailing in the Arab countries impose particularities on socialization between the sexes. For example, the superiority devoted always for males, establishes liberal habits and non-compliance with the laws in many times under manhood cover. However, the female undergoes, in her socialization from the early age, to teach her ideas and habits largely contribute to her calm and psychological balance because of her conviction in her role in the future.

The existence of differences in ADHD between the males and females is due to the nature of personality traits of each sex. The male refuses to submit to the school system, especially when he is strict in many misconducts reach sometimes disorder. This was confirmed by the study conducted by El-Khalifa (1994) where he concluded that outstanding males have behavioral problems. The difference between the sexes in the prevalence of this disorder is explained by the nature of growth - particularly with regard to the organic differences between males and females in these motor skills - Males tend to the activity that requires skill and muscular strength, while females prefer slight activity skills, as well as organization and brain processing of cognitive functions that are subject to individual differences between the males and females.

The findings of my study are compatible with those of the study conducted by Essayed Assammad Wani (1989) who found that “the level of ADHD among males is higher than ADHD among females, and that the level of ADHD among young children is higher than adults”, and the study of Alaa Farghali (2004) who found that “ADHD

is more prevalent among males than females and in case of consanguineous marriage than other cases”<sup>38</sup>.

Moataz El-Marsa (1998) also found a statistically significant difference between males and females in the prevalence of ADHD in favor of males<sup>39</sup>.

#### 4.3 Presentation, analysis and discussion of the second sub-question

The question is: Are there statistically significant differences in ADHD among the fourth elementary year outstanding pupils depending on the subject (Arabic, French)?

The obtained results are shown in the following table:

**Table (6): Differences in ADHD according to the subject**

| Subject | N  | M     | D    | Calculated T | Tabulated T | Degree of freedom | Significance level  |
|---------|----|-------|------|--------------|-------------|-------------------|---------------------|
| Arabic  | 62 | 38.64 | 6.99 | 2.47         | 2.35        | 98                | Significant at 0.01 |
| French  | 38 | 35.50 | 4.50 |              |             |                   |                     |

Through table (6) above, it is clear that the value of T-test is statistically significant at 0.01 indicating that there are significant differences in ADHD among the fourth elementary year outstanding pupils according to the subject because of the time spent in studying Arabic language in which ADHD is more prevalent than French language; they spend more than two-thirds of the weekly time allocated to study for Arabic language resulting routine they try to break it in any way, one the one hand. The subject is taught by one teacher - in the schools where the study was applied –which creates routine and

<sup>38</sup>Ali Hamza, Adnane (2014). *The role of psychological and social characteristics of the family body in the ADHD among the elementary school girls.* **Journal of Midad El Adab** (09), P:59

<sup>39</sup>Samira, Charqui (2007). *The relationship between ADHD and cognitive method,* Complementary dissertation to obtain the Magister in cognitive psychology, unpublished, University of Batna, Algeria,P:112.

familiarity between pupils and the teacher. This makes pupils behave freely and their hyperactivities in the classroom are an expression of their search for proper and natural adaptation.

In addition, many teachers are not master dealing with outstanding pupils, which creates many psychological problems as an expression of their maladaptation with their colleagues. The French language subject does not show these differences because it is a language that any pupil can master without being excellent.

Without forgetting, in this regard, the role of the efficient teacher who can control and reduce these problems among pupils through his role and efficiency, especially those associated with the presentation and explanation of the lesson, or what is called in the educational process “sufficient implementation”.

### **Conclusion:**

We conclude from the obtained results that teaching outstanding pupils requires a set of teaching skills in the classroom, and a high efficiency of the teacher in communicating information and providing a classroom atmosphere of interaction, activity and competition among these outstanding pupils in order to reduce the manifestations of maladaptation and the emergence of many problems, including ADHD. This study found that the fourth elementary year outstanding pupils do not suffer from ADHD, and that there are essential differences in ADHD among outstanding pupils depending on the sex and the subject. The researcher suggests the following:

- Taking care of outstanding pupils by the allocation of special classes to them and preparing programs in line with their abilities.
- Not only diagnosing cases of ADHD but adopting also the appropriate therapy methods by the preparation of therapeutic programs.
- Organizing awareness-raising training courses for the teachers, especially the elementary level, to educate them about the classroom atmosphere (individual differences, interactions, communication style ...) and to determine the role assigned to them.
- Taking into account health, psychological and social conditions surrounding outstanding pupils.

- Health monitoring of the pupil to ensure preventive intervention in case of disorder.
- Conducting family training courses to teach families how to deal with their outstanding pupils.

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