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Prevalence of Attention Deficit Hyperactivity Disorder and Conduct Disorder among Children in Gaza governorates

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Prevalence of Attention Deficit Hyperactive Disorder and Conduct Disorder among Children in Gaza Governorates

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Al-Quds University

2008

بسم الله الرحمن الرحيم

﴿يرفعِ اللهُ الذينَ آمنُوا منكُم والذينَ أُوتُوا العِلْمَ دَرجَاتٍ واللهُ بِمَا تَعملونَ خَبِيرٌ﴾

صدق الله العظيم

سورة المجادلة

الآية " **11** "

Declaration

I certify that this thesis submitted for the degree of Master is the result of my own research, except where otherwise acknowledged, and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed:……

Ikram Saleem Elumour

25/ 5/ 2008

Dedication

I would like to dedicate this work

to the precious soul of

my father, my mother

and to my family

Ikram

Acknowledgment

I would like to knowledge my supervisor Dr. Abdel Aziz Thabet, for his guidance, patience and support to achieve this work. My deepest gratitude to Dr. Mohamed El Heluo and Dr. Bassam Abu Hamad for their careful reading and critique of the initial drafts of the thesis and for their helpful suggestion. In addition, I thank the staff of lecturers of the school of public health. I want to thank my family for their support and love. Special thanks to my colleagues Mohamed El Jadily; Soma Baroud; Salwa Tibi; Ahmed El-kahlout; Hend Abu Eyada for their love and respect. My sincere thank to Mr. Emad El-Kahlout for his guidance and helping in statistical analysis and final layout. Also I would like to thank my dear colleagues Dr. Tawfik El Maddaga; Mr. Samy Mansour; Mr. Salem Al-Arjani for their support and encouragements. Many thanks to every one who participated in this study and every one whom not mentioned by the name.

Abstract

This study aimed at assessing the prevalence of behavioral problems; Attention Deficit Hyperactivity Disorder (ADHD) and Conduct Disorder (CD) among children of the study sample, and to determine the differences in behavioral problems according to gender and other socioeconomic factors of the children. A stratified random sample of 388 children; 194 males (50.0%) and 194 females (50.0%) were selected from eight preparatory schools were equally distributed between UNRWA and governmental from Khan-Younis and Rafah Governorates. Data collected by using structured clinical interview of mothers and fathers for DSM-IV diagnosis of ADHD, CD questionnaire DSM-IV diagnosis of Conduct disorder, and Socio-economic questionnaire. This study found that there were 4.4% as rated by parents and 9.8% as rated by teachers of the children were ADHD cases. However there were 15.7% as rated by parents and 17.5% as rated by students of the study sample were conduct disorder children. There were statistical significant differences between boys and girls in ADHD, in favor to boys were rated by parents p=0.001, and rated by teachers p=0.001. There were statistical significant differences in ADHD according to the sponsored of the schools, children who studied in governmental schools more suffering from ADHD than who studied in UNRWA schools as rated by teacher p=0.001. There were a significant statistical difference in ADHD by patents according to the level of classes 0.006 , in favor of those children who were in the level of 7^{th} class. There were significant statistical differences in ADHD disorders rated by teachers according to the family income p=0.006, father education p=0.004, father work p=0.001 and mother work p=0.045. In favor to the children who had low family income "< 600 NIS", primary school of father education, and had un-employee fathers, and in favor to the children with house wife mother. While; there were no significant statistical difference in total ADHD rated by parents and teachers according to the place of residency, number of siblings, and according to the mother education. There were statistical significant differences between boys and girls in CD, in favor to boys as rated by parents p=0.001, and as rated by students p=0.001. However; there were no statistical significant differences in CD by parents and by students according to the sponsored of the schools, level of classes, place of residency, number of siblings, family income, father and mother education or father and mother work of the study sample. There were 6.7% as rated by parents of the study sample were inattentive, 5.2% as rated by parents of the study sample were hyperactive- impulsive, and 3.4% as rated by parents of the study sample were ADHD children were co-morbid CD. The conclusion of this study was, there were positive significant correlation between total scores of ADHD and total CD and CD subscales by

parents among the study sample of children P= 0.001. In addition; there were positive significant correlation between total scores of CD and total ADHD and ADHD subscales by parents among the study sample of the children P= 0.001, also their were positive significant correlation between ADHD , CD and child gender, father education, classes level, family income, father and mother education.

ملخص

هدفت هذه الدراسة للكشف عن مدى شيوع المشكلات السلوكية: نقص الانتباه والحركـة الزائـدة (ADHD) لدى أطفال العينة، كما هدفت للتحقق من الفروق فـي المـشكلات CD) واضطرابات المسلك السلوكية تبعاً للجنس وللعوامل الديمغرافية والاقتصادية-الاجتماعية. والتحقق من العلاقة بين نقص الانتباه والحركة الزائدة واضطرابات المسلك لدى الأطفال من أفراد عينة الدراسة. وتكونت عينة الدراسة من 388 طفلاً من الجنسين منهم 194 من الأولاد بنَسبة 50%، ومنهم 194 من البنات بنسبة 50% وهـي عينـة طبقية عشوائية تم اختيارها من الصفوف الثلاث السابع والثامن والتاسع من ثمان مدارس إعداديـة موزعـة بالتساوي من مدارس الوكالة والحكومة ومن محافظتي خان يونس ورفح. واستخدمت الباحثة مقياس المقابلة الإكلينيكية للآباء والأمهات حسب معايير الدليل التشخيصي والإحـصائي الرابـع DSM-IV، ومقيـاس وقائمة العوامـل الديمغرافيـة والاقتـصادية-الاجتماعيـة. DSM-IVلاضطرابات المسلك حسب معايير وتوصلت النتائج إلى أن 4.4 % من الأطفال بتقدير الآباء و9.8 % بتقدير المعلمين هم حالات اضـطراب نقص الانتباه والحركة الزائدة. في حين تبين أن 15.7 % بتقدير الآباء و17.5 % بتقدير الطلبـة أنفـسهم، بأنهم حالات اضطراب المسلك. وكشفت النتائج عن وجود فروق بين الجنسين في اضطرابات نقص الانتباه والحركة الزائدة وكانت الفروق لصالح الذكور بتقدير الآباء 0.001 والمعلمين 0.001. وكانت الفروق دالـة إحصائياً في نقص الانتباه والحركة الزائدة لصالح الطلبة الذين يدرسون في المـدارس الحكوميـة بتقـدير المعلمين 0.001. كما كانت الفروق دالة إحصائياً في اضطرابات نقص الانتباه والحركة الزائدة تبعاً للصف الدراسي بتقدير الآباء 0.006 وذلك لصالح طلبة الصف السابع الأساسي. وكشفت النتائج عن وجود فـروق دالة إحصائياً في اضطرابات نقص الانتباه والحركة الزائدة لدى أطفال العينـة بتقـديرات المعلمـين تبعـاً لمتغيرات: الدخل الشهري للأسرة 0.006، وتعليم الأب 0.004، وعمل الأب 0.001، وعمـل الأم 0.045، وكانت الفروق لصالح الأطفال من ذوي الأسر منخفضة الدخل (أقل من 600 شـيكل)، وذوي الآبـاء مـن مستوى التعليم الابتدائي ودون، وذوي الآباء العاطلين عن العمل، ومن ذوي الأمهات ربات البيـوت، فهـم أكثر بدلالة إحصائية في اضطرابات نقص الانتباه والحركة الزائدة. في حين لم تجد الدراسـة فروقـاً فـي اضطرابات نقص الانتباه والحركة الزائدة بتقديرات الآباء والمعلمين تبعاً لمكان الـسكن، وعـدد الأخـوة، بتقديرات CDومستوى تعليم الأم. وكشفت النتائج عن وجود فروق بين الجنسين في اضطرابات المسلك (

الآباء 0.001 والطلبة 0.001 وكانت الفروق لصالح الذكور من الأطفال. في حين لم تجد الدراسة فروقاً في اضطرابات المسلك بتقديرات الآباء أو الطلبة تبعاً لنوع الدراسة، ومستوى الصف الدراسي، ومكان الـسكن، وعدد الأخوة، والدخل الشهري للأسرة، ومستوى تعليم أو عمل الآباء والأمهات لأفراد العينة من الأطفـال. وبينت النتائج حسب تقديرات الآباء أن 6.7% من أفراد العينة ممن لديهم اضطراب نقص الانتبـاه و5.2% ممن لديهم الحركة الزائدة والاندفاعية، و3.4% من مضطربي نقص الانتباه والحركة الزائدة لـديهم تـرافـق). كما كشفت النتائج عن وجود علاقة موجبة دالة CD مع اضطرابات المسلك (co-morbidity)مراضة (إحصائياً بين الدرجة الكلية لاضطرابات نقص الانتباه والحركة الزائدة وبين اضطرابات المسلك ومقاييـسها الفرعية بتقدير الآباء (0.001). كما وجدت علاقة موجبة دالة إحصائياً بين الدرجـة الكليـة لاضـطرابات المسلك وبين الدرجة الكلية لنقص الانتباه ومقاييسها الفرعية بتقديرات الآباء (0.001).

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List of Abbreviations

APA	American Psychiatric Association
ADHD	Attention Deficit Hyperactivity Disorder
CD	Conduct Disorder
LD	Learning Disabilities
MOH	Ministry of Health
ODD	Oppositional Defiant Disorder
SES	Socio Economic Status
TD	Tourette's Disorder
WHO	Word Health Organization

Chapter One

Introduction

Chapter One
Introduction

1.1 Introduction

Today, the Palestinian people are living terrible and psychologically unstable situation, so many people suffer from various psychological problems especially children such as fear, anxiety stress related problems , and depression. Behavioral problem if not managed early in childhood and adolescence can have worse consequences on children, family and society. Behavioral problems include attention deficit hyperactive disorder and conduct disorder. This study will focus on major childhood problem such attention deficit hyperactive disorder and conduct disorder. Children and adolescents face a variety of challenges in their lives, and may be at risk of developing emotional and behavioral problems. In some cases, behavioral or emotional problems may be triggered by the stress or difficulties in schools, or they may be a contributing factor to poor achievement in school or to learning difficulties (Rutter, Yule, 1970). Attention deficit hyperactivity disorder (ADHD) is one of the most investigated and controversial disorder in children. This disorder, is characterized by behavior difficulties such as inattention, impulsiveness, and hyperactivity. The child, or adult, with ADHD has problems starting, staying with, or completing tasks. The result is a life that may often be chaotic (Durall , John, 1999). ADHD is characterized by attention deficit, impulsivity, and sometimes overactivity. The diagnosis is empirical, with no objective confirmation available to date from laboratory measures. The exact etiology of ADHD is unknown; genetics play a role, but major etiologic contributors also include adverse responses to food additives, intolerances to foods, sensitivities to environmental chemicals, molds, and fungi, and exposures to

neurodevelopmental toxins such as heavy metals and organ halide pollutants. Also abnormalities in the frontostriatal brain circuitry and possible hypo functioning of dopaminergic pathways are apparent in ADHD, and are consistent with the benefits obtained in some instances by the use of methylphenidate (Ritalin) and other potent psychostimulants (Kidd, 2000). ADHD refers to a family of related chronic neurobiological disorders that interfere with an individual's capacity to regulate activity level (hyperactivity), inhibit behavior (impulsivity), and attend to tasks (inattention) in developmentally appropriate ways. The core symptoms of ADHD include an inability to sustain attention and concentration, developmentally inappropriate levels of activity, distractibility, and impulsivity. The concepts of hyperactivity has become increasingly important in attempting to understand which children are likely to not outgrow their problems, but are instead likely to remain troublesome to society in adulthood. Children with both hyperactivity and conduct problems are the most seriously impaired children. Of children with hyperactivity, the subgroup that also has conduct disorder has the worst social adjustment in later life (Barkley, 1998).Children with ADHD have functional impairment across multiple settings including home, school, and peer relationships. ADHD has also been shown to have long-term adverse effects on academic performance, vocational success, and social-emotional development. They experience peer rejection and engage in a broad array of disruptive behaviors. Their academic and social difficulties have far-reaching and long-term consequences. These children have higher injury rates. As they grow older, children with untreated ADHD, in combination with conduct disorders, experience drug abuse, antisocial behavior, and injuries of all sorts. For many individuals, the impact of ADHD continues into adulthood (National Institute of Mental Health, 2000) Severity of behavioral and emotional problems also may be associated with the diagnosis of

Attention Deficit Hyperactivity Disorder (ADHD) (Connor et al, 2003), which commonly co-occurs with reading problems (Willcutt , Pennington, 2000). Nevertheless, many of the studies examining these issues have focused on youth in clinical settings, or youth receiving special educational services rather than youth who have been clearly defined as poor readers in non-clinical settings, and have focused on emotional/behavioral problems at only a single point in time, precluding closer examination of the course of symptoms over time. Also other relevant characteristics such as socio-demographic factors, or the presence of co morbid ADHD contributing to emotional and behavioral problems. Behavioral problems are commonly thought to be more prevalent among children and adolescents with poor reading, as well as among those with other types of learning disorders and language problems. Empirical tests of cross-national differences and similarities may illuminate the ways in which children's problems vary as a function of nationality and other demographic variables such as socioeconomic status, age, and gender (Achenbach, Hensley, Phares, & Grayson, 1990), (Weisz et al, 1987). However, they are extremely important in child mental health referral and provision of pertinent information to clinicians (Beitchman et al, 2001). Children with attention deficit hyperactivity disorder (ADHD) extract a great emotion toll on family and friends. They also have an associated increased financial cost from their increased use of medical care. ADHD begins in childhood and often persists into adulthood. The co-morbidity of ADHD with conduct disorder indicated the severity of the problem. About 25 to 35 percent of ADHD children may eventually develop conduct disorder CD (Hass, 2004).Conduct disorders are a complicated set of behavioral and emotional problems that afflict between nine percent of male boys and two percent of female girls. Conduct disorder show serious pattern of antisocial behavior. These children frequently lie or steal, fight with or bully others, and are at a real risk of getting into trouble

at school or with the police. They violate the basic rights of other people, are aggressive toward people and/or animals, destroy property, break into people's homes, commit thefts, carry or use weapons, and engage in vandalism. These children or teens are at greater risk for substance use experimentation, and later dependence and abuse (Biederman et al.,1991)

The etiology of the disorder is still in debate. Some theories relate the disorder to inconsistent home lives, an predisposition to the disorder, modeling and operant conditioning theory, and environmental factors. The major feature of conduct disorder is a "repetitive and persistent pattern in which the basic rights of others or major age-appropriate societal norms or rules are violated (APA 1994). Children and adolescents diagnosed with this disorder display aggression towards peers and adults destroy property, engage in vandalism theft and truancy. Studies indicate that conduct disorders are the largest group of psychiatric illnesses in adolescents. Often beginning before the teens years, conduct disorders afflict approximately nine percent of boys and two percent of girls under the age of 18. Because the symptoms are closely related to socially unacceptable, violent or criminal behavior, many people confuse the illness with either juvenile delinquency or the turmoil of the teen years. Symptoms and criteria for conduct disorder include intimidating others, initiating fights, using weapons while confronting a victim, being physically cruel to people or animals, forcing sexual activity. Other criteria include setting fires, destroying property, consistently lies, breaking into homes or cars, truancy, and running away from home at lest twice or once if for a length period. Three or more of these criteria must be present in the last 12 months, with at least one criterion present in the past six months. Treatment is centered on helping the child control their anger, parent interaction training, cognitive problem solving skills, and medications (Gullotta et al., 2005).The aim of this

study was to further explore the prevalence of ADHD and CD among Palestinian children in Gaza governorates.

1.2 Research problem :

The problem statement of the study determined by the main question :

What is the prevalence of attention deficit hyperactivity and conduct disorder among children in Gaza governorates ?

1.3 Justification of the study

Because of increasing concern and awareness among health professionals and the public about the major childhood behavioral problems ,we will decide to conduct population-based research about the socioeconomic factors and behavioral problems among school-aged children. This study will be one of the community-based, epidemiologic studies of behavioral problems in Gaza Strip. This study will contribute to the knowledge of behavioral problems among school age children in Palestinian community because from previous studies we note that there is behavioral problems in school aged children and not studied well in Gaza community . the aim of this study is to examine the relationship between socioeconomic factors and behavioral problems and it will assist in describing the majority of children who felt in behavioral problem and determining the causes of it and identifying the affected group.

1.4 Objectives

1.4.1 Main Objective

To examine the prevalence of attention deficit hyperactivity disorder (ADHD) and conduct disorder (CD) in relation to socioeconomic factors among children in Gaza Governorates .

1.4.2 Specific Objectives

1. To estimate the prevalence rate of ADHD and CD disorder among children .
2. To determine the differences in behavioural problems (ADHD and CD) problems according to gender of the children.
3. To identify differences in ADHD and CD problems according to socioeconomic factors.
4. To provide suggestions and recommendations for future possible interventions.

1.5 Research Questions

The questions were divided into the following:

1. What is the prevalence of behavioral problems (ADHD and CD) among the study sample?
2. Are there significant differences in behavioral problems (ADHD and CD) related to gender of the child?
3. Are there significant differences in behavioral problems (ADHD and CD) related to the type of the school of the children?
4. Are there significant differences in behavioral problems (ADHD and CD) related to the class of the children?

5. Are there significant differences in behavioral problems (ADHD and CD) related to type residence of the children?

6. Are there significant differences in behavioral problems (ADHD and CD) related to number of siblings of the child?

7. Are there significant differences in behavioral problems (ADHD and CD) related to family income of the children?

8. Are there significant differences in behavioral problems (ADHD and CD) related to father and father and mother education of the children?

9. Are there significant differences in behavioral problems (ADHD and CD) related to father and mother work of the children?

1.6 Operational definitions

1.6.1 Socioeconomic factors

Age, gender, place of residence, father's and mother's education and work, number of siblings and family income.

1.6.3 Attention Deficit Hyperactivity Disorder

It is hyperkinetic disorder characterized by persistent and sever impairment of psychological development resulting from a high level of inattentive, restless and impulsive behaviuor (American Psychiatric Association, 1994).

1.6.4 Conduct disorder

It is a repetitive and persistent pattern of behaviuor in which either the basic rights of others or major age –appropriate societal norms or rules are violated (American Psychiatric Association, 1994).

1.6.5 Children

All children aged between 13-15 years and study in governmental and UNRWA preparatory schools and live in southern Gaza governorates (Rafah and Khan-Younis).

1.7 Geographic background

Gaza Strip is a narrow piece of land lying on the coast of the Mediterranean sea. Its position on the crossroads from Africa to Asia made it a target for occupiers and conquerors over the centuries. The last of these was Israel who occupied the Gaza strip from Egyptians in 1967. Gaza Strip is very crowded place with area 365 sq. Km and constitute 6.1% of total area of Palestinian territory land. In mid year of 2005 the population number is to be 1,389,789 mainly concentrated in the cities, small village, and eight refugee camps that contain two thirds of the population of Gaza Strip. In Gaza Strip, the population density is 3,808 inhabitants/km2 that comprises the following main five governorates:

North of Gaza constituted 17% of the total area of Gaza strip and 1.0% of total area of Palestinian territory area with area 61 sq. Km. The total number of population living in North Gaza is to be 265,932 individuals in 2005 with capita per sq Km 4,360(MOH, 2006).

Gaza City constituted 20.3% of the total areas of Gaza strip and 1.2% of total area of Palestinian territory area with area 74 sq. Km. The total number of population living in Gaza City is 487,904 individuals in 2005 with capita per sq Km 6,593(MOH, 2006).

Mid-Zone constituted about 15% of the total area of Gaza Strip and 1.0% of total area of Palestinian territory area with area 58 sq. Km The total number of population living in Mid-Zone is 201,112 individuals in 2005 with capita per sq Km 3,467(MOH, 2006).

Khan-younis constituted about 30.5% of the total area of Gaza strip and 1.8% of total area of Palestinian territory area with area 108 sq. Km. The total number of population in Khanyounis is 269,601 individuals in 2005 with capita per sq Km 2,496(MOH, 2006).

Rafah constituted about 16.2% of the total area of Gaza strip and 1.1% of total area of Palestinian terrivory area with area 64 sq. Km. The total number of population in Ráfah is 165,240 individuals in 2005 with capita per sq Km 2,582(MOH, 2006).

Population under 15 years

In 2005, the rercentage of population under 15 years old is 49.1% of the total p pulation in Gaza Strip. (MOH, 2006).

1.8 general review of the chapters

This study consists of six chapters. The first chapter concern about the background of study subject, problem statement, objectives and questions. The second chapter review the literature which is related to the study subject. The third chapter explained the theoretical framework. The fourth chapter explained study design and methods of the study, the important operations are the distribution of the sample and the pilot study so as to estimate the validity and reliability of the instruments. In fifth chapter the researcher reported the results. which the will discussed in the sixth chapter followed by conclusion about the study as well as the recommendations.

Chapter Two

Literature review

Chapter Two

Literature review

In this chapter the researcher will discuss theories related to attention deficit hyperactivity disorder (ADHD) and conduct disorder (CD). Furthermore, the researcher will try to discuss the literature review especially studies related to the two problems. However, in this chapter we will organize our collection from both theoretical and review in this matter in way that put you in contact with the subject searched and with the main ideas that we speak about.

In this chapter we divided the literature review into three major subtypes firstly; the studies that concern ADHD and comorbidity, secondly; the studies that concern about conduct disorder (CD), and thirdly, the studies that concern emotional and behavioral problems.

2. Attention deficit hyperactivity disorder

Attention-Deficit/Hyperactivity Disorder is the most commonly diagnosed behavioral disorder of childhood. ADHD has also been called Attention-Deficit Disorder, Hyperactive Child Syndrome, Hyperkinesis, Minimal Brain Dysfunction, Hyperkinetic Syndrome of Childhood, and Hyperkinetic Disorder. In most cases of childhood ADHD, the disorder continues into adolescence (Gullotta et al., 2005: 159).

2.1 Theoretical approaches of ADHD

1. Biological basis

Although the exact cause of ADHD is undetermined, most researchers endorse a biological predisposition to the disorder. Ronald A. Kotkin and Aubrey H. Fine is most likely an interplay of both psychosocial and biological factors that may lead to the common pathway of the syndrome ADD. Most of the current literature agrees that abnormalities in the prefrontal, frontal, and/or frontostriatal pathways may be indicative of a neural substrate of ADHD. These brain areas are involved in the control of motor activity and attention (Fine & Kotkin, 2003).

A number of investigators (Pennington & Ozonoff, 1996; Denkla, 1996; Barkley, 1997; Sergeant et al., 1999) have shown that key regions of the frontal lobes are underactive, which results in inefficiencies in attentional

networks that control the flow of information in the human nervous system. There is also emerging evidence documenting reliable EEG differences between ADHD and non-ADHD children (Hughes & John, 1999). Children with ADHD have elevated frontal theta activity and diminished beta activity (Fine & Kotkin, 2003).

A variety of neurological etiologies have been proposed for ADHD. Brain damage was initially proposed as an initial and chief cause of ADHD symptoms. Possible neurotransmitter dysfunction or imbalances have been proposed in ADHD for quite some time (Pliszka, et.al. 1996). Initially, these rested chiefly on the responses of ADHD children to differing drugs. And then; some studies have not found a greater incidence of pregnancy or birth complications in ADHD compared to normal children, while others have found a slightly higher prevalence of unusually short or long labor, fetal distress, low forceps delivery, and toxemia (Barkley, 2007).

The genetic basis of ADHD might be rather complicated. No single gene stands out as an obvious candidate. This reflects a polygenetic and multi-determinant etiology of ADHD. Evidence from twin, adoption, and family studies has found heritability to be present in 80% of ADHD. However, high heritability does not imply neurobiological determinism; the behavioral result will still heavily depend on interactions with the environment (Biederman et al., 2002). Dopamine genes have been the initial candidates for investigation. Several studies have concentrated on possible links between genes coding for dopamine receptors and ADHD (Sagvolden et al., 2004).

2. Neuroanatomy and Neurochemistry of ADHD

The preeminent biochemical theory of ADHD has been based on a catecholamine hypothesis Since the 1970s, but even after years of investigation, its status remains unclear. Recent refinements of this theory have emphasized the primary roles of dopamine and norepinephrine. The unitary dopamine theory of ADHD has been extended, based on a proposal that different abnormalities might exist in two dopamine regions: under activity in a cortical region (i.e. anterior cingulate), which results in cognitive deficits and overactivity in a subcortical region (i.e. caudate nucleus), which results in motor excess (Swanson et al 1998). The noradrenergic theory of ADHD has been modified in a similar fashion, based on a proposal that different abnormalities may exist in two noradrenergic regions: underactivity in a cortical region (i.e. dorsolateral prefrontal), which results in primary memory deficits, and overactivity in a subcortical region (i.e. locus coeruleus), which results in overarousal (Swanson et al 1998).

Dopamine effects on prefrontal functioning are complicated (for reviews of dopamine neuroanatomy and physiology (see (Haber, Fudge, & McFarland, 2000; Grace, 2002; Missale, Nash, Robinson, Jaber, & Caron, 1998; Schultz, 2002). Dopamine exerts a strong regulatory effect on prefrontal cortical pyramidal neuronal activity. These neurons exhibit bistable membrane potentials alternating between a hyperpolarized, non-firing state and a depolarized, action-potential-firing state. The effects of dopamine stimulation on these prefrontal cells depend on this state (Grace, 2002). The glutamatergic output from these neurons projects to the nucleus accumbens and the ventral tegmental area and exerts a strong regulation of the activity in these areas (Sagvolden et al., 2004).

Two studies have related neuro-anatomical abnormalities to specific theories of attention. Compared to control subjects, children with ADHD had smaller brain volumes in anterior superior regions (i.e. posterior prefrontal, motor association and midanterior cingulate) and anterior inferior regions (i.e. basal ganglia), and these abnormalities implicate the neuroanatomical networks of executive control and alerting (Swanson et al. 1998). Right anterior frontal, caudate and globus pallidus regions were smaller in an ADHD group than in a control group, which resulted in smaller asymmetries in these areas in the ADHD group and were associated with performance deficits on neuropsychological tasks (Swanson et al 1998).

3. Deficit of self-regulation theory "Barkley's theory of ADHD"

Barkley's theory has been widely recognized as a significant advance in our thinking about ADHD that helps to organize a vast body of literature and clinical observations about the disorder. As with any theory, its ultimate value will depend on the amount of new research that it stimulates, and the information that obtained from those studies. One important point to note is that even if one agrees with Barkley's notion that ADHD is fundamentally a deficit of self-regulation, it does not necessarily follow that the interventions he advocates basically, behavior therapy and medication treatment are the only approaches to be pursued. Clearly, these are the interventions that currently enjoy the strongest empirical support. They are limited, however, in that neither is conceptualized as resulting in any enduring change in the child. External prompts and the provision of rewards are intended to compensate for the child's deficits rather than correct them and medication provides a short-term improvement in those deficits that vanishes when it has cleared the child's system (Rabiner, 2008). Investigators have repeatedly noted the similarities between symptoms of ADHD and those produced by lesions or injuries to the frontal lobes more generally and the prefrontal cortex specifically

(Barkley, 1997b, Mattes, 1980). ADHD children will display their emotions more, and it will be the negative ones that cost them dearly in their peer relationships, because even though they are silly, even though they may be more demonstrative, more passionate than other children, it is the inability to regulate the negative ones that they are going to pay a heavy social price for. This theory says that AD/HD children can't keep their emotions to themselves. In addition, cannot use other emotions to moderate them. AD/HD children are delayed in emotional self-regulation. Most of you already know that people with AD/HD seem more emotional, but now you know why. They are no more emotional than you are. They're more demonstrative of their emotions than you are. You keep that emotion to yourself. They don't. They impulsively show the emotion when it occurs (Barkley, 2005).

Both children and adults suffering injuries to the prefrontal region demonstrate deficits in sustained attention, inhibition, regulation of emotion and motivation, and the capacity to organize behavior across time (Barkley, 2007).

4. Dynamic developmental theory of ADHD

ADHD is currently defined as a cognitive/behavioral disorder with no biological marker. We will consequently offer a dynamic behavioral theory. In order to break the potential intrinsic circularity involved in explaining behavior by behavioral principles, we will suggest how this theory may be related to some of the presently less well-established genetic and neurobiological correlates to ADHD reviewed above.

The dynamic developmental theory of ADHD focuses on dopamine hypofunction because the majority of findings from a variety of research fields seem to converge on dopamine in the etiology of ADHD the neuro-modulator dopamine will regulate the processing of the information the brain receives via neurotransmitters like glutamate (Deutch & Roth, 1998). Genetic links to ADHD do not represent mutations, but polymorphisms that create subtle differences between normal and ADHD behavior (Sagvolden et al, 2004).

2.2 Conduct disorder

Conduct disorder (CD) is a term used to describe a group of symptoms or problematic behaviors. The term as used in the DSM-IV American Psychiatric Association. (1994) includes four types of behaviour: (1) aggression to people or animals, (2) destruction of property, (3) deceitfulness or theft and (4) serious violations of rules. It is a very heterogeneous disorder both in its occurrence and in it's etiology. To emphasis

this heterogeneity, Frick (1998) started using the plural term of conduct disorders. Two different types of CD are nowadays distinguished, i.e., the childhood onset type (DSM-IV) or the life course persistent type."

2.2.1 Theories of conduct disorder

2.2.1.1. Genetic theories

Genetic theories of antisocial behavior also posit that individual dispositions, in this case caused by familial genetic factors, place some individuals at higher risk for such behavior due to temperamental tendencies such as a relatively high activity level, or a greater vulnerability to feelings of negative affect and anger, or a higher tolerance for risk taking (Gullotta et al., 2005).

One can only suspect a reduced biological vulnerability to fear, which might result in a relative lack of responsiveness to social cues, less fearfulness about incurring disapproval from others, or other characteristics (Brown, 2005).

The most common studies of genetic contributions to date have been via behavior genetic designs, and through such studies there is some evidence of a genetic basis for conduct problems. A popular hypothesis is that genes relevant to the display of ADHD symptoms are probably also related to the display of CD symptoms. Caspi et al. (2002) examined the association of child maltreatment and a genetic variant that results in brain monoamine oxidase levels being too low to break down some neurotransmitters (e.g., norepinephrine, serotonin, and dopamine) that may become overactive due to maltreatment. Findings indicated an interaction effect between this polymorphism and maltreatment in predicting antisocial behavior (Gullotta et al., 2005).

2.2.1.2 Cognitive approach

Cognitive researchers have proposed a theory regarding individual differences in interpreting social environmental cues that attempts to identify proximal mechanisms involving biases in social information processing that may trigger aggressive behavior (Dodge, 1993). Adolescents who show higher levels of conduct problems are found both to be more likely to interpret the ambiguous behaviors of others as being aggressive and to show a more limited repertoire of responses, particularly positive solutions to specific interpersonal problems (Dodge, 1993). Such biases may be partly due to having learned to negotiate more hostile environments. Adolescents showing such hostile attribution biases in their social information

processing tend to be higher in conduct problem behaviors. However, such biases explain only a small proportion of the variance in longer-term antisocial behavior (Dodge et al., 1995).

2.2.1.3 Violence Inhibition Mechanism (VIM) model

The violence inhibition mechanism model is the creation of James Blair. It is a developmental model (Mitchell & Blair, 2000) summarize the approach as follows: It is biological make-up that determines whether individuals show emotional difficulties. However, these emotional difficulties are only risk factors for the development of the disorder. It is the individual's adverse social environment that creates the conditions necessary for the development of psychopathy (Mitchell & Blair, 2000).

Blair's model is prompted by ethologists who proposed that most social animals possess mechanisms for control of aggression. These ethologists noted that a conspecific aggressor stops fighting if the opponent displays submission cues. For example, an aggressor dog ceases fighting if its opponent bares its throat. According to Blair, humans might have a functionally similar mechanism which he called a Violence Inhibition Mechanism or violence inhibition mechanism. Blair considers violence inhibition mechanism to be: a cognitive mechanism which, when activated by non-verbal communications of distress (i.e., sad facial expression, the sight and sound of tears), initiates a withdrawal response: a schema will be activated predisposing the individual to withdraw from the attack (Blair, 1995: 3), (Krol et al, 2004).

Blair et al. (2001) suggest that the representations that are current at the time of violence inhibition mechanism activation will become triggers for the activation of VIM through a process of classical conditioning. Blair (1995) gives a developmental account for psychopathic behavior as a causal model where violence inhibition mechanism is conceptualized as a basic emotion mechanism that, when impaired, would act as a risk factor for the development of psychopathy (Krol et al, 2004). Blair reports that psychopaths are not impoverished on theory of mind tasks, and that they showed arousal to fear stimuli. Blair (1995) postulates the idea that the environment fosters motive and motivation is necessary for the development of psychopathy. The environment must, therefore, influence some cognitive factor, although, in the paper, Blair doesn't specify such an interaction. This detail remains for Blair to elaborate. Blair describes how the lack of violence inhibition mechanism makes an individual fail to make the distinction between moral and conventional rules. VIM may be a prerequisite for the internal generation of moral meta-knowledge, i.e., explicit theories held by a person as to why moral transgressions are bad to do. According to Blair, people

without violence inhibition mechanism will judge an act as bad only because they have been told that it is bad and they will not make a reference to the victim's welfare (Blair, 1995). He has been produced in support of the existence of the violence inhibition mechanism. Blair's model describes factors on all three levels, together with environmental factors. In later publications Blair specifies the biological level (Blair, 2001) and its relation to the cognitive level. Although they are not represented in the causal model, Blair suggests that other cognitive factors, particularly the absence of particular executive skills, may also be associated with psychopathy (Krol et al, 2004).

2.2.1.4 Social Approach

Beyond theories such as these that focus on the casual importance of one or relatively few factors, there is a general consensus that the development of antisocial behavior involves a prolonged process of interplay between the characteristics of the individual youth and their key social environments (e.g., Baltes, 1983; Cairns & Cairns, 1995; Elder, 1985). These environments include those created by family, by school personnel and students, by peer groups, and by pertinent community members.

The social interactions that occur within each environment may affect antisocial behavior across the life span (Gullotta et al., 2005).

Social learning theories focus on contributions of the social environment to the development of conduct problems. Only the highly unusual parent would purposely socialize their child toward conduct problems and criminal behavior. However, Patterson and colleagues (2002) have detailed the mechanisms by which parents may inadvertently contribute to their child's development in these directions. Central to Patterson's coercion model is the role of poor discipline practices, including patterns of alternating inattention to children's behavior and ineffective nattering (i.e., verbal negatives, such as yelling, complaining, and lecturing) that are punctuated periodically by angry explosions and overly harsh discipline. In particular, parents may positively reinforce aggression by initially refusing a child's request (e.g., for a treat or money), but then submit if the child becomes negative or aggressive (Gullotta et al., 2005).

One critical set of parenting behaviors that underlie positive parental discipline practices come under the rubric of parental monitoring. We have posited that the foundation of parental monitoring is parental awareness of all aspects of their child's life and development, including activities in and outside the home, friendships and other relationships, progress in school, and health-related behaviors (Capaldi, 2003).

5.2.2.5. The social information processing model for aggressive children

Dodge (1991) makes the distinction between reactive and proactive aggression and hypothesises that these types of aggression have different neural and cognitive mechanisms and different an etiologies and developmental courses. The distinction has received a measure of empirical support (Dodge, Pettit, Bates, & Valente, 1995; Dodge, Lochman, Harnish, Bates, & Pettit, 1997). Reactive aggression is displayed as anger or temper tantrums, with an appearance of being out of control. Proactive aggression occurs usually in the form of object acquisition, bullying, or dominance of a peer. (Dodge, 1991).

Dodge has associated a range of social information processing biases with aggressive behaviour. In order to understand how these biases can lead to aggression, he gives a description of the steps an individual passes through in order to respond to an environmental stimulus. These include encoding the cues, representing them as threatening or benign, searching for possible responses and then evaluating these before selecting one (Krol et al, 2004).

Aggressive children demonstrate biased attention and encoding of hostile stimuli, intention-cue detection errors, hostile-attributional bias, inadequate response search and problem solving, and biased response evaluation in the form of expectations of favourable outcomes for aggression (Dodge, 1991). Dodge discusses the mechanisms as follows:

Problems at early stages of processing, such as hypervigilance to hostile cues, hostile attributions regarding minor provocations, and unwarranted fear responses, are hypothesized to lead to over reactive, defensive aggressive responses. On the other hand, a child who accurately perceives others intentions but has a limited and biased response repertoire, and who evaluates the outcomes of behaving aggressively in positive ways may be likely to employ aggressive tactics proactively in instrumental ways. (Dodge, 1991). The hypothesis that reactively aggressive boys both demonstrate inaccuracies in the interpretation of peers cues and also demonstrate strong tendencies to hostile intentions to the peer in ambiguous circumstances. In addition, the hypothesis that proactive aggression is associated with favourable evaluations of the outcomes of aggression has been supported (Krol et al, 2004).

2.3 Attention Deficit Hyperactivity Disorder (ADHD) studies

In this section, the researcher will discuss some of the literature review about ADHD that take place in the same field of this study. AL shakhss (1985) studied the

prevalence of ADHD among children in Egypt and some variables related as disabilities and the site of resident, the sample consist of 3150 child (1940 male and 1210 female).the sample is randomly selected, aged between 7-12 years, mean age (8,92). The sample selected from all the Egyptian governorates and the socioeconomic status has been considered. The method used is (hyper attention assessment scale by the teacher). The result revealed the 180 child (114male, 66 female) from the samples were diagnosed as ADHD, with prevalence rate 5, 71% .5:3 male –female ratio. and the prevalence increased in urban areas in comparison with rural areas and there was significant relationship between the disabled children in comparison with normal one ,also the disorder increased among mentally retarded children in comparison with deaf and blind one ,also there was high rate of ADHD among deaf children in relation to blind one.

Brooks et al (1995) studied the developmental changes in ADHD boys longitudinal study, four year study .the sample consist of 177 child (boy)aged 7- 12 in the first year assessment with mean age 9.4 year using structured interview of multiple informant, those children met the criteria of DSM lll- R attention deficit hyperactivity disorder ADHD. The result shows that: Hyperactivity-impulsivity symptoms declined with increasing age, but inattention symptoms did not. Rather, inattention declined only from the first to the second assessment and remained stable thereafter in boys of all ages. The rate of decline in hyperactivity-impulsivity symptoms was independent of the amount and type of treatment received. Boys who still met criteria for ADHD in Years 3 and 4 were significantly younger, more hyperactive- impulsive, and more likely to exhibit conduct disorder in Year 1 than boys who no longer met criteria in Years 3 and 4, this indicate that the decline in inattention is not developmental in nature. And the result revealed that 77,4% from children diagnosed ADHD in 7-12 year continue having ADHD symptoms at aged 12-15 year.

Bhatia, Choudhary, and Sidana, (1999) studied the attention deficit hyperactivity disorder among psychiatric outpatients. The study aimed to explore the prevalence of ADHD among children (aged 3- 12 years) attending psychiatry outpatient department and the relationship of various socio-demographic variables to ADHD and the psychiatric co-morbidity of ADHD. The study conducted in psychiatric hospital (outpatient department) in India, so all the cases attending the hospital were recorded as per DSM-IV criteria according do

obstetric data, prenatal and postnatal data and the socio-demographic variables were taken in consideration. The results showed that of 362 children (aged 3-12 years) attending the outpatient clinic, 64 (17.7%) were found to have ADHD.The mean age of boys with ADHD was 9.1 years, whereas the mean age of the girls 7.9 years. There was no association of ADHD with parental education or maternal age at the time of delivery. Heiligenstein et al (1999) studied the psychological and academic functioning in college students with attention deficit hyperactivity disorder. The study aimed to examine whether the college students diagnosed with ADHD or not since it claims that ADHD recognized as valid adult diagnosis. In this study the researchers used defined diagnostic criteria and compared with control group. The students with ADHD had significantly lower grade mean point average were more likely to be on academic probation and reported significantly more academic problems. The problem of these students compared with other groups of children and adults with ADHD, appeared to be more related to a type of learning disorders than to conceptualization of ADHD in the diagnostic and statistical manual of mental disorders (DSM-IV).

Biederman et al (2002) studied the influence of gender on attention deficit hyperactivity disorder in children referred to a psychiatric clinic. The study aimed to determine the substantial discrepancy in the male-to-female ratio between clinics referred (10-1) and community (3-1) samples of children with attention deficit hyperactivity disorder. The study included 140 boys and 140 girls with ADHD and 120 boys and 122 girls without ADHD as a comparison subject. All subjects assessed with structured diagnostic interviews and neuro-psychological batteries for subtypes of ADHD as well as emotional, school, intellectual, interpersonal, and family functioning. The findings revealed that girls with ADHD were more likely than boys to have the predominantly inattentive type of ADHD, less likely to have learning disability, and less likely to manifest problems in school. Girls with ADHD were at less risk for co morbid major depression, conduct disorder, and oppositional defiant disorder than boys with ADHD.

Al-Sharbati et al (2003) studied the urbanization, culture & hyperactivity: An exploratory study of Omani schoolgirls.. The study aimed to tease out whether gender differences are shaped by socio-cultural or ecological factors by examining the prevalence of attention deficit hyperactivity disorder (ADHD). The sample consisted of 708 Omani school girls residing in Muscat, the capital of Oman. Academic performance and some intellectual and social correlates were also explored. The findings reveal that academic, intellectual and social correlates fluctuate in complex ways. The prevalence of ADHD amongst Omani students was 5%, a rate that is lower than what is observed in many Western samples. The authors discuss the importance of socio-cultural versus ecological factors that might play a role in the expression of hyperactivity and speculate about the gender related issues concerning ADHD in an Arab/Islamic country.

Molina and Pelham (2003**)** studied the childhood predictors of adolescent substance use in a longitudinal study of children with ADHD. Children diagnosed with attention-deficit/hyperactivity disorder (ADHD; n= 142) were prospectively monitored into adolescence (13–18 years old) to evaluate their risk for elevated substance use relative to same-aged adolescents without ADHD. Probands reported higher levels of alcohol, tobacco, and illicit drug use than did controls. Group differences were apparent for alcohol symptom scores but not for alcohol or marijuana disorder diagnoses. Within probands, severity of childhood inattention symptoms predicted multiple substance use outcomes; childhood oppositional defiant disorder/conduct disorder (ODD/CD) symptoms predicted illicit drug use and CD symptoms. Persistence of ADHD and adolescent CD were each associated with elevated substance use behaviors relative to controls.

Abu Hwaashel (2004) in a study explores the prevalence rate of ADHD among children and the factorial component beside other socioeconomic and cultural values. The sample consisted of 1148 child selected randomly from 20 primary school aged 7-12 year, and other sample 200 child selected from fourth, fifth, and sixth grade aged 9-12 year. The researcher used the observation ADHD rating scale, curiosity test, continuous performance test, matching familiar figures test, socioeconomic questionnaire. The results showed that the prevalence rate of ADHD among children aged (7-12) in Gaza strip 15%. Furthermore, there were significant differences between children with ADHD and normal children in ADHD rating scale, socioeconomic variables.

Ohan and Johnston (2005) examined the gender appropriateness of the DSM-IV symptoms of attention-deficit/hyperactivity disorder (ADHD), and conduct disorder (CD). In Study 1, 100 mothers (35 of children

with and 65 of children without ADHD) rated how gender-typical and problematic they saw DSMIV symptoms of ADHD, and CD; feminine descriptions of ADHD, and CD behaviors that we created; and relationally and overtly aggressive behaviors. Mothers rated the DSM-IV symptoms and overt aggression as boy-descriptive, and the feminine items that we created and relational aggression as girl-descriptive. Mothers saw the feminine items as less problematic than the masculine items. In study 2, for 80 girls (40 with and 40 without ADHD), mothers' ratings on the feminine items were related to the corresponding DSM-IV symptoms, and to general psychopathology and impairment. Most correlations were significant and support the construct validity of the feminine items.

Hoza, Morg and Gerdes et al (2005) studied the aspects of peer relationships if impaired in children with attention-deficit/hyperactivity disorder .The participants included 165 children with attention-deficit/hyperactivity disorder (ADHD; 130 boys, 35 girls) and their 1,298 same-sex classmates (1,026 boys, 272 girls) who served as raters. For each child with ADHD, a child of the same sex was randomly selected from the same classroom to serve as a comparison child, which yielded 165 dyads. Consistent with predictions, contrasted with the comparison children, those with ADHD were lower on social preference, higher on social impact, less well liked, and more often in the rejected social status category; they also had fewer dyadic friends. When liking ratings that children made versus received were examined, children with ADHD had less positive imbalance and greater negative imbalance relative to comparison children. Analyses that considered the types of peers who chose children with ADHD as friends or non-friends demonstrated that children with ADHD were nominated as non-friends by children of higher social preference and who were better liked by others.

Bener et al. (2006) in his study aimed to identify attention deficit hyperactivity disorders among primary school children in the State of Qatar. A cross-sectional descriptive study is conducted and the sample consisted of 2,000 primary school students, ages 6 to 12, are selected and 1,541 students (77.1%) give consent to participate in this study. An Arabic questionnaire is used to collect the socio-demographic variables and a standardized Arabic version of the Conners' Classroom Rating Scale for ADHD symptoms. Of the students surveyed, 51.7% are males and

48.3% females. The finding showed that 112 boys (14.1%) and 33 girls (4.4%) scored above the cutoff for ADHD symptoms, thus giving an overall prevalence of 9.4%. Children who have a higher score for ADHD symptoms have school performance poorer than those with lower scores (p = .003). Furthermore, the study reveals that ADHD is found to be a common problem among school children in Qatar.

2.4 Studies of conduct disorder (CD)

Conduct disorder has a unique place among the psychopathologies. Not only is the development of the individual with this disorder disrupted, but also along the way, enormous costs are borne by society and the victims of antisocial acts.

In this section, the researcher will focus on some literature review that take place and related to the study field: Vitelli (1996) studied prevalence of childhood conduct disorder (CD) and attention-deficit hyperactivity disorder (ADHD) .The sample consist of 100 adult maximum-security inmates. Inmate criminal and developmental history was obtained using interviews and records, and the Wender Utah Rating Scale (WURS) was administered to assess childhood ADHD. It was found that 63% of the sample met DSM-IV criteria for childhood CD, whereas 41% were either treated or assessed for childhood ADHD. Significant comorbidity was found between childhood CD and ADHD, but CD was the only significant predictor of adult criminality. CD and non-CD inmates differed significantly in juvenile and adult criminal behavior, age of first arrest, substance abuse, and violence. The WURS indicated significant validity in identifying childhood ADHD and CD as well as substance abuse and criminality.

Frick et al (1999) studied the association between parenting practices and conduct problem behavior in a sample of 179 clinic-referred children and adolescents. Parenting practices were assessed using a multi-informant and multimethod assessment system. Conduct problems were the DSM-III-R criteria for oppositional defiant disorder and conduct disorder assessed by a structured psychiatric interview with multiple informants. Results indicated that parents involvement in their children's activities was most strongly predictive of conduct problems in the adolescent age group (ages 13-17), whereas corporal punishment was most strongly associated with conduct problems in the middle age group (ages 9-12). Parents' monitoring and

supervision of their children's behavior was moderately predictive of conduct problems in both of these age groups but only weakly predictive in the youngest age group (ages 6-9). Finally, parental consistency in using discipline was highly predictive of conduct problems in the adolescent age group and moderately predictive in the youngest age group.

Luk et al (2001). Focus on the evaluation of outcome in child and adolescent mental health services. He examined the outcomes of 46 children with persistent conduct problems by gathering at baseline and six months information from multiple informants on multiple domains including the functioning of the child, risk factors, and parents' and children's perceptions of the treatment process. A statistically significant reduction in oppositional/conduct symptoms was reported six months after the initial clinical contact. However, the majority of the group still scored within the clinical range. The various outcome measures are correlated to only a mild to moderate degree. Teachers did not notice the same degree of change at school, despite the changes noticed by parents. Symptom improvement and satisfaction with a service are two separate issues. Parents' satisfaction was related to their perception of the therapist and the therapy.

De Cato et. Al. (2001) studied the satisfaction of conduct-disordered and substance- abusing youth with their parents, conduct-disordered and substance-abusing adolescents (N = 132) completed the Youth Happiness with Parent Scale (YHPS). The YHPS measures youth happiness with parental behaviors across 11 domains (e.g., communication, chores, and discipline) as well as a single item reflecting overall happiness. Results indicated that youth satisfaction did not vary as a function of parents' or youths' age, ethnic minority status, or gender. Although youth were relatively dissatisfied with their parents across behavioral domains (particularly illegal behaviors, drug use, school conduct, and alcohol use), they were fairly satisfied with their parents overall. Durbrow et al (2002) studied the association between academic performance, peer relations, and conduct .Associations among these domains have not been studied in children who live in villages in developing countries where developmental processes may differ from those observed in developed countries. To do so, they assessed 168 village children who were between the ages of 6 and 12, and lived on the East Caribbean island of St. Vincent. The result revealed that academic performance was mildly correlated with peer preference such that children with higher grades were more preferred as playmates. Also poor abstract reasoning and learning-related problems influenced academic performance,

which in turn, led to low peer preference. One possible explanation is that academic and peer domains are correlated because of children's awareness of classmates' academic standing.

Willson & Steiner (2002) evaluate the individual developmental significance of disruptive behavior during adolescence; a 16-year-old boy in day treatment for substance abuse was examined over the course of 12 weeks, this youth was evaluated in group, individual and family therapy. Before developing conduct disorder symptoms and substance abuse, he was found to have a biological predisposition toward anxiety, and a premorbid history of anxiety and depression. The role of these conduct problems and substance use in alleviating this youth's isolation and loneliness are considered, as are the maladaptive consequences of these behaviors. The importance of developmental factors in the determination of his behavior, and their significance in treatment planning, are discussed. Although the current definitions of conduct and substance use disorders are useful and valid, attention to individual contextual factors may enhance the clinical utility of these categories. Fracer M. et al (2004) discussed the effectiveness of a multicomponent intervention designed to disrupt developmental processes associated with conduct problems and peer rejection in childhood. Compared with 41 children randomized to a wait list control condition, 45 children in an intervention condition received a social skills training program. At the same time, their parents participated in an in-home family intervention. Compared with control group children, intervention children demonstrated significant improvements on five of six outcome measures. Differences between the experimental and control groups suggest the programs strengthen children's prosocial behavior, promote their ability to regulate emotions, and increase social contact with peers. Intervention also was associated with significant improvements in classroom comportment and decreases in relational aggression, a measure of coercion in peer relationships.

Jefferis et al (2006) investigate maternal childrearing cognitions associated with ineffective parenting practices, using the Parental Childrearing Cognitions Questionnaire (PCCQ). Intergenerational transmission of parenting problems and cognitions was investigated using the Parental Bonding Instrument (PBI), which measures over protectiveness and care experienced by parents in childhood. As a new measure, the PCCQ's psychometric properties were evaluated and found to be robust in terms of internal consistency and test–retest reliability. Seventy-four mothers of 3–5-year-old boys (23 clinical: boys referred with conduct problems; 51 control) completed the PCCQ, Revised Rutter Parent Scale for Preschool Children and PBI. PCCQ scores

were significantly higher for clinical group mothers, and significantly correlated with both Parent and Teacher Rutter Child problem scores. There were significant correlations between PBI overprotection (positive) and PBI care (negative) scores and Rutter Parent and PCCQ scores. Clinical group mothers rated lower care and higher overprotection, from both parents, in their own childhoods. Results are consistent with a hypothesized model of intergenerational transmission of parenting problems, whereby experiences of low care and high overprotection in childhood predispose mothers to a dysfunctional 'set' of parenting cognitions, impairing maternal capacity to provide sensitive responses to challenging child behaviors.

Sarkhel et al (2006) in a study find out the prevalence of conduct disorder and its DSM-IV subtypes and comorbid attention deficit hyperactivity disorder (ADHD) in 4 schools of Kanke block among students of classes V to X. Methods: A total of 240 students, selected by stratified random sampling, were subjected to the Schedule for Affective Disorders and Schizophrenia for School Age Children: Present and Lifetime Version (K-SADS-PL) screening interview. Nineteen students who qualified were subjected to conduct disorder and ADHD supplement of K-SADS-PL with additional information from parents. The results show that conduct disorder was found in 4.58%; prevalence among boys being 6.81% (n=9) and girls being 1.85% (n=2); the ratio of boys to girls being 4.5:1. Childhood onset was found in 73% and adolescent onset in 27%. Mild conduct disorder was found in 36%, moderate in 64% and severe conduct disorder in none. Comorbid ADHD was found in 36%, hyperactive-impulsive being predominant. Significant difference was found in temperament between students with and without conduct disorder with difficult temperament predominating in the former and easy in the latter (p=0.004). Lying, bullying and cruelty to animals were most frequent symptoms.

2.5. Attention Deficit Hyperactivity Disorder (ADHD) and Co-morbidity of conduct disorder (CD) studies:

Nolan et al (1999) examined age, gender, and co morbidity differences in ADHD subtypes, using a screening checklist based on DSM-IV criteria. Parent- and teacher-completed checklists were obtained for clinic-referred children and adolescents between the ages of 3 and 18 years. Findings indicated that few youngsters exhibited symptoms of hyperactivity/impulsivity in the absence of inattention. Hyperactive/impulsive behavior was more common in the youngest age group (3-5years), whereas inattention was more common in adolescents.

Boys were overrepresented for each subtype of ADHD; however, the proportion of boys to girls did not differ for the various subtypes. Youngsters who exhibited symptoms of both hyperactivity/impulsivity and inattention were more likely to show oppositional and conduct disorder behaviors and anxiety than those who were only inattentive. The findings from this study suggest that even among children who meet criteria for one of the subtypes of ADHD, age and gender differences may be important variables in diagnosis. Danckaerts (2000) studied the natural history of hyperactivity and conduct problems. The aim of the study is to describe outcome in those domains for which self-report is recognized as a valid source of information. At the age of 16±18 years, outcome was prospectively assessed in a general population sample of four behavioural groups, defined at 6±7 year old: a pure pervasively hyperactive group (N= 31), a mixed hyperactive conduct problem group (N=20), a pure conduct problem group (N=18) and a normal control group (N=29). The results found that early hyperactivity and conduct problem predicted different patterns of conduct problems in adolescence. Drug use in adolescence was not predicted by either type of behavioral problem in childhood. Overall, social adjustment was worse in the hyperactive groups, whereas no differences in self-esteem were found. Hyper- activity was a strong predictor of relationships problems in adolescence. The results suggest that hyperactivity and conduct problems in childhood are differential predictors of outcome in adolescence.

Neuman et al (2001) they made latent class analysis of ADHD and co -morbid symptoms in a population sample of adolescent female twins. The study aimed to identify subtypes of ADHD taking into account its co -morbidity with separation anxiety, oppositional defiant disorder, and three major depression symptoms. A structured interview was used to collect diagnostic data from a population sample of 2904 adolescent female twins and their parents. Latent class analysis was applied to ADHD, separation anxiety, ODD symptoms profiles obtained from the twins parents, and major depression symptoms profiles obtained from the twins self report. latent class analysis revealed three ADHD categories of clinical interest: an inattentive subtype without co-morbidity, a second inattentive subtype with increased number of ODD symptoms, and combined inattentive /hyperactive –impulsive type with elevated level of ODD, the pattern of latent class suggested that in the general female adolescent population, there are three highly heritable ADHD subtypes, two of which are co-morbid with other disorders.

Kadesjo and Gillberg (2001) studied the co-morbidity of ADHD in the general population of Swedish school-age children. This study examined patterns of co-morbid associated diagnoses and associated problems in a population sample of children with and without DSM-III-R attention-deficit hyperactivity disorder (ADHD). Half (N409) of a main stream school population of Swedish 7-year- olds were clinically examined, and parents and teachers were interviewed and completed questionnaires. The children were followed up 2–4 years later. The fining showed that 87% of children meeting full criteria for ADHD (N15) had one or more co-morbid diagnoses. The most common co -morbidities were oppositional defiant disorder and developmental coordination disorder. Children with sub threshold ADHD (N42) also had very high rates of co -morbid diagnoses (71% and 36%), whereas those without ADHD (N352) had much lower rates (17% and 3%). The rate of associated school adjustment, learning, and behavior problems at follow up was very high in the ADHD groups.

Busch et al. (2002) aimed to determine whether co-morbidity and clinical correlates of ADHD differ among children in these two settings. A case-control study design was used. The study consisted the sample of 522 children and adolescents of both sexes, 6 to 18 years of age, with (N=280) and without (N=242) ADHD. Participants were drawn from pediatric and psychiatric clinics in a tertiary care hospital and a health maintenance organization in a large metropolitan area. Assessments were conducted with standardized measures of psychiatric, cognitive, social, academic, and family function. The major finding shows that the number, type, clusters, and age at onset of ADHD symptoms were nearly identical for youths at pediatric and psychiatric ascertainment sources. Regardless of source, participants with ADHD were significantly more likely than controls to have a higher prevalence of mood disorders, other disruptive behavior, anxiety disorders, and substance use disorders. Significant impairments of intellectual, academic, interpersonal, and family functioning did not differ between ascertainment sources. Furthermore, children with ADHD from both

psychiatric and pediatric practices have prototypical symptoms of the disorder; high levels of co-morbidity with mood, anxiety, and disruptive behavior disorders; and impairments in cognitive, interpersonal, and academic function that do not differ by ascertainment source.

Study by Kilic & Sener (2005) examines the family functioning and psychosocial characteristics in children with ADHD and co-morbid oppositional defiant disorder or conduct disorder. The study aimed to compare the parental socio-demographic characteristics, prenatal and post natal developmental variables, IQ and behavioral disturbances as well as family functioning and current psychiatric disorders in the parents of children with ADHD and others with ADHD and co-morbid oppositional defiant disorder and conduct disorder. The study sample consisted of 92 child aged 6-11 year, while using the DSM-IV criteria for diagnostic criteria (ADHD and ADHD co-morbid with CD or Oppositional defiant disorder), and the parent completing the child behavior checklist (CBCL). The major finding where 69.6% were diagnosed with ADHD and 30.4% diagnosed with ADHD co-morbid with oppositional defiant disorder and conduct disorder. Also there were no differences between the two groups in respect to age, intelligence, characteristics of neonatal period, age of walking and speech.

Pardini et al (2006) studied the interpersonal callousness hyperactivity/impulsivity, inattention, and conduct problems as precursors to delinquency persistence in boys. Boys who exhibit interpersonal callousness (IC) hyperactivity/impulsivity (HI), inattention (IN), and conduct problems (CP) may be at risk for exhibiting persistent delinquent behavior. However, few studies have established the distinctiveness of these constructs or examined their relative contributions to the prediction of delinquent behavior across different developmental periods. This study explores these issues using boys from the youngest (1st grade, N = 849), middle (4th grade, N = 868), and oldest (7th grade, N = 856) cohorts of the Pittsburgh Youth Study. Confirmatory factor analysis indicates that the 4 constructs are related, yet independent, from childhood to adolescence. After controlling for the overlap among the constructs, CP significantly predicted delinquency persistence in the youngest cohort, whereas CP and IN predicted delinquency persistence in the middle cohort. IC uniquely predicted delinquency persistence for the oldest cohort. The results suggest that the saliency of specific predictors of delinquent behavior may change from childhood to adolescence.

Cukrowicz et al (2006) in his study aimed to examine the differences in personality profiles between children who differed in their co-morbidity of externalizing disorders: attention-deficit/hyperactivity disorder (ADHD) and conduct disorder (CD). The sample consisted of 11- and 17-year-old male and female twins from a community sample were categorized as ADHD only, CD only, co-morbid CD-ADHD, and controls (no ADHD or CD) based on threshold and subthreshold CD and ADHD diagnoses assessed with structured interviews. Multivariate analyses were used to identify patterns of personality that differentiate these four diagnostic groups. It was hypothesized that significant differences would be found in the pattern of personality variables between participants in the co-morbid group, compared to the other three groups, and that these differences would hold across developmental periods. The results show, the co-morbid group had a pattern of personality marked by higher negative emotionality and lower constraint than the other diagnostic groups. This pattern was evidenced across gender and age cohort.

Ickowicz et al (2006) studied the properties of a semistructured research interview of parents designed to evaluate attention-deficit hyperactivity disorder (ADHD) and related psychopathology. The study examined interrater reliability in 48-videotaped interviews randomly selected from a large clinic sample. The study examined convergence of the Parent Interview for Child Symptoms (PICS) and Cormers' Parent Rating Scale (CPRS) scores in 594 clinic-referred cases and 26 control subjects, comparing the groups generated by cross-tabulation on measures of intelligence, academic achievement, and inhibitory control. The results showed interclass correlation coefficients for symptom scores of ADHD, oppositional defiant disorder (ODD), and conduct disorder (CD) were excellent. The researcher found good reliability for diagnoses of ADHD (e = 0.73) and CD (K = 0.73) and excellent reliability for the diagnosis of ODD (K = 0.80). Two-thirds of cases were classified similarly on the PICS and the CPRS. Greater impairment in inhibitory control was observed in cases identified as ADHD by the PICS, compared with those identified by the CPRS-ADHD index.

Chronis (2007) studied the relationship between maternal depression, early positive parenting and future conduct problems in young children with Attention-Deficit hyperactivity disorder, children with attention-deficit/hyperactivity disorder (ADHD) are at risk for adverse outcomes such as substance abuse and criminality, particularly if they develop conduct problems. Little is known about early predictors of the developmental course of conduct problems among children with ADHD; however, parental psychopathology and parenting were assessed in 108 children who first met diagnostic and statistical manual of mental

disorders (4th ed.) criteria for ADHD at 4-7 years old. When demographic variables and baseline ADHD and conduct problems were controlled, maternal depression predicted conduct problems 2-8 years following the initial assessment, whereas positive parenting during the structured parent- child interaction task predicted fewer future conduct problems. These findings suggest that maternal depression is a risk factor, whereas early positive parenting is a protective factor, for the developmental course of conduct problems among children with ADHD.

Hurtig et al (2007) aimed to examine the co-morbidity of ADHD in association with family environment and the severity of ADHD. A screening for ADHD symptoms was conducted among sample of (457 adolescents), aged 16–18 years, with and without ADHD symptoms was assessed with a diagnostic interview (Kiddie-SADS-PL) and ADHD and co-morbid disorders were studied in association with the family characteristics and the number of ADHD symptoms. The study found that adolescents with ADHD had more commonly conduct disorder, oppositional defiant disorder, substance abuse and mild depression than adolescents without ADHD. Adolescents with ADHD and comorbid disorders had more ADHD symptoms than those with ADHD alone. Compared to adolescents with ADHD alone those with ADHD and comorbidity lived significantly more commonly in non-intact families, in low-income families, with mothers who were dissatisfied with life and with parents who showed little interest in their adolescents' activities.

2.6 Emotional and behavior problems with ADHD and conduct disorder studies

The behavioural problems like ADHD, CD are associated with significant morbidity in the areas of social functioning, academic performance and self-esteem. Children with such problems are unable to behave appropriately or function in social or group setting ,unable to infer emotion or intent from facial expressions or vocal clues ,unpopular with peers and have difficulty in establishing and maintaining or enduring

relationships. These children are also more likely to sustain sever injures if their problems are untreated and are at a higher risk for developing anxiety and /or mood disorders (beiderman et al, 1991).

Ronald et al. (1991) examined the effects of methylphenidate on hospitalized conduct-disordered adolescents by using teacher ratings of behavior, a measure of classroom learning, and a test of impulsivity. Twenty-two male adolescents with CD, 12 to 18 years of age, participated in a double-blind, placebo-controlled, crossover design in which each one received three doses of methylphenidate (10 mg, 15 mg, and 20 mg) and a placebo in a randomly assigned, counterbalanced order. Seven of the subjects had a co morbid diagnosis of attention deficit hyperactivity disorder (ADHD).Significant overall medication effects were shown on teacher ratings of conduct and on number of arithmetic questions correctly completed and time spent. Within the limitations of this study, stimulant actions may be effective for some aspects of CD in the absence of ADHD, although only for specific measures.

Cohen et al. (1998) examined characteristics of social cognitive processing, psychiatric disorder, and behavioral ratings of 380 children aged 7 to 14 years who had been referred consecutively for child psychiatric services with identified and unsuspected language impairments and with normally developing language. The results indicated that children with language impairments generally exhibited greater deficits in social cognitive processing, and particularly emotion decoding and social problem solving, than children who have language that is developing normally. Differences in psychiatric diagnosis and behavior problems were observed only between children with previously identified language impairments and children with normally developing language; children with previously identified language impairments were more likely to be diagnosed as having Attention Deficit Hyperactivity Disorder (ADHD) and to be rated by both parents and teachers as having more severe attention problems. In addition, teachers rated them as more socially withdrawn. The results suggest that it is important to incorporate measures of

both social cognition and language functioning routinely into clinical assessment, something that currently is rarely done.

Kitchens (1999) Studies the differences in anger, aggression, depression, and anxiety between ADHD and Non-ADHD. The data collected from ADHD and Non-ADHD children and their mothers and teachers. Analysis of the self-report data indicated that the ADHD children were significantly more angry and depressed than the Non-ADHD children. In addition, mothers reported that ADHD children were significantly more aggressive and depressed than Non-ADHD children. Further examination of the mothers' report data showed a multivariate effect approaching statistical significance ($p < .06$) for the interaction between ADHD-group and gender. Analyses of the interaction indicated that ADHD males were significantly more depressed than Non-ADHD males and Non-ADHD females. The teacher-report data did not reveal any statistically significant differences between groups. However, the differences between the ADHD and Non-ADHD groups approached significance ($p < .06$) and further analysis revealed that teachers perceived ADHD children as more depressed and anxious than Non-ADHD children.

Miller et al (1999) studied the motional and behavioural problems and trauma exposure of school-age Palestinian children in Gaza. An international research team was established to design and implement a community-based, cross-section epidemiological survey of 669 school-age Palestinian children and their families living in the Gaza Strip. Several psychometric instruments were utilized for measuring mental health outcomes, including the Ontario Child Health Scale (OCHS) for measuring childhood emotional and behavioral problems, and the Child Post-traumatic Stress Reaction Index (CPTSRI) to measure post-traumatic stress disorder (PTSD). Lifetime trauma exposure was assessed by using the Health Reach Modified War Questionnaire. It was found that children and adolescents from age six to 16 have high prevalence rates of conduct, attention deficit-hyperactivity disorders and PTSD. These rates are higher than those reported internationally on children in non-conflict areas. A significant correlation was found between higher rates of lifetime trauma exposure, by frequency and type, and higher prevalence rates of mental health problems.

Abdel –Fattah et al (2004) studied the prevalence rate of emotional and/or behavioral problems among male Saudi school- children and identifying their possible risk factors. The study sample consisted of all male schoolchildren of Al-Abnae schools specialized for the sons of the employees of the Saudi Ministry of Defense (military and civilians) in Taif Governorate, Saudi Arabia were included. This study was conducted

through two phases: A screening phase for all schoolchildren and adolescents included in the study through a cross sectional approach to assess their emotional and behavioral problems. A case-control phase to study risk factors. The screening phase was conducted using the Child Behavior Checklist "Parents' form. The major findings show that among 1313 participated in the study, 109 (8.3%) were emotionally and/or behaviorally disturbed students (according to cut-off score for boys estimated at the 90 percentiles). among studied socio-demographic variables, educational level (intermediate versus primary) and mother occupation (working versus non-working) were associated with a higher risk of developing emotional and/or behavioral disturbance.

Arnold et al (2005) in a study aimed to understudy the transition period from mild to late adolescent specifically the poor single word reading and its co-morbidity with ADHD and other behavioral and emotional problems. The study consisted of 188 adolescent were screened at age 15 at grade 10^{th} classes (86 girls and 106 boys). To assess severity of behavioral, emotional, and attention problems, participants and their parents completed several self-report questionnaires; Youth Self-Report Inventory (YSR), Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), Child Behavior Checklist (CBCL). The findings of this longitudinal study highlight the greater internalizing behaviors, externalizing behaviors, and inattention among youth with poor reading ability relative to their peers with typical reading ability during the period of mid- to late adolescence. Furthermore, the findings regarding internalizing symptoms were consistent with the hypotheses that youth with poor reading would report higher rates of both depression and anxiety than those with typical reading. No differences in anxiety and depression among poor and typical reading adolescents were described by parents.

Ercan et al (2005) in a study examine the contribution of Age of Onset Criterion (AOC) to the diagnosis of attention deficit hyperactivity disorder (ADHD) and disruptive behavior disorder. For this purpose, a 10-item Likert -type Parent Assessment of Pre-school Behavior Scale (PARPS), developed by the experimenters, was used to examine the presence of ADHD related pre-school behaviors in a sample of 246 children. Factor analysis and co relational analysis imply the continuity of ADHD and disruptive behavior disorder from pre-school to the elementary school years. Discriminant analysis was used to examine the diagnostic capabilities of PARPS, both by itself, and in conjunction with a battery of widely used diagnostic and clinical ADHD and

disruptive behavior scales. The results of this study suggest that PARPS is a short and user-friendly scale that can contribute to the examination of the presence of AOC in ADHD and disruptive behavior disorder.

Thabet et al (2006) studied the prevalence of PTSD and ADHD among Palestinian children in Gaza strip and west bank. The study aimed to identify the prevalence of trauma, PTSD, and ADHD in children living in area of war conflict in Gaza and West Bank and the relationship between trauma, ADHD, and PTSD. The sample consisted of 200 children from 15 UNRWA schools, and 150 children from 8 schools from Bethlehem and east Jerusalem (a random sample). The age of the children ranged between 6-15 years and 6-13 years from Gaza. The children asked to fill the Gaza traumatic events checklist, impact of event scale, while parents and teachers filled the structured clinical interview of mothers and fathers for DSM-IV diagnosis of ADHD. The findings show that the mean of traumatic experiences in Gaza 5.1 and in West Bank 7.5. 39.2% of children from Gaza reported PTSD compared to 34% in the West bank. According to the parents 8.4% from Gaza children fulfilled the full criteria of ADHD combined type compared to 2.7% from West bank; but according to the teachers 5.2% from the Gaza children fulfilled the criteria of ADHD compared to 3.3% from West Bank.

Yagon (2007) studied the socio-emotional and behavioral adjustment among school-age children with learning disabilities. The study examined the role of maternal personal resources (mother's attachment style, coping strategies, and affect) in moderating the effects of learning disabilities (LD) on children's socio-emotional and behavioral adjustment (self-rated sense of coherence, loneliness, and hope; and mother-rated child behavior checklist measures), as well as on their secure attachment among school-age children with LD. The sample consisted of 110 mother–child dyads: 59 mothers and their children with LD (29 boys, 30 girls) and 51 mothers and their typically developing children (21 boys, 30 girls) from the same schools. The findings indicated significant group differences on all children's measures and in several of the maternal personal resources. Mothers' low use of avoidant coping strategies and less avoidance in close relationships with significant others were found to moderate the effect of children's disabilities on children's level of loneliness, feelings of hope, and secure attachment. Results are discussed in terms of understanding these maternal personal resources' influences on socio-emotional well-being among school-age children with LD.

2.7 Conclusion of the previous studies

From the description of the above studies that examine the study variable as the importance of studying the behavioral problems in children and the importance of this target group in society, we see that there was lack of previous studies in the Palestinian society that deal with this group of children.

In addition, the major concerns of the studies meet this study from different ways as CD and its relation with some variables, and ADHD and its relationship with some variables.

The literature review that focus in children, its study the CD, ADHD and its relation with some socio-demographic variables as age, gender, place of residence ,parent education ,sociodemographic situation ,education level for child, and also its relation with other variables as mother age at first pregnancy ,mother wok satisfaction ,mother personality ,security situation . The studies results differ in the sociodemographic effect on prevalence of behavioral problem in children.

Also, differ in the research methodology as the instrument, statistical analysis, so the researcher takes its advantage in this study.

About the samples it differ in the size according to the size of population in the native country ,and also the age of the target group , childhood and adolescence are the major .so the elementary school children in southern Gaza governorates were our target group to study the behavioral problem and its relation with socio demographic variables . so the researcher takes advantage of the methodology used in the previous literature studies

Chapter Three

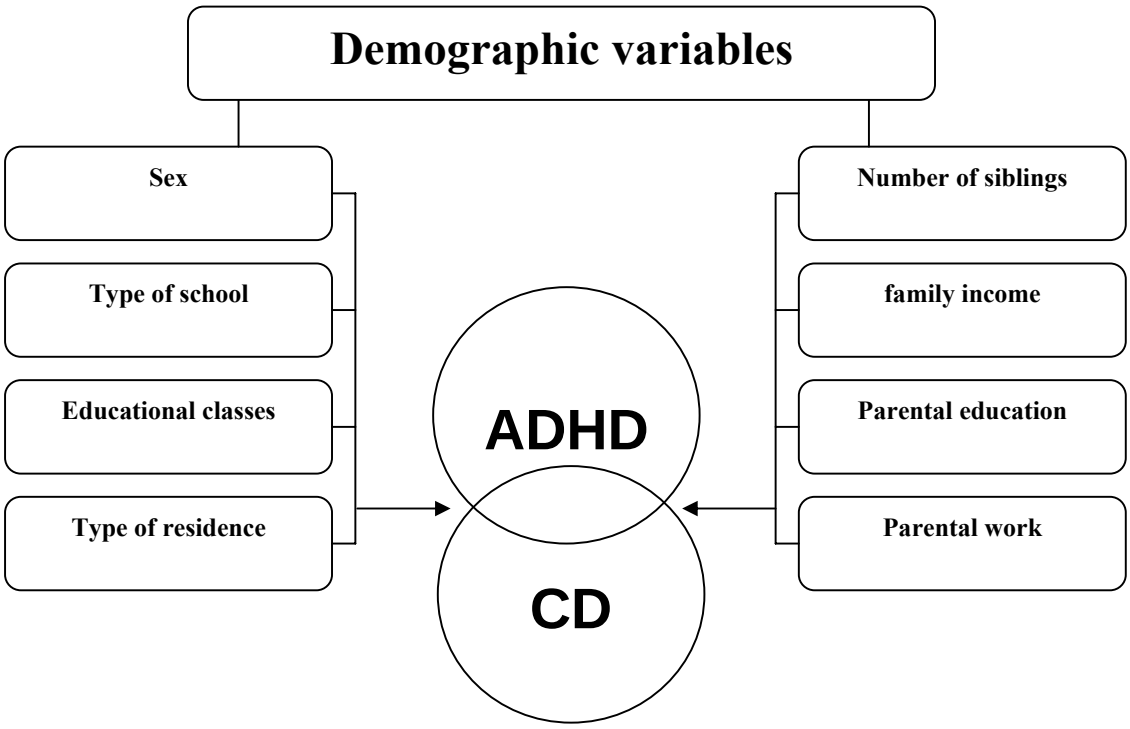
Theoretical Framework

Chapter Three

Theoretical Framework

In this chapter, the researcher will view the theoretical framework of this study in two main axis's; the first is about the Attention Deficit Hyperactivity Disorder "ADHD", and the second is about conduct disorder "CD" among the children:

The following diagram shows variables studied in the theoretical framework



3.1 Attention Deficit Hyperactivity Disorder "ADHD":

ADHD is a family of chronic neurobiological disorders that interfere with an individual's capacity to regulate activity level (hyperactivity), inhibit behavior (impulsivity), and attend to tasks (inattention) in developmentally appropriate ways (NIMH, 2000). The core symptoms of ADHD are difficulty sustaining attention to tasks, developmentally inappropriate levels of activity, distractibility, and impulsivity. Diagnostic criteria and identification of ADHD in children have evolved over time based on professional consensus and evolving research (Fine & Kotkin, 2003).

ADHD stands for Attention Deficit Hyperactivity Disorder. It is normally used to describe children who have three main kinds of problems (Mental Health Foundation, 2000):

• overactive behavior (hyperactivity).

• impulsive behavior.

• difficulty in paying attention.

ADHD is a heterogeneous neuropsychiatric behavioral disorder characterized by inattention, hyperactivity, and impulsivity of varying severity. ADHD by definition begins in childhood and frequently leads to profound academic and social impairments across multiple settings (Barkley, 1998). In fact, the disorder is the most common cause for referral of children to mental health and primary care providers alike and is among the most prevalent chronic health conditions affecting school-aged children (Haas, 2004).

Some children have significant problems in concentration and attention, but are not necessarily overactive or impulsive. These children are sometimes described as having Attention Deficit Disorder (ADD) rather than ADHD (Mental Health Foundation, 2000).

Attention Deficit Disorder "ADD" is just a lack of willpower. Persons with ADD focus well on things that interest them; they could focus on any other tasks if they really wanted to. ADD looks very much like a willpower problem, but it isn't. It's essentially a chemical problem in the management systems of the brain. Most individuals who suffer chronically from an impaired ability to pay attention are able to focus their attention very well on activities that interest them. So why can't they pay attention during other activities that they recognize as important? To answer this riddle, we have to look more carefully at the many aspects of attention, recognizing that processes of attention in the human brain are more complex and subtle than we might have imagined. One way to understand the complexity of attention is to listen carefully to patients with ADHD as they describe their struggles with inattention (Brown, 2005).

DSM-IV use the term ADHD with three subtypes. ADHD may be diagnosed as a predominantly inattentive type, a predominantly hyperactive and impulsive type, or a combined type. Currently, DSMIV diagnostic criteria for ADHD (American Psychiatric Association, 1994) require the demonstration of at least six symptoms of either inattention or hyperactivity–impulsivity that were present before age 7 years, have persisted for at least 6 months, and manifested in two or more settings (Fine & Kotkin, 2003).

Like many chronic medical disorders, ADHD affects not only patients, but also their families, often in a deleterious way. The families of children with ADHD experience more stress, feelings of parental incompetence, marital discord, marital disruption, and social isolation than do controls. researchers have also documented an association with higher levels of parental alcohol consumption and parental psychological distress and depression (Haas, 2004).

3.1.1 Prevalence of ADHA

The prevalence of ADHD among Omani students was 5%, a rate that is lower than what is observed in many Western samples (Al-Sharbati et al, 2003). Abu Hwaashel (2004) find that the prevalence rate of ADHD among children aged (7- 12) in Gaza strip were 15%.

Attention-Deficit Hyperactivity Disorder (ADHD) (American Psychiatric Association, 1994) is a seemingly heterogeneous group of behavioral disorders affecting between 2% and 12% of grade school children.

The finding of (Bener et al., 2006) showed that (14.1% of boys) and (4.4% of girls) scored above the cutoff for ADHD symptoms, thus giving an overall prevalence of 9.4%.

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that becomes apparent in some children in the preschool and early school years. It is hard for these children to control their behavior and/or pay attention. It is estimated that between 3 and 5 % of children have ADHD, or approximately 2 million children in the United States. This means that in a classroom of 25 to 30 children, it is likely that at least one will have ADHD (Barkley, 2007).

This gender referral basis may reflect a predominance of inattentive, cognitive, and executive functioning symptoms in girls, as compared with the concomitant disruptive, aggressive, and impulsive behaviors frequently seen in boys. With publication of the APA's Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV), more females have been diagnosed with the predominantly inattentive subtype of ADHD. One study observed that, among children rated by teachers as meeting criteria for ADHD of any subtype, fewer girls than boys are diagnosed or treated with stimulants (Haas, 2004).

It is difficult to say exactly how many children worldwide have ADHD because different countries have used different ways of diagnosing it. In the UK, diagnosis is based on quite a narrow set of symptoms, and about 0.5 - 1% of children are thought to have attention or hyperactivity problems. In comparison, until recently,

professionals in the USA used a much broader definition of the term ADHD. As a result, up to 10% of children in the USA were described as having ADHD. Current estimates suggest that ADHD is present throughout the world in about 1-5% of the population (Mental Health Foundation, 2000).

3.1.2 Symptoms of ADHD

The principal characteristics of ADHD are and impulsivity, hyperactivity and inattention. Symptoms of ADHD will appear over the course of many months, often with the symptoms of impulsiveness and hyperactivity preceding those of inattention, which may not emerge for a year or more. Different symptoms may appear in different settings, depending on the demands the situation may pose for tje child self-control. A child who "can't sit still" oò is otherwise disruptive will be noticeable in school, but the inattentive daydreamer may bå overlooked. The impulsive child who acts before thinking may be considered just a "discipline problem," while the child who is passive or sluggésh may be viewed as merely unmotivated. Yet both may have different types of ADHD. All children are sometimes restless, sometimes act without thinking, and sometimes daydream the time away. When the child's hyperactivity, distractibility, poor concentration, or impulsivity begin to affect performance in school, social relationships with other children, or behavior at home, ADHD may be suspected. But because the symptoms vary so much across settings, ADHD is not easy to diagnose. This is especially true when inattentiveness is the primary symptoms (Barkley, 2007).

According to the most recent version of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000), there are three patterns of behavior that indicate ADHD. People with ADHD may show several signs of being consistently inattentive. They may have a pattern of being hyperactive and impulsive far more than others of their age. Or they may show all three types of behavior. This means that there are three subtypes of ADHD. These are the predominantly hyperactive-impulsive type (that does not show significant inattention); the predominantly inattentive type (that does not show significant hyperactive-impulsive behavior) sometimes called ADD—an outdated term for this entire disorder; and the combined type (that displays both inattentive and hyperactive-impulsive symptoms).

1. Overactive behavior (hyperactivity)

Hyperactive children always seem to be "on the go" or constantly in motion. They dash around touching or playing with whatever is in sight, or talk incessantly. Sitting still at dinner or during a school lesson or story can be a difficult task. They squirm and fidget in their seats or roam around the room. Or they may wiggle their feet, touch everything, or noisily tap their pencil. Hyperactive teenagers or adults may feel internally restless. They often report needing to stay busy and may try to do several things at once (American Psychiatric Association, 2000a).

One mother described the first years of her son's life as follows: "The day always began from the moment he was awake with his exhausting and insatiable demands. No one was prepared to baby sit because he was so exhausting and a liability. It was impossible to enjoy him and no fun to take him anywhere. His energy levels were incredible. As parents we wondered where we were going wrong."

If you have a child with less severe problems, overactive behavior may only cause major difficulties when she or he goes to school. For example, a child who races around the classroom, unable to sit still, interfering with other children's activities, will probably not be very popular with other children, and may be seen as naughty or unwilling to learn (Mental Health Foundation, 2000)

2. Impulsive behavior

Impulsive children seem unable to curb their immediate reactions or think before they act. They will often blurt out inappropriate comments, display their emotions without restraint, and act without regard for the later consequences of their conduct. Their impulsivity may make it hard for them to wait for things they want or to take their turn in games. They may grab a toy from another child or hit when they're upset. Even as teenagers or adults, they may impulsively choose to do things that have an immediate but small payoff rather than engage in activities that may take more effort yet provide much greater but delayed rewards (American Psychiatric Association, 2000a).

Being impulsive means acting without thinking about the consequences. Children with ADHD may be impulsive in many ways, such as saying or doing the first thing that occurs to them. They are also easily distracted by irrelevant things. These children find it very hard to carry out tasks which involve waiting, since

they have great difficulty stopping themselves from responding straightaway. They will find it hard to do any activity which involves waiting to give an answer, or in which they have to take turns.

Sometimes impulsive children find it easier to wait if they are given a reward for waiting, or some other kind of motivation. This does not mean that they have been deliberately impulsive. It just means that they find this kind of task particularly hard to handle and need extra encouragement to succeed (Mental Health Foundation, 2000), (Fine & Kotkin, 2003).

3. Attention problems (inattention)

Children with ADHD have a short attention span. They find it hard to concentrate and therefore hard to learn new skills, both academic and practical. Research from the USA suggests that 90% of children with ADHD underachieve at school and 20% have reading difficulties (Mental Health Foundation, 2000).

Children who are inattentive have a hard time keeping their minds on any one thing and may get bored with a task after only a few minutes. If they are doing something they really enjoy, they have no trouble paying attention. But focusing deliberate, conscious attention to organizing and completing a task or learning something new is difficult (American Psychiatric Association, 2000a).

4. Social problems

Children with severe ADHD may be rejected or disliked by other children, because they disrupt their play or damage their possessions. It is easy for a child with ADHD to become labeled as troublesome, or for parents to think it is their fault for not controlling their child. One mother noted that her six year-old son " ..gets picked on by children and adults because he is always being told off by people - other children blame him for things he didn't do." (Mental Health Foundation, 2000) (see annex 1, which view DSM-IV Criteria for ADHD (American Psychiatric Association, 1994).

3.1.3 Diagnosis of ADHD

The diagnosis of ADHD is a clinical one based on a comprehensive medical and psychosocial history in addition to current observations of the patient's behavior across multiple settings. School, home, and social interactions are typically the main areas of concern. Symptoms and functional impairment must begin early in life, persist over time, and be present in more than one domain of the patient's life; that is, ADHD cannot be diagnosed if the patient's problems are limited to the home environment, while functioning and development in academic and social situations are normal. No laboratory blood test, neuropsychological test, or imaging study alone can definitively make or rule out the diagnosis (Haas, 2004).

The diagnosis of ADHD seems all too easy when we consider the core symptoms of hyperactivity, impulsivity, and inattention. Most children exhibit these core symptoms at one time or another. Very young children are likely to exhibit the majority of the behavioral symptoms in a preschool or home setting. Some children may not exhibit any of the symptoms in a one-on-one situation such as in a therapist's or physician's office, but show extreme symptoms in a classroom or family function. They may show symptoms during some activities at school and not during others (Fine & Kotkin, 2003).

This variability in performance may result in conflicting diagnosis and a resultant mistrust of professionals. When diagnosis is based on observations in only one setting or with only one assessment tool, other disorders may be labeled ADHD erroneously or the diagnosis of ADHD may be missed completely. Comorbidity further complicates the process of a differential diagnosis of ADHD. Conduct disorder coexist with ADHD in 35% of cases. ADHD and mood disorders/depression coexist in 18% of children (American Academy of Pediatrics, 2000).

ADHD and anxiety have been estimated to coexist in 25% of cases (American Academy of Pediatrics, 2000). Diagnosis of ADHD must include a multifaceted assessment to rule out other explanations for inattention or to identify coexisting disorders. The fact that many of these disorders may coexist with ADHD makes differential diagnosis even more complex (Fine & Kotkin, 2003).

Because they are overactive and impulsive, children with ADHD often find it difficult to fit in at school. They may also have problems getting on with other children. These difficulties can continue as they grow up, particularly if children and families do not get the help they need (Mental Health Foundation, 2000).

ADHD is an externalizing disorder; it is one of the most prevalent disorders of childhood (Wells et al., 2000). Children with ADHD comprise one-third to one-half of all referrals to child mental health facilities (Popper, 1998). It is classified as an externalizing disorder because of the impact it has on others in the child's environment. For example, a child with ADHD who is impulsive and disruptive affects the harmony in a classroom. Students in the child's classroom may avoid being associated with the child with ADHD because the child is disruptive and often in trouble. Children with ADHD often have poor social skills and their peers actively reject them (Asarnov, 1988; Erhardt & Hinshaw, 1994). Many children with ADHD have no friends. They have no awareness of why others avoid them and are frustrated by the reactions of others (Fine & Kotkin, 2003).

Diagnosis of ADHD can be quite difficult because:

• There is no test for ADHD; we cannot take a blood sample or an X-ray to make a firm diagnosis.

• All children have some problems with self-control and it can be hard to decide where to draw the line and give a diagnosis of ADHD.

• Other problems can result in behavior similar to ADHD, for example language or hearing difficulties, dyslexia, major disruptions in a child's life. Over half of the children with ADHD will have other areas of difficulty, such as these,

in addition to ADHD (Mental Health Foundation, 2000).

3.1.4 Measuring ADHD

3.1.4.1. Parent and Teacher Rating Scales:

It is especially important to attend to the relationship between the child and his or her parents and teachers. Children with ADHD are consistently more negative, off task, and less compliant than normal children; as a result, parents of children with ADHD frequently are more harsh, negative, and avoiding of their children, beginning in preschool and worsening in adolescence with the development of conduct problems. In fact, patients often present for mental health services when these problems begin to generalize outside the family to school and peer settings. Thus, it is essential to obtain systematic information from parents or main adult caregivers and from the child's schoolteachers (Haas, 2004).

Norm-based rating scales offer the most efficient way to collect information about both internalizing and externalizing behavioral disturbances at home and school (American Psychiatric Association, 2000). These instruments generally demonstrate high reliability and validity and effectively discriminate between well-diagnosed ADHD and other disorders. In contrast to disruptive behavior symptoms, parents and teachers often do not recognize internalizing symptoms of anxiety and depression. Because identification of these commonly comorbid disorders is important for both diagnosis and successful treatment planning, it is important to assess for them when evaluating a child for ADHD (Haas, 2004).

3.1.5 Causes of ADHD

3.1.5.1. Inherited causes

We know that genetic (inherited) factors are important in ADHD. We don't know which genes are the most important but research is being undertaken to find this out. However it is clear that the environment plays a part as well. If your child has a close relative who has been diagnosed with ADHD, this increases their chance of being diagnosed with ADHD. But it does not mean that ADHD is inevitable. No single gene has been identified as causing ADHD, and it is more likely that several genes are involved, each interacting with the environment in extremely complicated ways (Mental Health Foundation, 2000).

3.1.5.2. Damage of the brain

Most children with ADHD have no history of brain injury or damage to the brain. However, studies using brain scanning techniques found that children with severe symptoms of ADHD had lower activity than normal in the frontal lobes of the brain. This part of the brain is involved in planning activity and controlling impulses. Another part of the brain which seems to be important in understanding ADHD is the area called the caudate nucleus, which is involved in controlling movements and sustaining attention. These parts of the brain seem to be very slightly smaller in children with severe ADHD. This is helping researchers to find out the nature of the problem - but it is not yet a reliable way of diagnosing individual children. Children with head injury, epilepsy, or brain infections may show attention problems similar to those seen in children diagnosed with ADHD (Mental Health Foundation, 2000).

3.1.5.3. Environmental and Cultural factors

Parents may worry that their own behavior or their child's upbringing is responsible for their child's problems. There is no evidence that the way parents behave can actually cause

a child to develop ADHD. As explained above, behavior problems are usually due to a complex mix of inherited risk and life experiences. However parents can be taught effective strategies to help their children with ADHD.

Giving future parents advice about health and nutrition may be helpful. For example heavy smoking and heavy drinking during pregnancy increase the risk of having a child with ADHD, although it is not possible to say that these factors directly cause ADHD. Pregnant women who drink excessively at certain critical points during pregnancy are more at risk of having a child with alcohol syndrome. This is a serious disorder causing mental and physical disabilities, including symptoms of ADHD. Brain damage during birth, caused by a lack of oxygen to the baby's brain, is also a risk factor for ADHD (Mental Health Foundation, 2000).

The child with ADHD who is exposed to repeated environmental stressors becomes more susceptible to adolescent Oppositional Defiant Disorder, Conduct Disorder, Antisocial Behaviors, and Major Depression (Barkley, 2003). Environmental stressors include frequent moves, particularly those that involve changing schools and/or separation from positive peer groups, life events such as parental divorce, and chronic stressors such as high levels of parental anger or conflict (Gullotta et al., 2005).

As the twin and quantitative genetic studies have suggested, unique environmental events may play some role in individual differences in symptoms of ADHD. These include pre-, peri-, and post-natal complications, and malnutrition, diseases, trauma, toxin exposure, and other neurologically compromising events that may occur during the development of the nervous system before and after birth. Among these various biologically compromising events, several have been repeatedly linked to risks for inattention and hyperactive behavior (Barkley, 2007)

Children from all cultures and social groups are diagnosed with ADHD. However, children from certain backgrounds may be particularly likely to be diagnosed with ADHD, because of different expectations about how they should behave. If you are a parent, it is therefore important to ensure that your child's cultural background is understood and taken into account as part of the assessment (Mental Health Foundation, 2000). In addition, there was no association of ADHD with parental education or maternal age at the time of delivery (Bhatia et. al., 1999).

Al shakhss (1985) found that the prevalence of ADHD increased in urban areas in comparison with rural areas and there was significant relationship between the disabled children in comparison with normal one.

Al-Sharbati et al. (2003) were discuss the importance of socio-cultural versus ecological factors that might play a role in the expression of hyperactivity and speculate about the gender related issues concerning ADHD in an Arab/Islamic country.

Other types of environmental toxins found to have some relationship to inattention and hyperactivity are prenatal exposure to alcohol and tobacco smoke. (Milberger et. Al., 1996). It has also been shown that parents of children with ADHD do consume more alcohol and smoke more tobacco than control groups even when not pregnant (Barkley, 2007).

Adolescents who develop externalizing disorders co-morbid to ADHD seem to suffer from a severe form of ADHD and live in family environments that may not provide sufficient support for optimal development of an adolescent with ADHD (Hurtig et al., 2007).

3.1.6 Treatments for ADHD

Six different university medical centers and hospitals were brought together to evaluate the leading treatments for ADHD. These treatments included various forms of behavior modification and medications. The study included approximately 600 elementary school children assigned randomly to one of four treatment modes: (1) medication alone, (2) psychosocial/ behavioral treatment alone, (3) a combination of both, or (4) routine community care. Medication consisted of a double-blind placebo controlled evaluation of low to high doses of methylphenidate (Ritalin) (Fine & Kotkin, 2003).

If the child had a favorable response to Ritalin, he was put on maintenance with monthly visits for medication evaluation/adjustments. If he did not have a favorable response to Ritalin, he was put on an open trial of other medications used in clinical practice (amphetamine, pemoline, imipramine, buproprion, etc.) (Wells et al., 2000).

3.1.6.1. Psychosocial Treatment

Psychosocial interventions are an essential component of treatment for the majority of children with the disorder. For example, psychosocial treatments may be the only treatment available for ADHD children who do not respond to treatment with stimulants, for children who experience intolerable side effects, or for children whose parents refuse informed consent for the use of medication (Haas, 2004).

3.1.6.2. Parent Training "PT"

Parent of a child with ADHD have a very important role to play in helping child to gain control over their behavior (Mental Health Foundation, 2000).

The psychosocial/behavioral treatment consisted of parent training, school intervention and a summer treatment program, (Wells et al., 2000). In Parent Training PT for ADHD, parents are taught a specific set of behavior management skills geared toward the behavioral excesses and deficits displayed by their children. Common targets in PT programs for ADHD include improving the general family emotional climate, parent skills for noting and positively reinforcing children's prosocial behavior, and parent skills for confronting disruptive behavior with effective antecedents and consequences. For example, parents are taught skills (Haas, 2004) such as (a) spending structured, positive time with their children; (b) consistently attending to compliance, also known as catch your child being good, and applying immediate re-inforcers and verbal compliments on these occasions; (c) teaching their children to engage in independent, on-task behavior; (d) giving effective instructions and establishing developmentally appropriate rules and expectations with their children; and (e) applying very specific, predetermined consequences to negative child behaviors:

Common child behavior targets for children with ADHD are (a) noncompliance to parental instructions and other oppositional behavior; (b) aggression in the home with family members, relatives, and guests; (c) impulsive, disruptive behaviors within the family; and (d) inability to engage in independent behavior while the parent is busy. Because youngsters with ADHD frequently present management problems outside the home, parents are also taught to design and implement behavior management programs for use on outings such as shopping, dining out, church, or visiting friends and relatives. Consistent application of rewards and consequences gradually shapes the patient's behavior. Innovative PT programs for ADHD have included stress management for parents as well as training parents to become advocates for their child in the school system (Haas, 2004),(Mental Health Foundation, 2000).

3.1.6.3. School Interventions

A major aspect of the psychosocial treatment of ADHD is the use of behavior management strategies in the classroom. Many school personnel are familiar with the principles that are involved owing to the large number of children diagnosed with ADHD (Haas, 2004).

Teachers need to learn behavior modification for the general education classroom to support the child with ADHD in addressing symptoms of ADHD in the classroom. Difficulty completing tasks, following directions and rules, staying seated, raising their hand and waiting to be called on, getting along with peers and adults, and transitioning to the next activity by cleaning up and getting out required materials are skills that need to be taught and reinforced for children with ADHD. In addition, homework and completing long-term projects are skills that require systematic planning and feedback if the child with ADHD is to be successful in school (Fine & Kotkin, 2003).

A key facet of school-based interventions for ADHD is the continuity between the classroom and the home. The child is taught that compliant school behaviors will benefit him or her at home. A DRC system ties the family and school together in a cooperative effort. Teachers write a brief report or award a sticker at the end of the day (e.g., smiling face vs. frowning face; green light vs. red light). The first criterion the child must fulfill to receive a daily reward (e.g., video game, television, or computer time) is successful home delivery of the DRC. Parents then deliver backup rewards and consequences at home. Importantly, a bad day or failure to bring home the DRC on one day has no effect on the child's opportunity to earn privileges on the next. If the child has received positive DRCs on a pre-specified number of days, a larger backup reward may be earned on the weekend. Eventually, the system is gradually rescinded when compliant behavior has become habitual. The key is constructing the system so that the locus of control lies within the child; inevitably, the child will act in his or her best interests (Haas, 2004).

The problem lies in how to provide the necessary training for teachers to feel confident and competent in intervening with children with ADHD in their classroom. A 1-day in-service course on strategies for working with ADHD is insufficient to train teachers in the necessary competencies of behavior modification. Innovative delivery systems need to be developed and implemented to allow teachers to gain the skills on the job (Fine & Kotkin, 2003).

It is important for parents and schools to work closely together in deciding how best to help a child with ADHD. If you are a parent or carer of a child with ADHD you might find it useful to discuss some of the material in this booklet with your child's teacher (Mental Health Foundation, 2000).

Classroom strategies; There are many ways in which teachers can organize their classroom, lessons and behavior in order to help children with ADHD. Some examples (Mental Health Foundation, 2000).

- Arrange the classroom to minimize distractions, for example seating pupils with ADHD away from windows, avoiding the use of tables with groups of pupils.
- Include a variety of activities during each lesson, alternating physical and sitting-down activities.
- Set short, achievable targets and give immediate rewards when the child completes the task.
- Use large type, and provide only one or two activities per page. Avoid illustrations which are not directly relevant to the task.
- Choose the child with ADHD to write ideas or words on the board etc.
- Use checklists for each subject, outlining the tasks to be completed, and individual homework assignment charts.
- Keep classroom rules clear and simple.
- Encourage the pupil to verbalize what needs to be done - first to the teacher and then silently to themselves.
- Use teacher attention and praise to reward positive behavior.
- Give the pupil special responsibilities, so that other children can see them in a positive light.

3.1.6.4. Intervention with the Child

Individual psychotherapy with ADHD children is often of limited utility, but may be required if comorbid mood, anxiety, or substance abuse disorders are present. For some children, individual work focusing on themes of self-esteem, demoralization, and a lack of competence and mastery can be helpful in engaging the child in a therapeutic alliance and improving compliance with treatment. Anger management, impulse control, and improvement in social skills are other areas that may be addressed in individual psychotherapy. Children with ADHD who are in foster care or whose parents have divorced may benefit from a mentoring program that pairs them with a young adult. An organizational intervention that many students employ is a homework planner in which assignments are recorded as they are given throughout the day (Haas, 2004).

3.1.6.5. Pharmacological Treatment of Children

As a parent you may have been told about stimulant drugs, such as methylphenidate (Ritalin) and dexamphetamine (Dexadrine) which have been prescribed for children diagnosed with ADHD since the 1930s. Parents need to know what the possible benefits of these drugs are, and also what possible side effects or problems they should look out for (Mental Health Foundation, 2000).

From an evidence-based medicine (EBM) perspective, the stimulants methylphenidate, dextroamphetamine,amphetamine-dextroamphetamine,dexmethylphenidate, and pemoline are first-line agents and the standard of care in the medical treatment of ADHD. This is based on randomized, controlled clinical trials that have repeatedly demonstrated the efficacy of these compounds (Haas, 2004) there were much of drugs for treating ADHD while these drugs combined with side effects (Annex 2)

others with ADD syndrome, medication helps, but does not sufficiently improve their functioning in school, employment, social relationships, and/or family relationships. Pills do not teach skills that some with ADD syndrome need and have not acquired. For these individuals, an important effect of the medication is to make them more ready to learn. Previously teachers, parents, supervisors, and friends may have struggled to coach them to develop important understandings and skills, only to find that, despite good intentions on both sides, the learning simply did not "stick," or carry over from one situation to another (Brown, 2005).

Children taking stimulant medication need to take their tablets regularly, as the effects of medication only last for four to five hours. As a parent you need to ensure that anyone looking after your child is aware of this. Children should also be seen regularly by a specialist to monitor their progress and check for any side effects. For example, some children develop sleep problems, lose weight, or may even become depressed (Mental Health Foundation, 2000).

3.1.7 Psychiatric Co-morbid Disorders

Individuals diagnosed with ADHD are often found to have a number of other disorders besides their ADHD. What is known about comorbidity is largely confined to the combined type of ADHD. The disorders likely to co-occur with ADHD are learning disabilities (Barkley,2007) Comorbidity is the greatest risk factor. Comorbidity of ADHD with Conduct Disorder (CD) or Oppositional Defiant Disorder (ODD) is particularly difficult to treat successfully. Comorbidity is implicated as a risk factor in all domains **of developmental outcomes, impacting**

educational outcomes, social interactions, emotional difficulties, as well as likelihood of substance use and abuse and juvenile delinquency (Gullotta et al., 2005).

3.1.7.1. Learning Disabilities "LD"

Many children with ADHD—approximately 20 to 30 percent—also have a specific learning disability (LD). In preschool years, these disabilities include difficulty in understanding certain sounds or words and/or difficulty in expressing oneself in words. In school age children, reading or spelling disabilities, writing disorders and arithmetic disorders may appear. A type of reading disorder, dyslexia, is quite widespread. Reading disabilities affect up to 8 percent of elementary school children (Barkley, 2007).

3.1.7.2. Tourette's Disorder

Tourette's Disorder (TD), a more severe disorder involving multiple motor and vocal tics, occurs in less than 0.4% of the population (Peterson et al., 2001). A diagnosis of ADHD does not appear to necessarily elevate these risks for a diagnosis of tics or Tourette's Disorder, at least not in childhood or adolescence (Peterson et al., 2001). People with Tourette syndrome have various nervous tics and repetitive mannerisms, such as eye blinks, facial twitches, or grimacing. Others may clear their throats frequently, snort, sniff, or bark out words. These behaviors can be controlled with medication. While very few children have this syndrome, many of the cases of Tourette syndrome have associated ADHD. In such cases, both disorders often require treatment that may include medications (Barkley, 2007).

3.1.7.3. Oppositional Defiant Disorder

As many as one-third to one-half of all children with ADHD have another condition, known as oppositional defiant disorder (ODD). These children are often defiant, stubborn, and non-compliant, have outbursts of temper, or become belligerent. They argue with adults and refuse to obey. About 25 to 35 percent of ADHD children may eventually develop oppositional defiant disorder (OOD) (Haas, 2004).

Adolescents with ADHD had more commonly oppositional defiant disorder than adolescents without ADHD (Hurtig et al., 2007).

3.1.7.4. Anxiety and Mood Disorders

Some children with ADHD often have co-occurring anxiety or depression. If the anxiety or depression is recognized and treated, the child will be better able to handle the problems that accompany ADHD. Conversely, effective treatment of ADHD can have a positive impact on anxiety as the child is better able to master academic tasks. The co-occurrence of anxiety disorders with ADHD has been shown to reduce the degree of impulsiveness relative to those ADHD children without anxiety disorders. Some research suggests that the disorders are transmitted independently in families and so are not linked to each other in any genetic way (Biederman et al., 1991).

The evidence for the co-occurrence of mood disorders, such as major depression or dysthymia, with ADHD is now fairly substantial. Between 15 and 75% of those with ADHD may have a mood disorder, though most studies place the association between 20 and 30%. The odds of having depression given the presence of ADHD in general population samples is 5.5. Some evidence also suggests that these disorders may be related to each other in that familial risk for one disorder substantially increases the risk for the other (Biederman et al., 1991). Busch et al (2002) found that the children with ADHD from both psychiatric and pediatric practices have high levels of co-morbidity with mood, anxiety.

particularly where ADHD is co morbid with CD. the overlap of ADHD with bipolar disorder appears to be unidirectional. The diagnosis of ADHD seems not to increase the

risk for bipolar disorder, whereas a diagnosis of childhood bipolar disorder seems to dramatically elevate the risk of a prior or concurrent diagnosis of ADHD (Barkley, 2007).

3.1.7.5. Conduct Disorder "CD"

About 25 to 35 percent of ADHD children may eventually develop conduct disorder (CD) (Haas, 2004), a more serious pattern of antisocial behavior. These children frequently lie or steal, fight with or bully others, and are at a real risk of getting into trouble at school or with the police. They violate the basic rights of other people, are aggressive toward people and/or animals, destroy property, break into people's homes, commit thefts, carry or use weapons, or engage in vandalism. These children or teens are at greater risk for substance use experimentation, and later dependence and abuse. They need immediate help when CD occurs in conjunction with ADHD, it may represent simply a more severe form of ADHD having a greater family genetic loading for ADHD. Other research, however, also suggests a shared environmental risk factor may also account for the overlap of CD with ADHD beyond their shared genetics (Burt et al., 2001), that risk factor likely being family adversity generally and impaired parenting specifically (Patterson et al., 2000). To summarize CD have a substantial likelihood of co-occuring with ADHD with the risk for CD being mediated in large part by severity of ADHD and its family genetic loading and in part by adversity in the familial environment (Barkley, 2007).

Hurtig et al. (2007) studied the co-morbidity of ADHD among adolescents, aged 16–18 years which found that the adolescents with ADHD had more commonly conduct disorder than adolescents without ADHD. Children with ADHD from both psychiatric and pediatric practices have high levels of co-morbidity with disruptive behavior disorders (Busch et al., 2002).

Disruptive behavioral disorders and internalizing disorders are the most common co-morbid disorders in ADHD. The disruptive behavioral disorders, Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD), coexist with ADHD in 35% of children. Internalizing disorders like anxiety and mood/depressive disorders coexist with ADHD in 25% and 18%, respectively (American Psychiatric Association, 1994; American Academy of Pediatrics, 2000). Finally, learning disabilities (e.g. reading disorder (RD) (Sagvolden et al., 2004).

3.2 Conduct disorder

Young children who display temper tantrums, poor self-control, noncompliance with parent and teacher requests, and unskilled or aggressive behaviors with peers cause problems for themselves and those around them at home, at school, and in the neighborhood. During adolescence, such conduct problem behaviors have more serious consequences than during early childhood and often bring the youth to the attention of authorities in the school and juvenile justice systems. Conduct problems are the most common reason for referrals to child mental health clinics in the western hemisphere and have the poorest prognosis for adult adjustment of any childhood disorder. Conduct problems are associated not only with pervasive developmental failures (Capaldi & Stoolmiller, 1999) in various key domains, such as academics, but also with serious and maladaptive behaviors during adulthood (Gullotta et al., 2005).

3.2.1 Definition and Characteristics

DSM-IV defines conduct disorder (CD) as "a repetitive and persistent pattern of behavior in which either the basic rights of others or major age-appropriate societal norms or rules are violated (American Psychiatric Association, 1994).

Conduct problems may occur in four categories:

1- Aggression toward others.
2- Destruction of property.
3- Deceitfulness or theft.
4- Serious rule violations.

DSM-IV suggests that in order to make this judgment the clinician should consider the social and economic context in which problem behavior occurs, for example, aggressive behavior (American Psychiatric Association, 1994)**.**

Only three of the fifteen behavioral symptoms listed are required for diagnosis of CD; consequently, there are a wide variety of subtypes, one of which is characterized by various types of overt physical aggression and another in which behavior is more covert and non aggressive, though still delinquent (Brown, 2005).

Environmental factors may play an important role in determining the CD outcome: “With optimal parenting, a child with this genetic profile will develop ADHD only. With harsh parenting, the same child will also develop comorbid CD” (Brown, 2005).

3.2.2 Prevalence of Conduct Disorder "CD"

DSM-IV reports a prevalence of CD in males of 6%-10% and in females of 2%-9% (American Psychiatric Association, 1994). Stephen Hinshaw and Carolyn Anderson (1996) noted that while individuals diagnosed with CD almost always have already met the criteria for ODD, fewer than 25 percent of individuals with ODD eventually develop the more severe problems of CD (Brown, 2005).

Conduct disorder coexist with ADHD in 35% of cases (Fine & Kotkin, 2003). In the large Multimodal Treatment Study of Children with Attention Deficit Hyperactivity Disorder (MTA Cooperative Group 1999), of children ages seven to nine years diagnosed with ADHD, 70 percent were found to have met DSM-IV diagnostic criteria for at least one other psychiatric disorder within the preceding year. These included conduct disorder 14% (Brown, 2005).

3.2.3 Diagnosis of Conduct Disorders

Usually the conduct disorder CD diagnosis is applied to individuals who engage in serious and persistent antisocial behaviors, some of which may be described as psychopathic (Brown, 2005).

Conduct problems have been the target of nation wide efforts in a variety of countries to understand causes and consequences, to prevent emergence, and to treat symptoms. There are two main diagnoses given for conduct problems (Gullotta et al., 2005).

The primary being conduct disorder (CD). In the DSM-IV (American Psychiatric Association, 1994, annex 3) classification system, the essential feature of CD is a repetitive and persistent pattern of behavior in which either the basic rights of others and/or major age appropriate societal norms are violated in a way that significantly impairs functioning in social, academic, and/or work settings. The major behavioral domains of importance in CD are aggression toward people and/or animals, destruction of property, stealing or lying, and serious rule violations. To receive a diagnosis of CD, children must exhibit at least three conduct problem behaviors during the past year.

The second is in the DSM-IV only, oppositional defiant disorder (ODD) is a secondary diagnosis that is given to children and adolescents who exhibit hostile, defiant, and antisocial behavior at a higher rate than their peers for at least six months, but who do not meet criteria for CD. At least four behaviors indicative of hostility and defiance must be present, including temper tantrums, arguments with adults, and blaming others

for mistakes; and the symptoms must be associated with impairment in at least one area of functioning. Occurrence of such behaviors during the course of a psychotic or mood disorder precludes this diagnosis. The behaviors that lead to a diagnosis of ODD do not involve illegal acts per se, but can lead to serious consequences in certain settings, such as at school. CD tends to develop at later ages than ODD, and ODD is thought to develop into CD frequently.

3.2.4 Etiology

3.2.4.1. The Intrapersonal Context

to better understand what has gone awry in the development of those children who come to be labeled "conduct-disordered," it will be helpful to review what is known about some of the major developmental variables underlying problem behavior: aggression, self-control, perspective taking. and interpersonal problem solving.

Aggression: CD is a syndrome or complex of behaviors; therefore, aggression does not define it any more than a sad mood defines depression. Indeed, aggression is part of normal development, and there is no reason for assuming that a "hothead" or a "scrapper" has CD if other aspects of his or her personality are proceeding apace. However, aggression is a major part of the picture of CD and accounts for the symptoms that raise the most concern in those who attempt to intervene with antisocial youth. Therefore, it is important to consider the natural course of aggression and its role in normative and pathological development.

3.2.4.2. The Interpersonal Context

3.2.4.2.1.Family Influences

3.2.4.2.1.a.Attachment

Insecure attachments with parents in infancy have been linked prospectively to preschool behavior problems such as hostility, oppositionality, and defiance. However, insecure attachment relationships predict elementary school aggression in girls but not boys, and these predictions are influenced by a number of other factors related to family adversity and environmental stress. As Greenberg, Speltz, and Deklyen (1993) conclude, the research to date has not established a direct effect of attachment on antisocial behavior, although a poor parent-child relationship is a clear risk factor for the development of psychopathology in general.

b. Family Discord First, looking at whole-family processes, we find that family discord is fertile soiltor producing antisocial acting out, especially in boys (Shaw et al., 1994). In particular, children exposed to family violence are more likely to develop behavior problems (Jouriles et al., 1996). Children exposed to violence in the home also start delinquent careers at an earlier age and perpetrate more serious offenses (Kruttschnitt & Domfeld, 1993). Family stress also increases the likelihood of CD. Children who develop behavior problems are more likely to come from families that have experienced more negative life events, daily hassles, unemployment, financial hardship, moves, and other disruptions. In addition, the family members of disruptive children have few sources of social support and engage in chronic conflict with others in the community (McMahon & Estes, 1997). However, it may be that family stress is not a direct cause of antisocial behavior but rather that it acts as an amplifier of other problematic parent-child relationship processes (Dishion. French, & Patterson, 1995).

3.2.5 Parent Psychopathology

Parental substance abuse, especially in fathers, is predictive of CD in children. Maternal depression has also been linked to child conduct problems, as well as a number of other kinds of maladjustment (Cummings & Davies, 1994).

The most powerful parent-related predictor of CD in children is parent antisocial personality disorder, which increases both the incidence and the persistence of the CD.

There is strong evidence for the intergenerational transmission of aggression. Aggression is not only stable within a single generation but across generations as well. Eron and Huesmann (1990) conducted a 22-year prospective study, compiling data on 82 participants when they were 8 and 30 years of age, as well as collecting information from their parents and 8-year-old children. Strong associations were seen between grandparents', parents', and children's aggressiveness. The correlation between the aggression parents had shown at age 8 and that displayed by their children was remarkably high (0.65), higher even than the consistency in parents' own behavior across the lifespan While the mechanisms responsible for the continuity of this behavior are not clear, Eron and Huesmann believe it is learned through modeling.

Parental psychopathology and parenting were assessed in 108 children who first met Diagnostic and Statistical Manual of Mental Disorders (4^{th} ed.) criteria for ADHD at 4-7 years old. When demographic variables and baseline ADHD and conduct problems were controlled (Chronis, 2007).

3.2.6 Parenting Inconsistency

Other research indicates that it is not only the severity of parental discipline but also a pattern of parental inconsistency that is related to antisocial acting out. Laxness may be evidenced in a number of ways: lack of supervision. parents being unconcerned with the children's whereabouts, absence of rules concerning where the children can go and whom they can be with These are parents who, when phoned by re searchers and asked. "It is 9 p.m.; do you know where your child is right now?" do not know the answer (Forgatch, 1994).

Family studies showing that harsh, abusive, and/or extremely inconsistent parenting practices tend to set into motion a vicious cycle of aggressive behavior from a child, which then elicits more harsh and punitive behavior from parents (Brown, 2005: 234).

Frick et. al. (1999) found that parental consistency in using discipline was highly predictive of conduct problems in the adolescent age group and moderately predictive in the youngest age group.

3.2.7 Peer Relations

Peer-group and other neighborhood influences may cause some adolescents to engage transiently in the antisocial behaviors that characterize conduct disorder (Brown, 2005).

A key individual–environment interaction effect with long-term consequences for conduct problem youth is restriction of environmental options. Such restriction may start in early childhood through family contextual factors, including low income and residence in a deprived neighborhood. Critically for development, individual characteristics may expand or contract the range of environmental options. Developmental success may lead to expansion of options, whereas developmental failures and conduct problems lead to restriction (e.g., rejection by socially skilled peers due to unskilled or aggressive behavior may occur early in development) (Gullotta et al., 2005).

Antisocial environments is more likely when these prior failures in development have occurred (Capaldi & Stoolmiller, 1999). Such environments may provide a variety of supports for continued conduct problem behaviors, as well as provide fewer interpersonal sanctions against such behaviors (Gullotta et al., 2005).

In the end; both conduct problems and higher-risk communities may be associated with such developmental acceleration. High school drop-out may be a key factor in such acceleration, because drop-outs are likely to

enter employment earlier and leave the family-of-origin home prior to age 18 years (Capaldi & Stoolmiller, 1999).

3.2.8 The Organic Context

Recent attention has been drawn to the possibility of uncovering organic factors underlying the development of CD. While much of this research is still in progress, and little of it is definitive, a number of suggestive leads have been identified.

One of the best predictors of conduct problems in children is parental criminality or antisocial behavior, especially when research focuses on fathers and sons. This may well be due to a genetic factor; however, environmental explanations cannot be ruled out. In general, there is evidence for both (Pike et al., 1996). For example, Go and colleagues (1996) .collected data on biological and adoptive parents of adolescents adopted at birth. Antisocial behavior in biological parents was significantly related to the aggressiveness of children adopted out of the home, providing evidence for a genetic influence. However, the adoptive parents' parenting practices also predicted children's aggression, suggesting that environmental influences also exist.

A shortcoming of the genetic research is that most of it has not attended to the subtypes of CD that have emerged as so important in our review of the literature. While adolescent-onset conduct problems show little evidence for continuity across the generations, evidence for heritability has been demonstrated for the childhood-onset version of the disorder (Frick & Jackson, 1993). On a similar note, Edelbrock and associates (1995) found a significant heritability quotient for overt aggression in twins, but not for covert, on aggressive behavior problems.

Psycho-physiological indicators: also set early onset, aggressive, and under socialized youth apart from their peers. These children demonstrate lower overall autonomic arousal, demonstrated by low heart rate and galvanic skin response. Youth with low heart rates are likely to fight and bully others at school, and are more likely to become violent adults.

Capaldi, Pears, Patterson and Owen (2003) found that father's conduct problems, assessed in adolescence, were predictive of their offspring's more difficult temperament (anger and activity level) at age 2 years. Temperament is presumed to be associated with biological factors and especially with genetic predispositions (Gullotta et al., 2005: 289).

In any case, it seems likely that the destructive and self-damaging impairments of CD are shaped by some combination of inherited biological factors and the environmental influences of family and neighborhood (Brown, 2005).

3.2.9 Psychiatric correlations to CD

Nolan et al (1999) indicated that few youngsters exhibited symptoms of hyperactivity/impulsivity in the absence of inattention. Hyperactive/impulsive behavior was more common in the youngest age group (3-5 years), whereas inattention was more common in adolescents. Youngsters who exhibited symptoms of both hyperactivity/impulsivity and inattention were more likely to show oppositional and conduct disorder behaviors and anxiety than those who were only inattentive. The findings from this study suggest that even among children who meet criteria for one of the subtypes of ADHD, age and gender differences may be important variables in diagnosis.

The findings by Kilic & Sener (2005) revealed that 30.4% of diagnosed with ADHD co-morbid with oppositional defiant disorder and conduct disorder.

Chronis (2007) Parental psychopathology and parenting were assessed in 108 children who first met Diagnostic and Statistical Manual of Mental Disorders (4^{th} ed.) criteria for ADHD at 4-7 years old. When demographic variables and baseline ADHD and conduct problems were controlled, maternal depression predicted conduct problems 2-8 years following the initial assessment, whereas positive parenting during the structured parent-child interaction task predicted fewer future conduct problems. These findings suggest that maternal depression is a risk factor, whereas early positive parenting is a protective factor, for the developmental course of conduct problems among children with ADHD.

3.3 Socio-economic and demographic factors associated to ADHD and CD

3.3.1. Gender

In elementary school-aged children, boys are more affected than girls, with male: female ratios that range from 2:1 to 9:1, depending on the diagnostic subtype and the setting; clinically referred children are much more likely to be male (American Psychiatric Association, 2000a).

About five times more boys than girls are diagnosed with ADHD. This may be partly because of the particular ways they express their difficulties. Boys and girls both have attention problems, but boys are more likely to be overactive and difficult to manage (Mental Health Foundation, 2000). Bhatia et. al. (1999) found that The

mean age of boys with ADHD was 9.1 years, whereas the mean age of the girls 7.9 years. The findings of Biederman et al. (2002) revealed that girls with ADHD were more likely than boys to have the predominantly inattentive type of ADHD, less likely to have learning disability, and less likely to manifest problems in school.

Dulcan, Dunne, Ayers, Arnold, Benson, and associates (1997) report a prevalence rate for ADHD of 10.1% in males and 3.3% in females aged 4–11 years in Ontario, Canada (Gullotta et al., 2005).

Al shakhss (1985) found that 180 child (114male, 66 female) from the samples were diagnosed as ADHD, with prevalence rate (5.71%) 5 male – 3 female ratio.

Girls with ADHD were more likely than boys to have the predominantly inattentive type of ADHD, less likely to have learning disability, and less likely to manifest problems in school. Girls with ADHD were at less risk for co-morbid major depression, conduct disorder, and oppositional defiant disorder than boys with ADHD (Biederman et al., 2002).

In addition; Boys are more likely than girls to be diagnosed with a CD (Cohen et al., 1993; Zoccolillo, 1993), Acommon conception is that the prevalence of CD is approximately 6–16% of adolescent boys and 2–9% of adolescent girls (Mandel, 1997) (Gullotta et al., 2005). Nolan et al (1999) found that Boys were overrepresented for each subtype of ADHD; however, the proportion of boys to girls did not differ for the various subtypes.

3.3.2. Age of the children

Some of studies found that 77.4% from children diagnosed ADHD in 7-12 year continue having ADHD symptoms at aged 12-15 year (Brooks et. al., 1995). Bhatia et. al. (1999) find that 17.7% of the children which aged (3 -12 years) were have ADHD.

In addition; Some studies have found a scant difference in prevalence of CD during mid to late adolescence (Gullotta et al., 2005: 285). Pardini et al (2006) suggest that the saliency of specific predictors of delinquent behavior may change from childhood to adolescence.

3.3.3. Socio-economic factors

Rates of ADHD tended to increase with lower socioeconomic class. However, low socioeconomic status was no longer associated with rates of ADHD when other comorbid conditions, such as conduct disorder, were

controlled. For now, it is clear that ADHD occurs across all socioeconomic levels. Variations across social classes may be artifacts of the source used to define the disorder or of the co-morbidity of ADHD with other disorders related to social class, such as oppositional and conduct disorder (Barkley, 2007).

The official poverty index has several defects and limitations, recognition of which has prompted various corrective efforts in public policy arenas. These problems notwithstanding, the official poverty index, or some derivative of it, is widely used in both child-focused research and policy. For example, it has become standard practice among developmental researchers to use an income-to-needs ratio (calculated as household income/ official poverty threshold for household) as an indicator of the degree of poverty or affluence characterizing a household. This ratio tells us how far below or above an individual or family falls relative to the poverty threshold. An income- to-need ratio of 1.0 indicates that a household's income is equal to the poverty threshold, and smaller or larger ratios represent more or less severe poverty (or greater affluence), respectively. Used in this manner, the poverty line becomes a unit of measurement rather than a threshold of need. An income- to-need ratio has the advantage of being a more sensitive indicator that bears a stronger relation to children's development than does a simple poor/non poor dichotomy. Others define poverty in terms of eligibility for federal or state subsidies to the poor (Damon & Lerner, 2006).

Low socioeconomic status (SES) is an indicator of economic deprivation. The term "socioeconomic status" typically is used to signify an individual's, family's, or group's ranking on a hierarchy according to its access to or control over some combination of valued commodities such as wealth, power, and social status (Mueller & Parcel, 1981). Although some dispute exists among social scientists about how SES should be defined or measured, there is considerable agreement that important components of SES include the occupation of the father and/or mother, family income, education, prestige, power, and a certain style of life. Poverty is not isomorphic with low SES. Unlike SES, poverty is based on an absolute standard or threshold and does not signify relative position. Its marker, cash income, is only one of several components or dimensions of SES and is clearly related to but distinct from occupational status, educational level, prestige, and power. In addition, poverty status is considerably more volatile than SES (Damon & Lerner, 2006).

3.3.4. Economic Loss

Whereas poverty and low SES are typically conceptualized as ongoing conditions inextricably linked to employment-related factors such as unemployment, underemployment, low wages, and unstable work,

another set of studies relevant to our concern here focuses on various events as precipitants of economic deprivation. This research assesses the impact on parents and children of job loss, job demotion, income loss, and economic pressure as experienced by working- and middleclass individuals who characteristically are employed (Conger et al, 1994).

This subjective state can have direct effects on psychological functioning and mediate as well as moderate the influence of "objective" states of poverty and other forms of economic deprivation (Damon & Lerner, 2006).

Chapter Four

Methodology

Chapter Four
Methodology

In this chapter the researcher describe study design, population, sample, ethical consideration and the instruments used in data collection. Furthermore, the researcher will point the applied pilot study on the sample of children clarifying the study instruments.

4.1 Study design

This is a descriptive –analytical study, which answers the study questions about assessing the prevalence of ADHD and CD in children in the Gaza governorates. It has been selected because this method would be useful for descriptive analysis of study variables which measure the prevalence of the phenomena, and applied on a sample of the population in particular time and period. Also, this type of study is easily applicable, economical and cost effective. However, it usually gives various results reflecting variation in survey method.

4.2 Population and sample

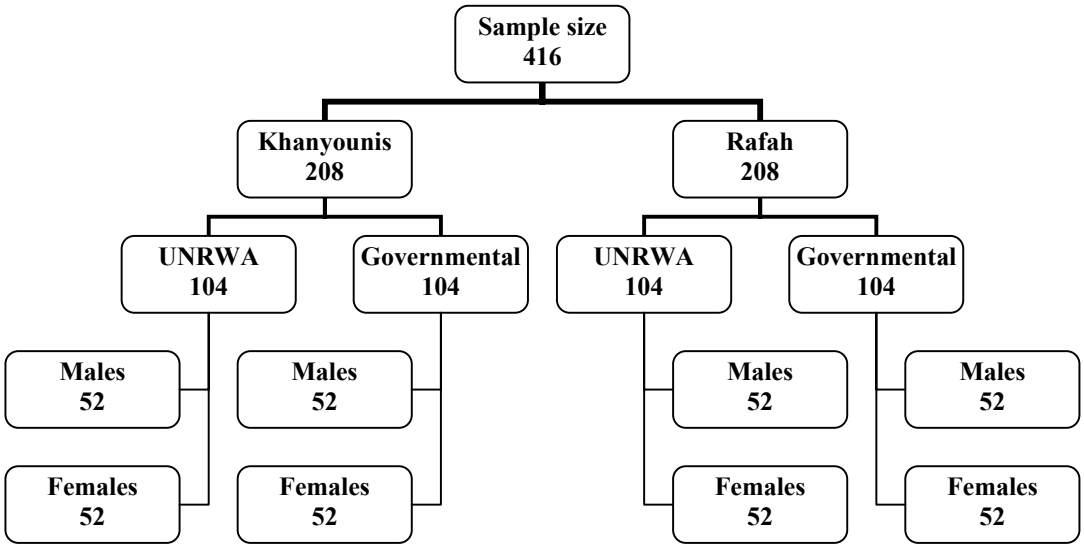
4.2.1. Study Population

The population of the study includes subjects in governmental and UNRWA's preparatory schools of children southern two governorates in Gaza Strip (Rafah and Khanyounis). The total number of children enrolled at both government and UNRWA schools in 2007/2008 is (**37010** students).

4.2.2. Study sample

By using (Ep info.) Programme; a stratified sample of 416 child distributed into three educational classes (7th ,8th, 9th), aged between 13-15 year were selected from eight schools; four from UNRWA schools and the other four from government schools as shown in diagram "1". The schools and classes were selected by using random sampling frame of schools. The response rate was 93.3. 388 subject filled the instrument, 194 males (50.0%) and 194 females (50.0%).

Diagram "1" Sampling process



4.3 Place of the study

This study limited to the sample of the preparatory school children in Gaza Strip, in Rafah and KhanYounis area, they are the two southern governorate of Gaza Strip.

4.4 Ethical considerations

An approval letter was obtained from Helsinki committee in the Ministry of Health to allow the researcher to carry out her study (Annex 4). Another letters were obtained from the administration of UNRWA educational office (Annex 5) and governmental educational office (Annex 6) in Gaza Strip to facilitate data collection procedures. Before starting data collection the researcher guaranteed how protecting the informants rights considered, insure confidentiality, mention the right to withdraw, and to consider the consequences of the information, and to make sure not to harm the informants (Annex 7).

4.5 Instruments of the study

The researcher used the following instruments

4.5.1. Socio-economic questionnaire (developed by the researcher)

Socio-economic questionnaire to assess the children's sex, type of the schools, classes, place of residence, number of siblings, family income father and mother educational level, and fathers and mothers work (annex 8).

4.5.2. Structured Clinical Interview of mothers and fathers for DSM-IV diagnosis of ADHD (APA, 1994), Arabic version (Thabet et al, 2006) (Annex, 9)

This interview consisted of 18 items questionnaire, based on DSM-IV diagnostic criteria for ADHD in children. Children scored six and above in inattentive nine items are considered as inattentive; the scoring is 0=no and 1=yes, children reported 6 and more in hyperactivity-impulsive 9 items are considered hyperactive-impulsive. The combined type is rate by summing both inattentive and hyperactive-impulsive scores. This scale was validated by The Arabic version of this scale was used in which the translation and back translation had been conducted and the Arabic Version was send to panel of expert for validity. The five experts agreed on all items and no changes were done. In study by (Thabet et al, 2006), for parents scale, internal consistency of the scale, calculated using Cronbach's Alpha was also high (0.84); the split half reliability of the scale was (0.79). While, for teachers, internal consistency of the scale, calculated using Cronbach's Alpha was (0.87); the split half reliability of the scale was (0.84) (Thabet et al, 2006).

4.5.3. Conduct Disorder CD questionnaire DSM-IV diagnosis of ADHD (APA, 1994)., Prepared by the researcher, (Annex, 10).

This scale consisted of 15 items, based on DSM-IV diagnostic criteria for CD in children. Children scored 3 symptoms and above are considered as a case of conduct disorder. The Arabic version of this scale was used in which the translation and back translation had been conducted and the Arabic Version was send to panel of experts for validity **(Annex, 11)**. The five experts agreed on all items and no changes were done. In this study for parents scale, internal consistency of the scale, calculated using Cronbach's Alpha was high (0.709); the split half reliability of the scale was (0.732). While, for students, internal consistency of the scale, calculated using Cronbach's Alpha was (0.71); the split half reliability of the scale was (0.68).

4.6 Pilot study

The researcher applied the instruments of this study on a 40 pilot sample from the original population of the study sample; 22 males and 18 females, and they excluded from the studied sample, where this technique used to estimate and discuss the clarifying of the instruments and to estimate validity and reliability of the conduct disorder prepared by the researcher that used in this study.

4.7 Data collection

After the pilot study was done, the researcher found that instrument was applicable for the size and school population. The researcher obtained a written agreement from Helsinki committee and the administration offices of higher education in Gaza strip .The instrument revised by Dr Thabet and agreement obtained for data collection. Cluster random sample were taken to select the schools .Classes of each grade were selected by using systematic

random sample .The researcher select class number 1,4,7,from each grade. The researcher also select 52 student from each school distributed equally between each grades .The student number 1,5,10,15,20, 25 were selected according the teacher record ,also the researcher collect all the subjects together and distribute the questionnaire on them ,and answer any explains . School directory cooperated in data collection from children in the specified school ,also the children takes another scale for family intervention and other scale for teachers. The researcher her self collect the data from the specified group of children during three weeks from the two governorates (khanyounis and Rafah). The total population was (416) and the specified sample was (338).

4.8 Data entry and analysis

After collection the sample, the researcher used Statistical Package for Social Sciences SPSS version 11.0 for data entry, cleaning and analysis that used in the pilot study, which determined the validity and reliability of the instruments using split half method and Cronbach's alpha equation. While the researcher used other statistical analysis that clarifying the result .Using t-independent test to investigate differences between ADHD or CD and its subscales according to socioeconomic variables sex (male –female) sponsored (governmental–UNRWA),or mother work(housewife-employee). One-way ANOVA test to investigate the statistical differences between the mean of total scores of ADHD or CD and its subscales according to more than two independent variables such ;class level (7^{th},8^{th},9^{th}),type of residence (city-camp-village),the number of sibling (4and less,5-7sibling -8and more),and the family income ,father and mother education (not educated-primary-preparatory-secondary-diploma-university-`ost grqduate),and father work among children. In the end persons correlation to investigate the relationship between

ADHD and CD and its subscales. Where"chi square to explore co morbidity between ADHD and CD among the children.

4.9 Eligibility criteria

4.9.1. Inclusion criteria

Students aged (13-15) in 7th - 8th - 9th classes of the schools of who reside in the Gaza Strip and learn in Governmental and UNRWA preparatory schools in Rafah and Khan-Younis governorates at the time of the study were eligible for the study

4.9.2.Exclusion criteria

Students who aged less 13and above 15years and below 7th class and above 9th class of the schools. Children were studied in schools in other governorates of Gaza, And who loss of father or mother or both of them, were excluded.

4.10. Limitations

The researcher faced difficulties in the process of data collection from the children themselves and their teachers and their parents, among the sample were selected randomly from the schools of Khan-Younis and Rafah governorates, at the second term of the 2007/ 2008 study year. In addition to the unstable political situation, economical situation, difficult transportation, inability to take sample from all Gaza governorates and lack of Arabic literature review.

Chapter Five

Results

Chapter Five

Results

In this chapter the researcher will view the results of the study in four models; the first is the socio-demographic characteristics of the study sample ,the second about ADHD and there relations with socio-demographic data of children, the third about the CD and their relations with socio-demographic data of children, while the fourth about the relationship between ADHD and CD and its subscales ,and the co-morbidity between ADHD and CD among the children.

5.1 Socio-demographic results of the study sample

As shown in the following table 5.1, the total numbers of children selected for the current study were 388 child. The total numbers of males were 194 (50.0%); females were also 194 (50.0%). The minimum age was 12 years and the maximum age was 15 years, Mean = 13.72 years, (SD= 0.907).

Table 5.1: Distribution of the sample according to the gender

Variable	N	%
Males	194	50.0
Females	194	50.0
Total	388	100.0

The following table 5.2 shows that 198 of the children were enrolled in governmental schools (51.0%), 190 of children were enrolled in UNRWA schools (49.0%).

Table 5.2

Distribution of the sample according to ownership of the schools

Variable	N	%
Governmental schools	198	51.0
UNRWA schools	190	49.0
Total	388	100.0

Table 5.3 shows that; 127 child were from 7th class (32.7%), 129 8th class (33.2%) and 132 of children study in 9th class (34.0%).

Table 5.3 : Distribution of the sample according to educational classes

Variable	N	%
7th Class	127	32.7
8th Class	129	33.2
9th Class	132	34.0
Total	388	100.0

Table 5.4 shows that; 104 child were living in city (26.8%),were 250 live in camp (64.4%) and 34 of children were living in village (8.8%).

Table 5.4: Distribution of the sample according to type of residence

Variable	N	%
City	104	26.8
Camp	250	64.4
Village	34	8.8
Total	388	100.0

Table 5.5 shows that; 29 child had 4 and less siblings (7.5%), 141 of children had 5-7 siblings (36.3%), and 218 of children had 8 siblings and above (56.2%).

Table 5.5: Distribution of the sample according to number of siblings

Variable	N	%
4 and less	29	7.5
5-7 siblings	141	36.3
8 and above	218	56.2
Total	388	100.0

The following table 5.6 shows that; there were 196 child had family income 600 NIS and less than (50.5%), 51 family monthly income was from 601-1000 NIS (13.1%), 59 of children family monthly were from 1001-1500 (15.2 %), 82 were family monthly income 1500 NIS and above (4.0%).

Table 5.6: Distribution of the sample according to family income "NIS"

Variable	N	%
600 and less NIS	196	50.5
601-1000 NIS	51	13.1
1001-1500 NIS	59	15.2
1501 NIS and above	82	21.1
Total	388	100.0

Table 5.7 shows that; 11 of fathers of children were not educated (2.8%), 32 fathers of children were educated to primary level (8.2 %), 65 fathers of children were educated to preparatory level (16.8 %), 136 fathers finished secondary level (35.1 %), 47 fathers were educated to diploma level (12.1 %), 75 fathers were educated to the university level (19.3%), and 22 fathers were post graduate level (5.7%).

Table 5.7 : Distribution of paternal education

Variable	N	%
Not educated	11	2.8
Primary	32	8.2
Preparatory	65	16.8
Secondary	136	35.1
Diploma	47	12.1
University	75	19.3
Post graduate	22	5.7
Total	388	100.0

Table 5.8 shows that; 18 of mothers of children were not educated (4.6%), 24 mothers of children were educated to primary level (6.2 %), 72 mothers of children were educated to preparatory level (18.6 %), 201 mothers were educated to secondary (51.8 %), 38 mothers were educated to diploma level (9.8%), 33 mothers were educated to the university level (8.5%), and only 2 mothers were finished post graduate level (0.5%).

Table 5.8 : Description of maternal education

Variable	N	%
Not educated	18	4.6
Primary	24	6.2
Preparatory	72	18.6
Secondary	201	51.8
Diploma	38	9.8
University	33	8.5
Post graduate	2	.5
Total	388	100.0

The following table shows that; 185 fathers of children were unemployed (47.7%), 53 fathers were simple worker (13.7 %), 14 fathers were skilled worker (3.6%), 116 fathers were employees (29.9 %), 20 fathers were had other works (5.2%).

Table 5.9: Distribution of father's work

Variable	N	%
Unemployed	185	47.7
Employee	116	29.9
Worker	53	13.7
Skilled worker	14	3.6
Others	20	5.2
Total	388	100.0

The following table 5.10 shows that; there were 344 mothers of study samples (88.7%) were housewives, and 44 were civil employee (11.3%).

Table 5.10: Distribution of mother's work

Variable	N	%
House wife	344	88.7
Civil employee	44	11.3
Total	388	100.0

5.2 Prevalence and severity of ADHD

5.2.1 Prevalence of symptoms of ADHD

To investigate the prevalence of ADHD's symptoms among the children of the study sample we performed frequency table to describe the most frequent among children were rated by parents or teachers. The results found that 52.8% of children Is often "on the go" or often acts as if "driven by a motor as rated by parents, 50.8% often easily distracted by extraneous stimuli by teacher, and 50.6% often forgetful by teacher. While the lowest frequent symptoms were often leaves seat in classroom or in other situations 11.9% by parents, often play in dangerous activities without taking its risk 15.5% by parents and 21.9 by teachers.

Table 5.11 : Frequency of ADHD items

No.	Items	Parents		Teachers	
		N	%	N	%
1	Is often "on the go" or often acts as if "driven by a motor.	205	52.8	144	37.1
2	Often talks excessively.	148	38.1	143	36.9
3	Often forgetful.	138	35.6	177	45.6
4	Often easily distracted by extraneous stimuli.	135	34.8	197	50.8
5	Often does not seem to listen when spoken to directly.	132	34.0	126	32.5
6	Often move from one activity to another before completing it.	115	29.6	154	39.7
7	Often has difficulty playing or engaging in leisure activities quietly.	110	28.4	108	27.8
8	Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).	105	27.1	154	39.7
9	Has difficulty sustaining attention in tasks or play activities.	98	25.3	146	37.6
10	Does not follow through on instructions and orders.	98	25.3	113	29.1
11	Often has difficulty waiting turn.	97	25.0	107	27.6
12	Often have difficulty organizing tasks and activities.	96	24.7	135	34.8
13	Often fidgets or squirms in seat.	86	22.2	138	35.6
14	Often blurts out answers before questions have been completed.	82	21.1	116	29.9
15	Often loses things necessary for tasks or activities.	75	19.3	132	34.0
16	Often interrupts or intrudes on others.	70	18.0	90	23.2
17	Often play in dangerous activities without taking its risk.	60	15.5	85	21.9
18	Often leaves seat in classroom or in other situations.	46	11.9	112	28.9

5.2.2 Prevalence of ADHD among the study sample

As shown in the following table, there were 66 (17.0% as rated by parents) and 109 (28.1% as rated by teachers) of the study sample of the children were inattentive. 32 (8.2% by parents) and 71 (18.3% by teachers) were hyperactive- impulsive. However 17 (4.4% by parents) and 38 (9.8% by teachers) of the children were ADHD cases.

Table 5.12: prevalence of ADHD among the study sample

Variable	Parents report		Teachers report	
	N	%	N	%
Inattentive	66	17.0	109	28.1
Hyperactive- impulsive	32	8.2	71	18.3
ADHD cases	17	4.4	38	9.8

5.3 Comparing between ADHD and gender of children

5.3.1 Total of ADHD and gender

To differentiate between boys (n= 194) and girls (n= 194) in the levels of ADHD an independent t-test was used; gender of the children was the dependent variable and children ADHD rated by parents and by teachers as independent variables.

There were a statistical significance differences between boys and girls in total ADHD, boys had more ADHD than girls rated by parents (t=3.38, p=0.001), and rated by teachers (t=3.24, p=0.001).

5.3.2 Inattention and gender

There were a statistical significance differences between boys and girls in inattention disorder, boys had more inattentive than girls were rated by parents (t=2.52, p=0.012).

5.3.3 Hyperactivity and gender

There were a statistical significance differences between boys and girls in hyperactivity, boys had more hyperactive than girls were rated by parents (t=2.98, p=0.003), and rated by teachers (t=3.48, p=0.001).

5.3.4 Impulsivity and gender

There were statistical significance differences between boys and girls in impulsivity, boys were more impulsive than girls rated by parents (t=3.38, p=0.001), and by teachers (t=4.09, p=0.001).

5.3.5 Hyperactivity-Impulsivity and gender

There were statistical significance differences between boys and girls in hyperactivity-impulsivity, boys had more hyperactive- impulsive than girls rated by parents (t=3.53, p=0.001), and by teachers (t=3.98, p=0.001).

5.3.6 Inattention - Impulsivity and gender

There were statistical significance differences between boys and girls in inattention - impulsivity, boys had more inattention- impulsive than girls rated by parents (t=3.06, p=0.002), and rated by teachers (t=2.71, p=0.007).

Table 5.13: Independent t-test comparing between ADHD and gender

Dependent variables	Gender	Mean	SD	t-test	*P*
Inattention by parents	Boys	2.8814	2.73556	2.524	0.012
	Girls	2.2320	2.31526		
Hyperactivity by parents	Boys	1.9175	1.53150	2.988	0.003
	Girls	1.4588	1.49294		
Impulsivity by parents	Boys	0.7887	0.91712	3.381	0.001
	Girls	0.4948	0.79014		
Hyperactivity-Impulsivity by parents	Boys	2.7062	2.17410	3.533	0.000
	Girls	1.9536	2.01880		
Inattention – Impulsivity by parents	Boys	3.6701	3.25345	3.064	0.002
	Girls	2.7268	2.79389		
Total of ADHD by parents	Boys	5.5876	4.32310	3.382	0.001
	Girls	4.1856	3.82880		
Inattention by teacher	Boys	3.7320	2.96793	1.875	0.061
	Girls	3.1443	3.19971		
Hyperactivity by teacher	Boys	2.2165	1.91653	3.489	0.001
	Girls	1.5464	1.86609		
Impulsivity by teacher	Boys	1.0155	1.09392	4.093	0.001
	Girls	0.5979	0.90662		
Hyperactivity-Impulsivity by teacher	Boys	3.2320	2.81977	3.983	0.001
	Girls	2.1443	2.55302		
Inattention – Impulsivity by teacher	Boys	4.7474	3.62392	2.716	0.007
	Girls	3.7423	3.66690		
Total of ADHD by teacher	Boys	6.9639	5.14089	3.241	0.001
	Girls	5.2887	5.04068		

5.4 Comparing between ADHD and the sponsored of the schools "Government and UNRWA" among the study sample

5.4.1 Total of ADHD and sponsored of the schools

To differentiate between the students who studied in governmental schools (n= 198) and who studied in UNRWA schools (n= 190) in the levels of ADHD an independent t-test was used; There were statistical significant differences in total ADHD according to the ownership of the schools, children who studied in governmental schools more ADHD than who studied in UNRWA schools rated by teacher (t=2.07, p=0.113). while no differences in children rated by parents.

5.4.2 Hyperactivity and sponsored of the schools

There were statistical significant differences between students who studied in governmental schools and who studied in UNRWA schools in hyperactivity, students who studied in governmental schools had more hyperactive than who studied in UNRWA schools were rated by parents (t=2.08, p=0.038), and by teachers (t=2.09, p=0.036).

5.4.3 Hyperactivity-Impulsivity and sponsored of the schools

There were statistical significant differences between students who studied in governmental schools and who studied in UNRWA schools in hyperactivity-impulsivity, students who studied in governmental schools had more hyperactive- impulsive than who studied in UNRWA schools were rated by teachers (t=3.53, p=0.001), and rated by teachers (t=2.07, p=0.039), while no differences of children rated by parents.

5.4.4 Inattention and Impulsivity and sponsored of the schools

There were no statistical significant differences between students who studied in governmental schools and who studied in UNRWA schools in inattention, hyperactivity, and inattention – impulsivity disorders were rated by parents or teachers.

Table 5.14: Independent t-test comparing between ADHD and ownership of the schools

Dependent variables	Sponsored	Mean	SD	t-test	*P*
Inattention by parents	Governmental	2.39	2.516	1.244	0.214
	UNRWA	2.72	2.584		
Inattention by teacher	Governmental	3.68	2.868	1.619	0.106
	UNRWA	3.17	3.304		
Hyperactivity by parents	Governmental	1.85	1.559	2.086	0.038
	UNRWA	1.53	1.483		
Hyperactivity by teacher	Governmental	2.08	1.864	2.099	0.036
	UNRWA	1.67	1.956		
Impulsivity by parents	Governmental	0.63	0.878	0.242	0.809
	UNRWA	0.65	0.857		
Impulsivity by teacher	Governmental	0.88	0.986	1.616	0.107
	UNRWA	0.72	1.059		
Hyperactivity-Impulsivity by parents	Governmental	2.16	2.097	1.593	0.112
	UNRWA	2.50	2.152		
Hyperactivity-Impulsivity by teacher	Governmental	2.96	2.602	2.074	0.039
	UNRWA	2.39	2.855		
Inattention – Impulsivity by parents	Governmental	3.03	3.047	1.103	0.271
	UNRWA	3.37	3.081		
Inattention – Impulsivity by teacher	Governmental	4.57	3.408	1.816	0.070
	UNRWA	3.90	3.913		
Total of ADHD by parents	Governmental	4.56	4.116	1.587	0.113
	UNRWA	5.22	4.143		
Total of ADHD by teacher	Governmental	6.65	4.888	2.078	0.038
	UNRWA	5.57	5.372		

5.5 Comparing between ADHD according to the classes "7th- 8th- and 9th class" among the study sample

One way ANOVA was used to estimate the differences between children's ADHD and classes.

As shown in the following table; There were significant statistical difference in total ADHD by patents according to the classes (f=5.17, p=0.006)., Bonferroni statistical test indicates that, those children who were in the level of 7th class significantly higher in ADHD than who in 9th class (means 5.74, and 4.11 respectively).

There were significance statistical difference in inattention by patents (f=3.67, p=0.026)

and by teachers (f=3.33, p=0.037) according to the classes., Bonferroni statistical test indicates that, those children who were in the level of 7th class significantly higher inattention than who in 9th class (means by parents 3.01 and 2.16 respectively), and (means by teachers 3.76, and 2.86 respectively).

There were significant statistical difference in hyperactivity by parents according to the classes (f=3.70, p=0.025)., Bonferroni statistical test indicates that, those children who were in the level of 7^{th} class significantly higher in hyperactivity by parents than who in 9^{th} class (means 1.95 and 1.43 respectively).

There were significant statistical difference in impulsivity by parents according to the classes (f=3.21, p=0.041)., 7th class students were significantly higher impulsivity than who in 9th class (means 0.77 and 0.50 respectively).

There were significant statistical difference in hyperactivity-impulsivity by parents according to the classes (f=4.48, p=0.012)., 7th class students were significantly higher hyperactivity-impulsivity than 9th class (means 2.73 and 1.94 respectively).

There were significant statistical difference in inattention – impulsivity by parents according to the classes (f=4.43, p=0.012)., 7th class students were significantly higher inattention – impulsivity than who 9th class (means 3.79 and 2.67 respectively).

While the results show that no significant statistical differences the total ADHD and most of disorders rated by teacher according to the students classes.

Table 5.15: One way ANOVA comparing ADHD according to the classes

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention by parents	Between groups	47.203	2	23.601	3.675	0.026
	Within groups	2472.550	385	6.422		
	Total	2519.753	387			
Inattention by teacher	Between groups	63.206	2	31.603	3.337	0.037
	Within groups	3646.309	385	9.471		
	Total	3709.515	387			
Hyperactivity by parents	Between groups	17.065	2	8.532	3.707	0.025
	Within groups	886.201	385	2.302		
	Total	903.265	387			
Hyperactivity by teacher	Between groups	4.745	2	2.372	0.643	0.526
	Within groups	1419.802	385	3.688		
	Total	1424.546	387			
Impulsivity by parents	Between groups	4.788	2	2.394	3.218	0.041
	Within groups	286.416	385	0.744		
	Total	291.204	387			
Impulsivity by teacher	Between groups	0.371	2	.186	0.176	0.839
	Within groups	406.131	385	1.055		
	Total	406.503	387			
Hyperactivity-Impulsivity by parents	Between groups	39.921	2	19.961	4.484	0.012
	Within groups	1713.852	385	4.452		
	Total	1753.773	387			
Hyperactivity-Impulsivity by teacher	Between groups	2.516	2	1.258	0.167	0.847
	Within groups	2904.750	385	7.545		
	Total	2907.265	387			
Inattention – Impulsivity by parents	Between groups	81.848	2	40.924	4.433	0.012
	Within groups	3553.871	385	9.231		
	Total	3635.719	387			
Inattention – Impulsivity by teacher	Between groups	56.280	2	28.140	2.095	0.124
	Within groups	5171.460	385	13.432		
	Total	5227.740	387			
Total of ADHD by parents	Between groups	173.530	2	86.765	5.176	0.006
	Within groups	6453.481	385	16.762		
	Total	6627.010	387			
Total of ADHD by teacher	Between groups	88.568	2	44.284	1.673	0.189
	Within groups	10188.243	385	26.463		
	Total	10276.812	387			

5.6 Comparing between ADHD according to the place of residence "city- village- camp" among the study sample

One way ANOVA was used to estimate the differences between children's ADHD and place of residence "city- village- camp" of the study sample.

As shown in the following table; there were no significant statistical differences in ADHD disorders and total ADHD rated by parents and teacher according to the place of residency.

Table 5.16: One way ANOVA comparing ADHD according to the place of residence

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention by parents	Between groups	22.671	2	11.336	1.748	0.176
	Within groups	2497.081	385	6.486		
	Total	2519.753	387			
Inattention by teacher	Between groups	29.910	2	14.955	1.565	0.210
	Within groups	3679.605	385	9.557		
	Total	3709.515	387			
Hyperactivity by parents	Between groups	7.411	2	3.705	1.592	0.205
	Within groups	895.855	385	2.327		
	Total	903.265	387			
Hyperactivity by teacher	Between groups	3.995	2	1.998	0.541	0.582
	Within groups	1420.551	385	3.690		
	Total	1424.546	387			
Impulsivity by parents	Between groups	1.029	2	0.515	0.683	0.506
	Within groups	290.175	385	0.754		
	Total	291.204	387			
Impulsivity by teacher	Between groups	2.339	2	1.170	1.114	0.329
	Within groups	404.163	385	1.050		
	Total	406.503	387			
Hyperactivity-Impulsivity by parents	Between groups	10.095	2	5.048	1.114	0.329
	Within groups	1743.678	385	4.529		
	Total	1753.773	387			
Hyperactivity-Impulsivity by teacher	Between groups	6.811	2	3.405	0.452	0.637
	Within groups	2900.455	385	7.534		
	Total	2907.265	387			

Follow table 5.16

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention – Impulsivity by parents	Between groups	28.729	2	14.365	1.533	0.217
	Within groups	3606.990	385	9.369		
	Total	3635.719	387			
Inattention – Impulsivity by teacher	Between groups	48.706	2	24.353	1.810	0.165
	Within groups	5179.033	385	13.452		
	Total	5227.740	387			
Total of ADHD by parents	Between groups	62.956	2	31.478	1.846	0.159
	Within groups	6564.054	385	17.049		
	Total	6627.010	387			
Total of ADHD by teacher	Between groups	58.772	2	29.386	1.107	0.332
	Within groups	10218.040	385	26.540		
	Total	10276.812	387			

5.7 Comparing between ADHD according to the number of siblings "≤ 4 siblings, 5-7, ≥ 8" among the study sample

One way ANOVA was used to estimate the differences between children's ADHD and number of siblings "≤ 4 siblings, 5-7, ≥ 8" of the study sample .

As shown in the following table; There were no significant statistical differences between the ADHD disorders and total ADHD rated by parents and teacher according to the number of siblings.

Table 5.17: One way ANOVA comparing ADHD according to the number of siblings

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention by parents	Between groups	6.937	2	3.468	0.531	0.588
	Within groups	2512.816	385	6.527		
	Total	2519.753	387			
Inattention by teacher	Between groups	5.481	2	2.741	0.285	0.752
	Within groups	3704.034	385	9.621		
	Total	3709.515	387			
Hyperactivity by parents	Between groups	3.842	2	1.921	0.822	0.440
	Within groups	899.424	385	2.336		
	Total	903.265	387			
Hyperactivity by teacher	Between groups	2.942	2	1.471	0.398	0.672
	Within groups	1421.604	385	3.692		
	Total	1424.546	387			
Impulsivity by parents	Between groups	1.717	2	.858	1.142	0.320
	Within groups	289.487	385	.752		
	Total	291.204	387			
Impulsivity by teacher	Between groups	1.530	2	.765	0.727	0.484
	Within groups	404.973	385	1.052		
	Total	406.503	387			
Hyperactivity-Impulsivity by parents	Between groups	7.837	2	3.918	0.864	0.422
	Within groups	1745.936	385	4.535		
	Total	1753.773	387			
Hyperactivity-Impulsivity by teacher	Between groups	8.641	2	4.321	0.574	0.564
	Within groups	2898.624	385	7.529		
	Total	2907.265	387			
Inattention – Impulsivity by parents	Between groups	8.094	2	4.047	0.430	0.651
	Within groups	3627.625	385	9.422		
	Total	3635.719	387			
Inattention – Impulsivity by teacher	Between groups	9.076	2	4.538	0.335	0.716
	Within groups	5218.664	385	13.555		
	Total	5227.740	387			
Total of ADHD by parents	Between groups	23.066	2	11.533	0.672	0.511
	Within groups	6603.944	385	17.153		
	Total	6627.010	387			
Total of ADHD by teacher	Between groups	17.603	2	8.802	0.330	0.719
	Within groups	10259.208	385	26.647		
	Total	10276.812	387			

5.8 Comparing between ADHD according to the family income "< 600 NIS, 601-1000, 1001 – 1500, > 1500 NIS" among the study sample

One way ANOVA was used to estimate the differences between children's ADHD and family income "< 600 NIS, 601-1000, 1001 – 1500, > 1500 NIS" of the study sample .

As shown in the following table; There were significant statistical differences in total ADHD disorders as rated by teachers (f=4.25, p=0.006) according to the family income. Bonferroni statistical test indicates that, those children who had "< 600 NIS" family income significantly higher in ADHD than who had "> 1500 NIS" family income (means 6.94 and 4.82 respectively).

There were significant statistical differences in inattention disorder as rated by teachers (f=6.06, p=0.001) according to the family income. Children who had "< 600 NIS" family income significantly higher inattention than who had "1001 – 1500 or > 1500 NIS" family income (means 3.97, 2.64 and 2.52 respectively).

In addition, there were significant statistical differences in inattention – impulsivity disorder as rated by teachers (f=5.49, p=0.001) according to the family income. Children who had "< 600 NIS" family income significantly higher inattention – impulsivity than who had "1001 – 1500 or > 1500 NIS" family income (means 4.86, 3.33 and 3.21 respectively).

However, there were no significant statistical differences in hyperactivity, impulsivity, and hyperactivity- impulsivity disorders rated by teacher according to the family income.

And there were no significant statistical differences in total ADHD and its other disorders rated by parents according to the family income.

Table 5.18: One way ANOVA comparing ADHD according to the family income

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention by parents	Between groups	38.529	3	12.843	1.988	0.115
	Within groups	2481.223	384	6.462		
	Total	2519.753	387			
Inattention by teacher	Between groups	167.934	3	55.978	6.069	0.001
	Within groups	3541.581	384	9.223		
	Total	3709.515	387			
Hyperactivity by parents	Between groups	12.460	3	4.153	1.790	0.148
	Within groups	890.805	384	2.320		
	Total	903.265	387			
Hyperactivity by teacher	Between groups	16.871	3	5.624	1.534	0.205
	Within groups	1407.675	384	3.666		
	Total	1424.546	387			
Impulsivity by parents	Between groups	3.090	3	1.030	1.373	0.251
	Within groups	288.114	384	0.750		
	Total	291.204	387			
Impulsivity by teacher	Between groups	3.046	3	1.015	0.966	0.409
	Within groups	403.456	384	1.051		
	Total	406.503	387			
Hyperactivity-Impulsivity by parents	Between groups	26.584	3	8.861	1.970	0.118
	Within groups	1727.189	384	4.498		
	Total	1753.773	387			
Hyperactivity-Impulsivity by teacher	Between groups	32.653	3	10.884	1.454	0.227
	Within groups	2874.612	384	7.486		
	Total	2907.265	387			
Inattention – Impulsivity by parents	Between groups	57.903	3	19.301	2.072	0.103
	Within groups	3577.816	384	9.317		
	Total	3635.719	387			
Inattention – Impulsivity by teacher	Between groups	215.292	3	71.764	5.498	0.001
	Within groups	5012.448	384	13.053		
	Total	5227.740	387			
Total of ADHD by parents	Between groups	117.673	3	39.224	2.314	0.076
	Within groups	6509.338	384	16.951		
	Total	6627.010	387			
Total of ADHD by teacher	Between groups	330.915	3	110.305	4.259	0.006
	Within groups	9945.896	384	25.901		
	Total	10276.812	387			

5.9 Comparing between ADHD according to the father education among the study sample

One way ANOVA was used to estimate the differences between children's ADHD and father education "not educated- primary- preparatory- secondary- university- post graduate" of the study sample.

As shown in the following table; there were significant statistical differences in total ADHD by teacher (f=3.25, p=0.004), inattention disorder by teacher (f=3.08, p=0.006), hyperactivity disorder by teacher (f=2.49, p=0.022), hyperactivity- impulsivity disorders by teacher (f=2.42, p=0.026), inattention- impulsivity disorders by teacher (f=3.09, p=0.006) according to the father education.

Bonferroni statistical test indicates that, those children with primary school of father education (means= 8.21) were higher in total ADHD by teacher than who with postgraduate level of father education (means= 3.63).

The children with primary school of father education (means= 4.81) were higher in inattention by teacher than who with university level of father education (means= 2.77).

The children with primary school of father education (means= 2.37) were higher in hyperactivity by teacher than who with university level of father education (means= 1.60).

The children with primary school of father education (means= 3.40) were higher in hyperactivity- impulsivity by teacher than who with university level of father education (means= 2.37).

The children with primary school of father education (means= 4.06) were higher inattention- impulsivity by teacher than who with postgraduate level of father education (means= 2.22).

While; there were no significant statistical differences between the ADHD disorders and

total ADHD as rated by parents and impulsivity rated by teachers according to the father education.

Table 5.19: One way ANOVA comparing ADHD according to the father education

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention by parents	Between groups	76.267	6	12.711	1.982	0.067
	Within groups	2443.486	381	6.413		
	Total	2519.753	387			
Inattention by teacher	Between groups	172.057	6	28.676	3.089	0.006
	Within groups	3537.459	381	9.285		
	Total	3709.515	387			
Hyperactivity by parents	Between groups	5.300	6	.883	0.375	0.895
	Within groups	897.966	381	2.357		
	Total	903.265	387			
Hyperactivity by teacher	Between groups	53.947	6	8.991	2.499	0.022
	Within groups	1370.599	381	3.597		
	Total	1424.546	387			
Impulsivity by parents	Between groups	2.000	6	.333	0.439	0.853
	Within groups	289.204	381	.759		
	Total	291.204	387			
Impulsivity by teacher	Between groups	10.026	6	1.671	1.606	0.144
	Within groups	396.477	381	1.041		
	Total	406.503	387			
Hyperactivity-Impulsivity by parents	Between groups	10.590	6	1.765	0.386	0.888
	Within groups	1743.183	381	4.575		
	Total	1753.773	387			
Hyperactivity-Impulsivity by teacher	Between groups	107.086	6	17.848	2.428	0.026
	Within groups	2800.180	381	7.350		
	Total	2907.265	387			
Inattention – Impulsivity by parents	Between groups	93.899	6	15.650	1.683	0.124
	Within groups	3541.820	381	9.296		
	Total	3635.719	387			
Inattention – Impulsivity by teacher	Between groups	243.170	6	40.528	3.098	0.006
	Within groups	4984.570	381	13.083		
	Total	5227.740	387			
Total of ADHD by parents	Between groups	114.088	6	19.015	1.112	0.354
	Within groups	6512.922	381	17.094		
	Total	6627.010	387			
Total of ADHD by teacher	Between groups	501.096	6	83.516	3.255	0.004
	Within groups	9775.716	381	25.658		
	Total	10276.812	387			

5.10 Comparing between ADHD according to the mother education among the study sample

One way ANOVA was used to estimate the differences between children's ADHD and mother education "not educated- primary- preparatory- secondary- university- post graduate" of the study sample.

As shown in the following table; There were no significant statistical differences between the ADHD disorders and total ADHD rated by parents and most of rated by teachers according to the mother education.

While; there were significant statistical differences in inattention by teacher according to the mother education (f=2.43, p=0.025)., Bonferroni statistical test indicates that, those children with primary school of mother's education (means= 4.59) were higher in inattention by teacher than who had university level of mother's education (means= 2.42).

Table 5.20: One way ANOVA comparing ADHD according to the mother education

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention by parents	Between groups	46.106	6	7.684	1.184	0.314
	Within groups	2473.646	381	6.493		
	Total	2519.753	387			
Inattention by teacher	Between groups	137.148	6	22.858	2.438	0.025
	Within groups	3572.368	381	9.376		
	Total	3709.515	387			
Hyperactivity by parents	Between groups	6.902	6	1.150	0.489	0.817
	Within groups	896.364	381	2.353		
	Total	903.265	387			
Hyperactivity by teacher	Between groups	34.068	6	5.678	1.556	0.159
	Within groups	1390.479	381	3.650		
	Total	1424.546	387			
Impulsivity by parents	Between groups	5.495	6	0.916	1.221	0.294
	Within groups	285.709	381	0.750		
	Total	291.204	387			
Impulsivity by teacher	Between groups	4.876	6	0.813	0.771	0.593
	Within groups	401.626	381	1.054		
	Total	406.503	387			
Hyperactivity-Impulsivity by parents	Between groups	18.483	6	3.080	0.676	0.669
	Within groups	1735.290	381	4.555		
	Total	1753.773	387			
Hyperactivity-Impulsivity by teacher	Between groups	64.113	6	10.685	1.432	0.201
	Within groups	2843.153	381	7.462		
	Total	2907.265	387			
Inattention – Impulsivity by parents	Between groups	61.356	6	10.226	1.090	0.368
	Within groups	3574.363	381	9.382		
	Total	3635.719	387			
Inattention – Impulsivity by teacher	Between groups	168.559	6	28.093	2.116	0.051
	Within groups	5059.181	381	13.279		
	Total	5227.740	387			
Total of ADHD by parents	Between groups	94.719	6	15.787	0.921	0.480
	Within groups	6532.291	381	17.145		
	Total	6627.010	387			
Total of ADHD by teacher	Between groups	305.641	6	50.940	1.946	0.072
	Within groups	9971.171	381	26.171		
	Total	10276.812	387			

5.11 Comparing between ADHD according to the father work among the study sample

One-way ANOVA was used to estimate the differences between children's ADHD and father work "un-employee- worker- skilled worker- employee- others " of the study sample. As shown in the following table; there were significant statistical differences in total ADHD as rated by teacher according to the father work (f=4.74, p=0.001)., Bonferroni statistical test indicates that, those children with un employee fathers (means= 7.15) were higher in total ADHD by teacher than who with employee fathers, (means= 4.72).

There were significant statistical differences in inattention disorders rated by teacher according to the father work (f=5.28, p=0.001)., Bonferroni statistical test indicates that, those children with un-employee fathers (means= 4.10) were higher in inattention disorders by teacher than who with employee fathers, (means= 2.48).There were significant statistical differences in hyperactivity disorders as rated by teacher according to the father work (f=3.27, p=0.012). Bonferroni statistical test indicates that, those children with un-employee fathers (means= 2.14) were higher in hyperactivity disorders by teacher than who with employee fathers, (means= 1.55).There were significant statistical differences in hyperactivity- impulsivity disorders as rated by teacher according to the father work (f=2.64, p=0.033)., Bonferroni statistical test indicates that, those children with un-employee fathers (means= 3.05) were higher in hyperactivity- impulsivity disorders by teacher than who with employee fathers (means= 2.24). There were significant statistical differences in inattention- impulsivity disorders as rated by teacher according to the father work (f=4.74, p=0.001). Bonferroni statistical test indicates that, those children with un-employee fathers (means= 5.01) were higher in inattention- impulsivity disorders by teacher than who with employee fathers (means= 3.17).

There were no significant statistical differences in impulsivity disorders rated by teacher

according to the father work.

There were no significant statistical differences in total ADHD and its disorder rated by parents according to the father work.

Table 5.21: One way ANOVA comparing ADHD according to the father work

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Inattention by parents	Between groups	31.674	4	7.919	1.219	0.302
	Within groups	2488.078	383	6.496		
	Total	2519.753	387			
Inattention by teacher	Between groups	193.311	4	48.328	5.264	0.001
	Within groups	3516.204	383	9.181		
	Total	3709.515	387			
Hyperactivity by parents	Between groups	18.308	4	4.577	1.981	0.097
	Within groups	884.957	383	2.311		
	Total	903.265	387			
Hyperactivity by teacher	Between groups	47.143	4	11.786	3.277	0.012
	Within groups	1377.403	383	3.596		
	Total	1424.546	387			
Impulsivity by parents	Between groups	4.590	4	1.147	1.533	0.192
	Within groups	286.614	383	.748		
	Total	291.204	387			
Impulsivity by teacher	Between groups	4.354	4	1.088	1.037	0.388
	Within groups	402.149	383	1.050		
	Total	406.503	387			
Hyperactivity-Impulsivity by parents	Between groups	33.166	4	8.291	1.846	0.119
	Within groups	1720.608	383	4.492		
	Total	1753.773	387			
Hyperactivity-Impulsivity by teacher	Between groups	78.078	4	19.520	2.642	0.033
	Within groups	2829.187	383	7.387		
	Total	2907.265	387			
Inattention – Impulsivity by parents	Between groups	46.378	4	11.595	1.237	0.295
	Within groups	3589.341	383	9.372		
	Total	3635.719	387			
Inattention – Impulsivity by teacher	Between groups	252.972	4	63.243	4.869	0.001
	Within groups	4974.767	383	12.989		
	Total	5227.740	387			
Total of ADHD by parents	Between groups	97.476	4	24.369	1.429	0.224
	Within groups	6529.535	383	17.048		
	Total	6627.010	387			
Total of ADHD by teacher	Between groups	485.433	4	121.358	4.747	0.001
	Within groups	9791.379	383	25.565		
	Total	10276.812	387			

5.12 Comparing between ADHD according to the mother's work among the study sample

To differentiate between children with house wife mothers (n= 344) and who had employee mothers (n= 44) in the levels of ADHD disorders an independent t-test was used; mother's work of the children was the dependent variable and children's ADHD rated by parents and rated by teachers as independent variables.

As shown in the following table; There were significant statistical differences in the total ADHD disorders by teacher (t=2.01, p=0.045), inattention disorder by teacher (t=2.67, p=0.008), and inattention- impulsivity disorders by teacher (t=2.40, p=0.017) according to the mother's work. In favor to the children had homemaker mother.

While, there were no significant statistical differences between the other ADHD disorders rated by teachers and all of ADHD disorders rated by parents according to the mother's work.

Table 5.22: Independent t-test comparing ADHD according to the mother's work

Dependent variables	Mother work	Mean	SD	t-test	*P*
Inattention by parents	House wife	2.53	2.550	0.470	0.638
	Employee	2.72	2.582		
Inattention by teacher	House wife	3.58	3.139	2.673	0.008
	Employee	2.27	2.462		
Hyperactivity by parents	House wife	1.67	1.497	0.494	0.621
	Employee	1.79	1.759		
Hyperactivity by teacher	House wife	1.90	1.913	0.816	0.415
	Employee	1.65	1.964		
Impulsivity by parents	House wife	0.65	0.866	0.967	0.334
	Employee	0.52	0.875		
Impulsivity by teacher	House wife	0.81	1.029	0.545	0.586
	Employee	0.72	0.996		
Hyperactivity-Impulsivity by parents	House wife	2.33	2.105	0.039	0.969
	Employee	2.31	2.330		
Hyperactivity-Impulsivity by teacher	House wife	2.72	2.728	0.775	0.439
	Employee	2.38	2.846		
Inattention – Impulsivity by parents	House wife	3.19	3.065	0.118	0.906
	Employee	3.25	3.096		
Inattention – Impulsivity by teacher	House wife	4.40	3.704	2.401	0.017
	Employee	3.00	3.213		
Total of ADHD by parents	House wife	4.86	4.109	0.270	0.787
	Employee	5.04	4.398		
Total of ADHD by teacher	House wife	6.31	5.172	2.014	0.045
	Employee	4.65	4.802		

5.13 Prevalence and severity of Conduct Disorder

5.13.1 Prevalence of symptoms of Conduct Disorder

To investigate the prevalence of CD's symptoms that found among the children of the study sample we performed frequency table to describe the most frequent CD's symptoms among children were rated by parents or students. The results found that 26.0% of children "hurt the youngest children" rated by parents and 18.8% by the students them self. "The child lie to obtain some thing" were 20.6% by students and 20.1% by parents, and "the child exhibit physical cruelty on animals like cats or dogs" 12.9% by students them self. While the lowest frequent symptoms were the child "ever stolen some thing from public cars or places" 1.0% by students and 1.3% by parents. "The child ever attacked the public property like gardens or public phone" 1.5% by parents, "Objects he /she steal have high value" 1.8% by parents and 2.6 by students them self.

Table 5.23: Frequency of Conduct Disorder items

No.	Items	Parent		Students	
		N	%	N	%
1	Did he /she hurt the youngest children?	101	26.0	73	18.8
2	Did he / she lie to obtain some thing?	78	20.1	80	20.6
3	Did he / she extort other children or threaten them?	39	10.1	46	11.9
4	Did he /she exhibit physical cruelty on animals like cats or dogs?	33	8.5	50	12.9
5	Did he /she initiate physical fights with neighbor's children at the district?	27	7.0	19	4.9
6	Did his /her neighbors or school ever complaining from him /her?	26	6.7	48	12.4
7	Did he /she ever physically hurt any children using bat or sharp object?	25	6.4	32	8.2
8	Did he /she come late outside home at night?	19	4.9	32	8.2
9	Have he /she runaway from home?	15	3.9	34	8.8
10	Did he /she ever tie up other children or injured them?	14	3.6	20	5.2
11	Has he /she ever escaped from school?	13	3.4	20	5.2
12	Have he /she ever sit fire at home?	10	2.6	17	4.4
13	Did the objects he /she steal have high value?	7	1.8	10	2.6
14	Has he/she ever attacked the public property like gardens or public phone?	6	1.5	14	3.6
15	Has he /she ever stolen some thing from public cars or places?	5	1.3	4	1.0

5.13.2 Prevalence of CD among the study sample

As shown in the following table 5.24, there were 61chilren rated by parents (15.7) and 68 (17.5%) rated by students themselves of the study sample of the children were conductive disorder cases.

Table 5.24: Severity prevalence of CD among the study sample

Variable	By parents		By student	
	N	%	N	%
Conduct disorder cases	61	15.7	68	17.5

5.14 Comparing between CD and gender "Boys – Girls" of the study sample

5.14.1 Total of CD and gender

To differentiate between boys (n= 194) and girls (n= 194) in the levels of CD an independent t-test was used; gender of the children was the dependent variable and children CD rated by parents and rated by students as independent variables.

There were statistical significant differences between boys and girls in total CD, boys had more CD than girls were rated by parents (t=4.11, p=0.001), and rated by students (t=4.40, p=0.001).

5.14.2 Aggression to people and animals and gender

There were statistical significant differences between boys and girls in aggression to people and animals by parents, boys had more aggression to people and animals as rated by parents than girls were rated by parents (t=3.79, p=0.001), and as rated by students (t=3.49, p=0.001).

5.14.3 Serious violations of rules and gender

There were statistical significant differences between boys and girls in serious violations of rules by parents, boys had more serious violations of rules by parents than girls were rated by parents (t=3.82, p=0.001), and rated by students (t=5.56, p=0.001).

While, there were no statistical significance differences in destruction of property, or deceitfulness or theft by parents and by students according to the gender of the study sample

Table 5.25: Independent t-test comparing between CD and gender

Dependent variables	Gender	Mean	SD	t-test	*P*
Aggression to people and animals by parents	Boys	0.92	1.428	3.978	0.001
	Girls	0.44	0.881		
Aggression to people and animals by student	Boys	0.96	1.521	3.498	0.001
	Girls	0.52	0.894		
Destruction of property by parents	Boys	0.05	0.231	1.533	0.126
	Girls	0.02	0.158		
Destruction of property by student	Boys	0.09	0.330	1.227	0.221
	Girls	0.06	0.241		
Deceitfulness or theft by parents	Boys	0.24	0.486	0.428	0.669
	Girls	0.22	0.463		
Deceitfulness or theft by student	Boys	0.26	0.506	0.836	0.404
	Girls	0.22	0.463		
Serious violations of rules by parents	Boys	0.19	0.491	3.827	0.001
	Girls	0.04	0.234		
Serious violations of rules by student	Boys	0.37	0.702	5.560	0.001
	Girls	0.07	0.259		
Conduct disorder by parents	Boys	1.41	1.919	4.113	0.001
	Girls	0.73	1.274		
Conduct disorder by student	Boys	1.69	2.233	4.409	0.001
	Girls	0.87	1.309		

5.15 Comparing between CD and the ownership of the schools "Government and UNRWA" among the study sample

5.15.1 Total of CD and sponsored of the schools

To differentiate between the students who studied in governmental schools (n= 198) and who studied in UNRWA schools (n= 190) in the levels of CD an independent t-test was used; There were no statistical significance differences in total CD, aggression to people and animals, or serious violations of rules by parents and by students according to the sponsored of the schools of the study sample.

5.15.2 Destruction of property and sponsored of the schools

There were statistical significant differences between students who studied in governmental schools and who studied in UNRWA schools in destruction of property, students who studied in UNRWA schools had more destruction of property than who

studied in governmental schools were rated by student (t=2.04, p=0.041), while no significant differences rated by parents.

5.15.3 Deceitfulness or theft and sponsored of the schools

There were statistical significant differences between students who studied in governmental schools and who studied in UNRWA schools in deceitfulness or theft by parents. Students who studied in UNRWA schools had more deceitfulness or theft by parents than who studied in governmental schools were rated by parents (t=3.45, p=0.001) and by student (t=3.16, p=0.002).

Table 5.26: Independent t-test comparing between CD and sponsored of the schools

Dependent variables	Sponsored	Mean	SD	t-test	*P*
Aggression to people and animals by parents	Governmental	0.60	1.237	1.365	0.173
	UNRWA	0.76	1.176		
Aggression to people and animals by student	Governmental	0.77	1.378	0.564	0.573
	UNRWA	0.70	1.139		
Destruction of property by parents	Governmental	0.03	0.185	0.594	0.553
	UNRWA	0.04	0.212		
Destruction of property by student	Governmental	0.05	0.219	2.047	0.041
	UNRWA	0.11	0.346		
Deceitfulness or theft by parents	Governmental	0.15	0.373	3.457	0.001
	UNRWA	0.31	0.549		
Deceitfulness or theft by student	Governmental	0.16	0.412	3.167	0.002
	UNRWA	0.32	0.541		
Serious violations of rules by parents	Governmental	0.13	0.435	0.782	0.435
	UNRWA	0.10	0.340		
Serious violations of rules by student	Governmental	0.19	0.486	1.088	0.277
	UNRWA	0.25	0.608		
Conduct disorder by parents	Governmental	0.92	1.715	1.857	0.064
	UNRWA	1.23	1.594		
Conduct disorder by student	Governmental	1.18	1.893	1.065	0.288
	UNRWA	1.38	1.853		

5.16 Comparing between CD according to the classes "7th- 8th- and 9th class" among the study sample

One way ANOVA was used to estimate the differences between children's CD and classes "7th – 8th – 9th" among the study sample.

As shown in the following table, there were no significant statistical differences between the CD disorders and total CD rated by parents and students according to the classes.

While only there were a significant statistical differences between serious violations of rules rated by parents of CD by parents according to the classes (f=6.75, p=0.001)., Bonferroni statistical test indicates that, those children who study in level 9th class were higher in serious violations of rules by parents mean than who in levels 7th and 8th classes, 0.21, 0.08 and 0.05 respectively.

Table 5.27: One way ANOVA comparing CD according to the classes

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Aggression to people and animals by parents	Between groups	2.00	2	1.001	0.684	0.505
	Within groups	564.00	385	1.465		
	Total	566.00	387			
Aggression to people and animals by student	Between groups	2.07	2	1.036	0.645	0.525
	Within groups	618.15	385	1.606		
	Total	620.22	387			
Destruction of property by parents	Between groups	0.02	2	0.012	0.301	0.740
	Within groups	15.31	385	0.040		
	Total	15.34	387			
Destruction of property by student	Between groups	0.37	2	0.186	2.228	0.109
	Within groups	32.15	385	0.084		
	Total	32.52	387			
Deceitfulness or theft by parents	Between groups	0.19	2	0.099	0.438	0.645
	Within groups	86.92	385	0.226		
	Total	87.12	387			
Deceitfulness or theft by student	Between groups	0.12	2	0.063	0.267	0.766
	Within groups	91.10	385	0.237		
	Total	91.22	387			

Follow table 5.27

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Serious violations of rules by parents	Between groups	2.01	2	1.005	6.755	0.001
	Within groups	57.29	385	0.149		
	Total	59.30	387			
Serious violations of rules by student	Between groups	0.16	2	0.081	0.267	0.766
	Within groups	116.77	385	0.303		
	Total	116.93	387			
Conduct disorder by parents	Between groups	5.62	2	2.812	1.017	0.362
	Within groups	1064.05	385	2.764		
	Total	1069.68	387			
Conduct disorder by student	Between groups	3.72	2	1.862	0.529	0.590
	Within groups	1355.52	385	3.521		
	Total	1359.24	387			

5.17 Comparing between CD according to the place of residence "city- village- camp" among the study sample

One way ANOVA was used to estimate the differences between children's CD and place of residence "city- village- camp" of the study sample.

As shown in the following table; There were no significant statistical differences between the CD disorders and total CD rated by parents and students according to the place of residency.

Table 5.28: One way ANOVA comparing CD according to the place of residence

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Aggression to people and animals by parents	Between groups	3.26	2	1.632	1.117	0.328
	Within groups	562.74	385	1.462		
	Total	566.00	387			
Aggression to people and animals by student	Between groups	8.94	2	4.470	2.815	0.061
	Within groups	611.28	385	1.588		
	Total	620.22	387			
Destruction of property by parents	Between groups	0.22	2	0.110	2.809	0.061
	Within groups	15.12	385	0.039		
	Total	15.34	387			
Destruction of property by student	Between groups	0.17	2	0.087	1.033	0.357
	Within groups	32.35	385	0.084		
	Total	32.52	387			
Deceitfulness or theft by parents	Between groups	1.30	2	0.651	2.919	0.055
	Within groups	85.82	385	0.223		
	Total	87.12	387			
Deceitfulness or theft by student	Between groups	0.28	2	0.142	0.602	0.548
	Within groups	90.94	385	0.236		
	Total	91.22	387			
Serious violations of rules by parents	Between groups	0.15	2	0.076	0.498	0.608
	Within groups	59.15	385	0.154		
	Total	59.30	387			
Serious violations of rules by student	Between groups	0.00	2	0.004	0.012	0.988
	Within groups	116.93	385	0.304		
	Total	116.93	387			
Conduct disorder by parents	Between groups	0.35	2	0.177	0.064	0.938
	Within groups	1069.32	385	2.777		
	Total	1069.68	387			
Conduct disorder by student	Between groups	15.50	2	7.750	2.220	0.110
	Within groups	1343.74	385	3.490		
	Total	1359.24	387			

5.18 Comparing between CD according to the number of siblings "≤ 4 siblings, 5-7, ≥ 8" among the study sample

One way ANOVA was used to estimate the differences between children's CD and number of siblings "≤ 4 siblings, 5-7, ≥ 8" of the study sample.

As shown in the following table; There were no significant statistical differences between the CD disorders and total CD rated by parents and most of rated by students according to the number of siblings.

While only there were significant statistical differences between aggression to people and animals of CD as rated by students according to the number of siblings (f=3.91, p=0.021)., Bonferroni statistical test indicates that, those children who had ≥ 8 siblings were higher aggression to people and animals mean than who had 5-7 siblings than who had ≤ 4 siblings, 0.34, 0.59 and 0.89 respectively.

In addition; there were significant statistical differences between destruction of property by students according to the number of siblings (f=5.48, p=0.004)., Bonferroni statistical test indicates that, those children who had ≤ 4 siblings were higher destruction of property mean than who had 5-7 siblings, 0.21 and 0.03 respectively.

Table 5.29: One way ANOVA comparing CD according to the number of siblings

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Aggression to people and animals by parents	Between groups	5.60	2	2.802	1.925	0.147
	Within groups	560.40	385	1.456		
	Total	566.00	387			
Aggression to people and animals by student	Between groups	12.36	2	6.180	3.914	0.021
	Within groups	607.86	385	1.579		
	Total	620.22	387			
Destruction of property by parents	Between groups	0.17	2	0.090	2.276	0.104
	Within groups	15.16	385	0.039		
	Total	15.34	387			
Destruction of property by student	Between groups	0.90	2	0.450	5.485	0.004
	Within groups	31.62	385	0.082		
	Total	32.52	387			
Deceitfulness or theft by parents	Between groups	0.26	2	0.132	0.585	0.558
	Within groups	86.86	385	0.226		
	Total	87.12	387			
Deceitfulness or theft by student	Between groups	0.78	2	0.391	1.665	0.191
	Within groups	90.44	385	0.235		
	Total	91.22	387			
Serious violations of rules by parents	Between groups	0.13	2	0.068	0.441	0.644
	Within groups	59.17	385	0.154		
	Total	59.30	387			
Serious violations of rules by student	Between groups	0.48	2	0.242	0.800	0.450
	Within groups	116.45	385	0.302		
	Total	116.93	387			
Conduct disorder by parents	Between groups	9.56	2	4.782	1.737	0.177
	Within groups	1060.11	385	2.754		
	Total	1069.68	387			
Conduct disorder by student	Between groups	18.18	2	9.090	2.610	0.075
	Within groups	1341.06	385	3.483		
	Total	1359.24	387			

5.19 Comparing between CD according to the family income "< 600 NIS, 601-1000, 1001 – 1500, > 1500 NIS" among the study sample

One way ANOVA was used to estimate the differences between children's CD and family income "< 600 NIS, 601-1000, 1001 – 1500, > 1500 NIS" of the study sample.

As shown in the following table; There were no significant statistical differences between the CD disorders and total CD as rated by parents and students according to the family income.

Table 5.30: One way ANOVA comparing CD according to the family income

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Aggression to people and animals by parents	Between groups	7.34	3	2.448	1.682	0.170
	Within groups	558.66	384	1.455		
	Total	566.00	387			
Aggression to people and animals by student	Between groups	2.76	3	0.921	0.573	0.633
	Within groups	617.46	384	1.608		
	Total	620.22	387			
Destruction of property by parents	Between groups	0.10	3	0.036	0.917	0.433
	Within groups	15.23	384	0.040		
	Total	15.34	387			
Destruction of property by student	Between groups	0.24	3	0.080	0.953	0.415
	Within groups	32.28	384	0.084		
	Total	32.52	387			
Deceitfulness or theft by parents	Between groups	0.37	3	0.125	0.553	0.646
	Within groups	86.74	384	0.226		
	Total	87.12	387			
Deceitfulness or theft by student	Between groups	1.22	3	0.407	1.738	0.159
	Within groups	90.00	384	0.234		
	Total	91.22	387			
Serious violations of rules by parents	Between groups	1.09	3	0.364	2.401	0.067
	Within groups	58.21	384	0.152		
	Total	59.30	387			
Serious violations of rules by student	Between groups	0.36	3	0.123	0.404	0.750
	Within groups	116.57	384	0.304		
	Total	116.93	387			
Conduct disorder by parents	Between groups	14.37	3	4.791	1.743	0.158
	Within groups	1055.30	384	2.748		
	Total	1069.68	387			
Conduct disorder by student	Between groups	5.10	3	1.701	0.482	0.695
	Within groups	1354.14	384	3.526		
	Total	1359.24	387			

5.20 Comparing between CD according to the father education among the study sample

One way ANOVA was used to estimate the differences between children's CD and father education "not educated- primary- preparatory- secondary- university- post graduate" of the study sample.

As shown in the following table; There were no significant statistical differences between the CD disorders and total CD rated by parents and students according to the father education.

Table 5.31: One way ANOVA comparing CD according to the father education

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Aggression to people and animals by parents	Between groups	6.20	6	1.034	0.704	0.647
	Within groups	559.80	381	1.469		
	Total	566.00	387			
Aggression to people and animals by student	Between groups	5.74	6	0.957	0.593	0.736
	Within groups	614.48	381	1.613		
	Total	620.22	387			
Destruction of property by parents	Between groups	0.12	6	0.022	0.539	0.779
	Within groups	15.21	381	0.040		
	Total	15.34	387			
Destruction of property by student	Between groups	0.22	6	0.038	0.450	0.845
	Within groups	32.29	381	0.085		
	Total	32.52	387			
Deceitfulness or theft by parents	Between groups	0.99	6	0.166	0.735	0.621
	Within groups	86.12	381	0.226		
	Total	87.12	387			
Deceitfulness or theft by student	Between groups	0.70	6	0.117	0.491	0.815
	Within groups	90.52	381	0.238		
	Total	91.22	387			
Serious violations of rules by parents	Between groups	0.67	6	0.112	0.729	0.626
	Within groups	58.63	381	0.154		
	Total	59.30	387			
Serious violations of rules by student	Between groups	2.27	6	0.380	1.262	0.274
	Within groups	114.65	381	0.301		
	Total	116.93	387			
Conduct disorder by parents	Between groups	8.52	6	1.421	0.510	0.801
	Within groups	1061.15	381	2.785		
	Total	1069.68	387			
Conduct disorder by student	Between groups	18.56	6	3.094	0.879	0.510
	Within groups	1340.68	381	3.519		
	Total	1359.24	387			

5.21 Comparing between CD according to the mother education among the study sample

One way ANOVA was used to estimate the differences between children's CD and mother education "not educated- primary- preparatory- secondary- university- post graduate" of the study sample.

As shown in the following table; There were no significant statistical differences between the CD disorders and total CD rated by parents and students according to the mother education.

Table 5.32: One way ANOVA comparing CD according to the mother education

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Aggression to people and animals by parents	Between groups	5.79	6	0.966	0.657	0.685
	Within groups	560.21	381	1.470		
	Total	566.00	387			
Aggression to people and animals by student	Between groups	12.68	6	2.114	1.326	0.245
	Within groups	607.54	381	1.595		
	Total	620.22	387			
Destruction of property by parents	Between groups	0.14	6	0.024	0.614	0.719
	Within groups	15.19	381	0.040		
	Total	15.34	387			
Destruction of property by student	Between groups	0.380	6	0.063	0.750	0.610
	Within groups	32.14	381	0.084		
	Total	32.52	387			
Deceitfulness or theft by parents	Between groups	1.33	6	0.222	0.984	0.435
	Within groups	85.79	381	0.225		
	Total	87.12	387			
Deceitfulness or theft by student	Between groups	1.88	6	0.314	1.339	0.239
	Within groups	89.34	381	0.234		
	Total	91.22	387			
Serious violations of rules by parents	Between groups	0.37	6	0.063	0.407	0.875
	Within groups	58.92	381	0.155		
	Total	59.30	387			
Serious violations of rules by student	Between groups	1.00	6	0.167	0.550	0.770
	Within groups	115.93	381	0.304		
	Total	116.93	387			
Conduct disorder by parents	Between groups	8.81	6	1.469	0.528	0.787
	Within groups	1060.86	381	2.784		
	Total	1069.68	387			
Conduct disorder by student	Between groups	12.07	6	2.013	0.569	0.755
	Within groups	1347.17	381	3.536		
	Total	1359.24	387			

5.22 Comparing between CD according to the father work among the study sample

One way ANOVA was used to estimate the differences between children's CD and father work "un-employee- worker- skilled worker- employee- others " of the study sample.

As shown in the following table; There were no significant statistical differences between the CD disorders and total CD rated by parents and students according to the father work.

Table 5.33: One way ANOVA comparing CD according to the father work

Dependent variables	Independent variables	Sum of squares	Df	Mean square	F	P value
Aggression to people and animals by parents	Between groups	9.10	4	2.275	1.565	0.183
	Within groups	556.90	383	1.454		
	Total	566.00	387			
Aggression to people and animals by student	Between groups	3.95	4	0.990	0.615	0.652
	Within groups	616.26	383	1.609		
	Total	620.22	387			
Destruction of property by parents	Between groups	0.05	4	0.014	0.349	0.845
	Within groups	15.28	383	0.040		
	Total	15.34	387			
Destruction of property by student	Between groups	0.29	4	0.072	0.860	0.488
	Within groups	32.23	383	0.084		
	Total	32.52	387			
Deceitfulness or theft by parents	Between groups	1.38	4	0.346	1.547	0.188
	Within groups	85.73	383	0.224		
	Total	87.12	387			
Deceitfulness or theft by student	Between groups	1.05	4	0.263	1.118	0.348
	Within groups	90.17	383	0.235		
	Total	91.22	387			
Serious violations of rules by parents	Between groups	0.747	4	0.187	1.222	0.301
	Within groups	58.56	383	0.153		
	Total	59.30	387			
Serious violations of rules by student	Between groups	1.48	4	0.372	1.235	0.296
	Within groups	115.45	383	0.301		
	Total	116.93	387			
Conduct disorder by parents	Between groups	13.42	4	3.357	1.217	0.303
	Within groups	1056.25	383	2.758		
	Total	1069.68	387			
Conduct disorder by student	Between groups	2.10	4	0.525	0.148	0.964
	Within groups	1357.14	383	3.543		
	Total	1359.24	387			

5.23 Comparing between CD according to the mother's work among the study sample

To differentiate between children with house wife mothers (n= 344) and who had employee mothers (n= 44) in the levels of CD an independent t-test was used; mother's work of the children was the dependent variable and children CD rated by parents and rated by students as independent variables.

As shown in the following table; There were no significant statistical differences between the CD disorders and total CD rated by parents and students according to the mother work.

Table 5.34: Independent t-test comparing CD according to the mother work

Dependent variables	Mother work	Mean	SD	t-test	*P*
Aggression to people and animals by parents	House wife	0.67	1.221	0.390	0.697
	Employee	0.75	1.123		
Aggression to people and animals by student	House wife	0.75	1.290	0.589	0.556
	Employee	0.63	1.058		
Destruction of property by parents	House wife	0.03	0.183	1.762	0.079
	Employee	0.09	0.290		
Destruction of property by student	House wife	0.07	0.281	1.374	0.170
	Employee	0.13	0.347		
Deceitfulness or theft by parents	House wife	0.22	0.469	0.943	0.346
	Employee	0.29	0.509		
Deceitfulness or theft by student	House wife	0.23	0.481	1.102	0.271
	Employee	0.31	0.518		
Serious violations of rules by parents	House wife	0.12	0.405	0.953	0.341
	Employee	0.06	0.254		
Serious violations of rules by student	House wife	0.22	0.550	0.219	0.827
	Employee	0.20	0.553		
Conduct disorder by parents	House wife	1.06	1.665	0.539	0.590
	Employee	1.20	1.650		
Conduct disorder by student	House wife	1.28	1.864	0.035	0.972
	Employee	1.29	1.971		

5.24 Correlation between ADHD and CD among the study sample

As shown in the following table, there were positive significant correlation between total scores of ADHD and total CD and CD subscales by parents among the study sample of children (P= 0.001).

In addition; there were positive significant correlation between total scores of CD and total ADHD and ADHD subscales by parents among the study sample of the children (P= 0.01). That means the high incidence of ADHD will combined with high incidence of CD, and high incidence of CD will combined with high incidence of ADHD among the study sample of the children, which means the increasing of ADHD lead to increase CD, and decreasing of ADHD lead to decrease CD among the children.

Table 5.35: Correlations between ADHD and CD among the study sample by parents

Variables	Aggression to people and animals by parents	Destruction of property by parents	Deceitfulness or theft by parents	Serious violations of rules by parents	Conduct disorder by parents
Inattention by parents	0.361 **	0.133 **	0.314 **	0.119 *	0.396 **
Hyperactivity by parents	0.441 **	0.136 **	0.239 **	0.076	0.424 **
Impulsivity by parents	0.332 **	0.041	0.309 **	0.098	0.358 **
Hyperactivity-Impulsivity by parents	0.452 **	0.114 *	0.298 **	0.095	0.450 **
Inattention - Impulsivity by parents	0.395 **	0.122 *	0.348 **	0.126 *	0.431 **
Total of ADHD by parents	0.455 **	0.141 **	0.346 **	0.122 *	0.476 **

5.25 Co-morbidity between ADHD cases and CD among the study sample

As shown in the following table, there were 26 (6.7% by parents) of the study sample were inattentive, 20 (5.2% by parents) of the study sample were hyperactive- impulsive, and 13 (3.4% by parents) of the study sample were ADHD children were co-morbid CD.

There were significant co-morbidity between ADHD and CD by parents among the study sample of the children (X^2= 49.51, df= 1, p= 0.001).

Table 5.36: Co-morbidity between ADHD Cases and CD by parents among the study sample

Variable	Normal by parents		CD cases by parents		X^2 Df= 1	P
	N	%	N	%		
Inattentive by parents	40	10.3	26	6.7	33.63	0.001
Hyperactive-impulsive by parents	12	3.1	20	5.2	57.59	0.001
ADHD cases by parents	4	1.0	13	3.4	49.51	0.001

Chapter Six

Implications & recommendations

Chapter Six
Implications and recommendation

This chapter introduced the main results that achieved in chapter five and its discussion insight the previous studies and theoretical framework, which supporting the findings of this study. However, implications and recommendations regarding the children, that is likely to be taken in consideration in the application of the future building. Also, recommendations for further research will be provided on the basis of the results of this study.

6.1 Main results

This study found that there were 17 (4.4% by parents) and 38 (9.8% by teachers) of the children were ADHD cases, and there were a statistical significance differences between boys and girls in total ADHD, boys were more ADHD than girls were rated by parents (t=3.38, p=0.001), and rated by teachers (t=3.24, p=0.001).

There were statistical significant differences in ADHD according to the sponsored of the schools, children who studied in governmental schools more ADHD than who studied in UNRWA schools were as rated by teacher (t=2.07, p=0.113). While no differences rated by parents. Also there were significant statistical difference in ADHD by patents according to the classes (f=5.17, p=0.006)., Bonferroni statistical test indicates that, those children who were in the level of 7^{th} class significantly higher in ADHD than who in 9^{th} class (means 5.74, and 4.11 respectively).

There were significant statistical differences in total ADHD disorders rated by teachers (f=4.25, p=0.006) according to the family income, the children who had "< 600 NIS"

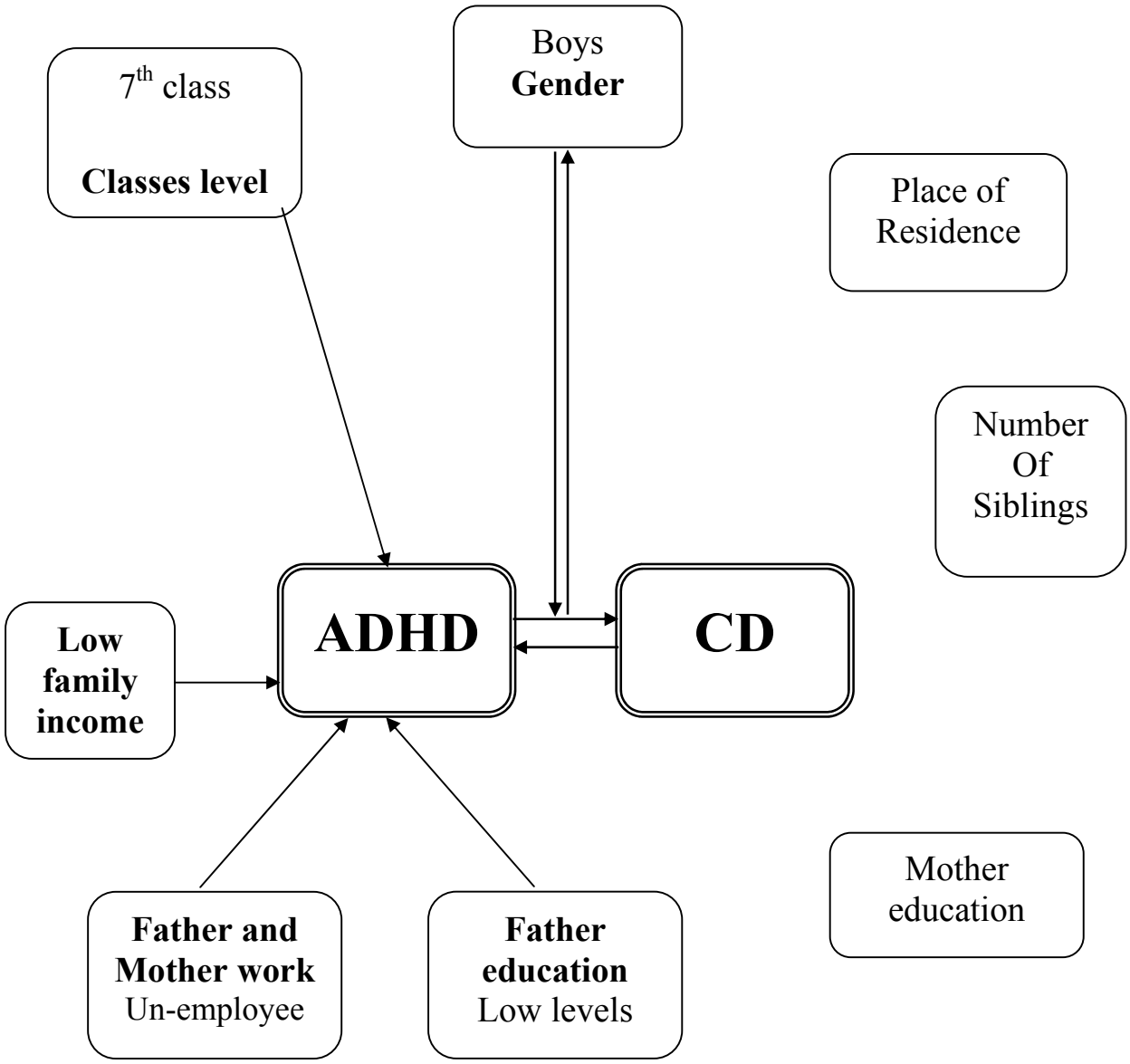
family income significantly higher in ADHD than who had "> 1500 NIS" family income (means 6.94 and 4.82 respectively). There were significant statistical differences in total ADHD as rated by teacher (f=3.25, p=0.004) according to the father education, the children with primary school of father education (means= 8.21) were higher in ADHD by teacher than who with postgraduate level of father education (means= 3.63).Also there were significant statistical differences in ADHD by teacher according to the father work (f=4.74, p=0.001). Children with unemployed fathers (means= 7.15) were higher in ADHD by teacher than who with employee fathers, (means= 4.72).

In addition; there were significant statistical differences in ADHD disorders by teacher (t=2.01, p=0.045) according to the mother's work in favor to the children with housewife mother. While; there were no significant statistical difference in total ADHD rated by parents and teacher according to the place of residency, number of siblings, and according to the mother education. The results found that; there were 61 (15.7% by parents) and 68 (17.5% by students) of the study sample were conduct disorder children.

There were a statistical significance differences between boys and girls in total CD, boys had more CD than girls were rated by parents (t=4.11, p=0.001), and rated by students (t=4.40, p=0.001).However; there were no statistical significance differences in CD by parents and by students according to the sponsored of the schools, classes, place of residency, number of siblings, family income, father and mother education or father and mother work of the study sample. There were 26 (6.7% by parents) of the study sample were inattentive, 20 (5.2% by parents) of the study sample were hyperactive- impulsive, and 13 (3.4% by parents) of the study sample were ADHD children were co-morbid CD. There were significant co-morbidity between ADHD and CD by parents among the study sample of the children (X^2= 49.51, df= 1, p= 0.001).And also there were positive

significant correlation between total scores of ADHD and total CD and CD subscales by parents among the study sample of children (P= 0.001). In addition; there were positive significant correlation between total scores of CD and total ADHD and ADHD subscales by parents among the study sample of the children (P= 0.01).

As shown in the results of this study, the researcher format this diagram



6.2 Discussion

This study found that there were 4.4% as rated by parents and 9.8% as rated by teachers of the children were ADHD cases. In agree to and near to the prevalence of ADHD among Omani students was 5%, a rate that is lower than what is observed in many Western samples (Al-Sharbati et al, 2003). Where Abu Hwaashel (2004) find that the prevalence rate of ADHD among children aged (7- 12) in Gaza strip were 15%.

Thabet et al (2006) found that 8.4% from Gaza children fulfilled the full criteria of ADHD combined type compared to 2.7% from West bank according to the parents; and 5.2% from the Gaza children fulfilled the criteria of ADHD compared to 3.3% from West Bank but according to the teachers.

In addition; Attention-Deficit Hyperactivity Disorder (ADHD) (American Psychiatric Association, 1994) is a seemingly heterogeneous group of behavioral disorders affecting between 2% and 12% of grade school children. The finding of (Bener et al., 2006) showed that prevalence of ADHD is 9.4% among the study sample. AL shakhss (1985) found that the prevalence rate of ADHD at 5, 71% in Egyptian children.

Up to 10% of children in the USA were described as having ADHD (Mental Health Foundation, 2000: 8). However increased in the results by Bhatia (1999) which showed that (17.7%) found to have ADHD.

All children are sometimes restless, sometimes act without thinking, and sometimes daydream the time away. When the child's hyperactivity, distractibility, poor concentration, or impulsivity begin to affect performance in school, social relationships with other children, or behavior at home, ADHD may be suspected. But because the symptoms vary

so much across settings, ADHD is not easy to diagnose. This is especially true when inattentiveness is the primary symptoms (Barkley, 2007).

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that becomes apparent in some children in the preschool and early school years. It is hard for these children to control their behavior and/or pay attention. It is estimated that between (3- 5%) of children have ADHD, or approximately 2 million children in the United States. This means that in a classroom of 25 to 30 children, it is likely that at least one will have ADHD (Barkley, 2007). Where the results of this study means that about 2 – 4 children in classroom of 40 children suffered from ADHD in Gaza Strip.

Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000a), which revealed that there are three patterns of behavior that indicate ADHD. People with ADHD may show several signs of being consistently inattentive. They may have a pattern of being hyperactive and impulsive far more than others of their age, or they may show all three types of behavior. This means that there are three subtypes of ADHD. These are the predominantly hyperactive-impulsive type (that does not show significant inattention); the predominantly inattentive type (that does not show significant hyperactive-impulsive behavior) sometimes called ADD—an outdated term for this entire disorder; and the combined type (that displays both inattentive and hyperactive-impulsive symptoms).

There were statistical significant differences between boys and girls in total ADHD, boys had more ADHD than girls. In agree to the finding of (Bener et al., 2006) that the boys were higher (14.1%) than girls (4.4%) in ADHD symptoms. AL shakhss (1985) found that the prevalence of ADHD were 5 male to 3 female ratio in Egyptian children.

Dulcan, Dunne, Ayers, Arnold, Benson, and associates (1997) report a prevalence rate for ADHD of 10.1% in males and 3.3% in females aged 4–11 years in Ontario, Canada (Gullotta et al., 2005: 163).

And Biederman et al. (2002) revealed that there were girls with ADHD were at less risk for co morbid major depression, conduct disorder, and oppositional defiant disorder than boys with ADHD.

Nolan et al (1999) suggest that even among children who meet criteria for one of the subtypes of ADHD, age and gender differences may be important variables in diagnosis.

The researcher sees that the Palestinian family were orients more stresses on the boys to be man in their childhood, which may leads to ADHD children more than girls were take more caring and need satisfying than boys.

There was statistical significant differences in ADHD according to the ownership of the schools, children who studied in governmental schools more ADHD than who studied in UNRWA schools rated by teacher, while no differences rated by parents.

The researcher believe that may be referred to the bias of data of UNRWA teachers, to occur in good view with their students and managers were the ADHD associated with multiple factors, as family socialization, and inherited factors.

Where genetic (inherited) factors are important in ADHD. However it is clear that the environment plays a part as well. If your child has a close relative who has been diagnosed with ADHD, this increases their chance of being diagnosed with ADHD. But it does not mean that ADHD is inevitable. No single gene has been identified as causing ADHD, and it is more likely that several genes are involved, each interacting with the environment in extremely complicated ways (Mental Health Foundation, 2000).

In other idea, may the environment and programs of UNRWA schools control the behaviors of the children than governmental schools?

There were significant statistical difference in ADHD by parents according to the classes, where the children who in the level of seventh class significantly higher in ADHD than who in ninth class.

In agree to the result of Brooks (1995) found that Hyperactivity-impulsivity symptoms declined with increasing age. The researcher thinks that old children were more able to be stable in their behavior in family environments than the younger children were. While the old children had more mature and perceived variables around them.

There were significant statistical differences in total ADHD disorders rated by teachers according to the family income. The children who had "less than 600 NIS" family income significantly higher in ADHD than who had "above 1500 NIS" family income.

In agree to Hurting et al. (2007) result which found that adolescents with ADHD were associated to the symptoms of ADHD. The researcher sees that low income may lead to stressors in the family environment and then the father and mothers were not capable to achieve or satisfying the need of there children, this bad family environment increase of ADHD children insight the low-income family. Socioeconomic status (SES) is known to affect the cognitive and behavioral development of children (Duncan, 1994). However, the exact effects of SES on child development can be difficult to determine because of the interactions between SES and race. Parents from low SES may stress to their children how to survive rather than on quiet behaviors. These teachings are opposite to those of the school system; this difference in priorities may be why children from low SES are labeled or referred first and more often (Rollins, 2005: 5).Additionally, a low socioeconomic status may be associated with other ADHD risk factors, such as poor prenatal care, severe marital

discord, large family size, or foster care placement. The low status also may expose children to environmental or psychosocial stressors. Therefore, low socioeconomic status itself may be a risk factor for presentation of ADHD associated behaviors (Reid et al., 2001).

There were significant statistical differences in total ADHD by teacher according to the father education teacher, father work, and mother work. In favor to children with primary school of father education, un-employee father, and housewife mother "un-employee mothers". Al-Sharbati et al. (2003) were discuss the importance of socio-cultural versus ecological factors that might play a role in the expression of hyperactivity and speculate about the gender related issues concerning ADHD in an Arab/Islamic country.

Abdel –Fattah et al (2004) found that educational level (intermediate versus primary) and mother occupation (working versus non-working) were associated with a higher risk of developing emotional and/or behavioral disturbance among the sample of males' Saudi schoolchildren. However; Bhatia (1999) found that there was no association of ADHD with parental education.

Parent of a child with ADHD have a very important role to play in helping child to gain control over their behavior (Mental Health Foundation, 2000).

The psychosocial/behavioral treatment consisted of parent training, school intervention and a summer treatment program, (Wells et al., 2000). In Parent training for ADHD, parents are taught a specific set of behavior management skills geared toward the behavioral excesses and deficits displayed by their children. Common targets in PT programs for ADHD include improving the general family emotional climate, parent skills for noting and positively reinforcing children's prosocial behavior, and parent skills for confronting

disruptive behavior with effective antecedents and consequences. For example, parents are taught skills (Haas, 2004) such as spending structured, positive time with their children.

Teachers need to learn behavior modification for the general education classroom to support the child with ADHD in addressing symptoms of ADHD in the classroom. Difficulty completing tasks, following directions and rules, staying seated, raising their hand and waiting to be called on, getting along with peers and adults, and transitioning to the next activity by cleaning up and getting out required materials are skills that need to be taught and reinforced for children with ADHD. In addition, homework and completing long-term projects are skills that require systematic planning and feedback if the child with ADHD is to be successful in school (Fine & Kotkin, 2003).

While; there were no significant statistical difference in total ADHD rated by parents and teacher according to the place of residency, number of siblings, and according to the mother education.

However; Al shakhss (1985) found that the prevalence of ADHD increased in urban areas in comparison with rural areas and there was significant relationship between the disabled children in comparison with normal one.

The child with ADHD who is exposed to repeated environmental stressors becomes more susceptible to adolescent oppositional defiant disorder, conduct disorder, antisocial behaviors, and major depression (Barkley, 2003). Environmental stressors include frequent moves, particularly those that involve changing schools and/or separation from positive peer groups, life events such as parental divorce, and chronic stressors such as high levels of parental anger or conflict (Gullotta et al., 2005).

Environmental stressors include frequent moves, particularly those that involve changing schools and/or separation from positive peer groups, life events such as parental divorce,

and chronic stressors such as high levels of parental anger or conflict (Gullotta et al., 2005).Hoza, Morg and Gerdes et al (2005) found that children with ADHD had less positive imbalance and greater negative imbalance relative to normal children. Analysis that considered the types of peers who chose children with ADHD as friends or non-friends demonstrated that children of higher social preference and whom others better liked nominated children with ADHD as non-friends.

In addition; Bener et al. (2006) The finding showed that children who have a higher score for ADHD symptoms have school performance poorer than those with lower scores ($p = .003$). Furthermore, the study reveals that ADHD is found to be a common problem among school children.

Chronis (2007) findings suggest that maternal depression is a risk factor, whereas early positive parenting is a protective factor, for the developmental course of conduct problems among children with ADHD.

The results found that there were (15.7% by parents) and 68 (17.5% by students) of the study sample were conduct disorder children.

Where Sarkhel et al. (2006) found that conduct disorder was found in 4.58% of the children. While, Vitelli (1996) found that 63% of the sample met DSM-IV criteria for childhood CD. Stephen Hinshaw and Carolyn Anderson (1996) noted that while individuals diagnosed with CD almost always have already met the criteria for ODD, fewer than 25 percent of individuals with ODD eventually develop the more severe problems of CD (Brown, 2005: 234). Conduct disorder coexist with ADHD in 35% of cases (Fine & Kotkin, 2003). In the large multimodal treatment study of children with attention deficit hyperactivity disorder, of children ages seven to nine years diagnosed with ADHD, 70%

were found to have met DSM-IV diagnostic criteria for at least one other psychiatric disorder within the preceding year. These included conduct disorder 14% (Brown, 2005).

Conduct disorder, one of the most frequently diagnosed psychiatric conditions in children; vary widely from 0.2% to 8.7% (Sarkhel et al., 2006).

Study by Kilic & Sener (2005) found that (69.6%) were diagnosed with ADHD and (30.4%) diagnosed with ADHD co-morbid with oppositional defiant disorder and conduct disorder. Also there were no differences between the two groups in respect to age, intelligence, characteristics of neonatal period, age of walking and speech.

There were statistical significant differences between boys and girls in CD, boys had more CD than girls were rated by parents and students.

Boys are more likely than girls to be diagnosed with CD, a common conception is that the prevalence of CD is approximately 6–16% of adolescent boys and 2–9% of adolescent girls (Mandel, 1997) (Gullotta et al., 2005).

Abdel Fattah et al (2004) Among Male Saudi Schoolchildren found that (8.3%) were emotionally and behaviorally disturbed students. Where in agree to DSM-IV reports a prevalence of CD in males of 6%-10% and in females of 2%-9% (American Psychiatric Association, 1994). In the study by (Sarkhel et al., 2006) was found CD to be prevalence among boys being 6.81% (n=9) and girls being 1.85% (n=2). However; the study found that there were no statistical significance differences in CD by parents and by students according to the sponsored of the schools, classes, place of residency, number of siblings, family income, father and mother education or father and mother work of the study sample.

Frick et. al. (1999) found that parental consistency in using discipline was highly predictive of conduct problems in the adolescent age group and moderately predictive in the youngest age group. A key individual environment interaction effect with long-term consequences

for conduct problem youth is restriction of environmental options. Such restriction may start in early childhood through family contextual factors, including low income and residence in a deprived neighborhood. Critically for development, individual characteristics may expand or contract the range of environmental options. Developmental success may lead to expansion of options, whereas developmental failures and conduct problems lead to restriction (e.g., rejection by socially skilled peers due to unskilled or aggressive behavior may occur early in development) (Gullotta et al., 2005).

Parental substance abuse, especially in fathers, is predictive of CD in children. Maternal depression has also been linked to child conduct problems, as well as a number of other kinds of maladjustment (Cummings & Davies, 1994).

Eron and Huesmann (1990) conducted a 22-year prospective study, compiling data on 82 participants when they were 8 and 30 years of age, as well as collecting information from their parents and 8-year-old children. Strong associations were seen between grandparents', parents', and children's aggressiveness. The correlation between the aggression parents had shown at age 8 and that displayed by their children was remarkably higher even than the consistency in parents' own behavior across the lifespan while the study found that there were positive significant correlation between total scores of ADHD and total CD and CD subscales by parents among the study sample of children. In addition; there were positive significant correlation between total scores of CD and total ADHD and ADHD subscales by parents among the study sample of the children. That means the high incidence of ADHD will combined with high incidence of CD, and high incidence of CD will combined with high incidence of ADHD among the study sample of the children, which means the increasing of ADHD lead to increase CD, and decreasing of ADHD lead to decrease CD

among the children. There were significant co-morbidity between ADHD and CD by parents among (3.4%) of the study sample of the children.

6.3 Conclusion

ADHD is hyperkinetic disorder characterized by persistent and sever impairment of psychological development resulting from a high level of inattentive, restless and impulsive behavior (American Psychiatric Association, 1994).

CD is a repetitive and persistent pattern of behavior in which either the basic rights of others or major age –appropriate societal norms or rules are violated (American Psychiatric Association, 1994).

ADHD is a heterogeneous neuron-psychiatric behavioral disorder characterized by inattention, hyperactivity, and impulsivity of varying severity. ADHD by definition begins in childhood and frequently leads to profound academic and social impairments across multiple settings (Barkley, 1998). ADHD disorder is the most common cause for referral of children to mental health and primary care providers alike and is among the most prevalent chronic health conditions affecting school-aged children (Haas, 2004).

Some children have significant problems in concentration and attention, but are not necessarily overactive or impulsive. These children are sometimes described as having attention deficit disorder (ADD) rather than ADHD (Mental Health Foundation, 2000).

This study found that the prevalence of ADHD children were (4.4% by parents and 9.8% by teachers) and CD children were (15.7% by parents and 17.5% by students).

Boys significantly higher ADHD, CD than girls. There were a statistical significance differences in ADHD according to the sponsored of the schools, children who studied in governmental schools more ADHD than who studied in UNRWA schools rated by teacher.

The children who in the level of seventh class significantly higher in ADHD than who in 9th class. The children who had low family income significantly higher in ADHD than who had high family income.

There were significance statistical differences in total ADHD by teacher according to the father education teacher, father work, and mother work. In favor to children with primary school of father education, un-employee father, and house wife mother "un-employee mothers".

While; there were no significant statistical difference in total ADHD rated by parents and teacher according to the place of residency, number of siblings, and according to the mother education.

There were no statistical significance differences in CD by parents and by students according to the sponsored of the schools, classes, place of residency, number of siblings, family income, father and mother education or father and mother work of the study sample.

According to the study results that show high incidence of ADHD will combined with high incidence of CD, and high incidence of CD will combined with high incidence of ADHD among the study sample of the children, which means the increasing of ADHD lead to increase CD, and decreasing of ADHD lead to decrease CD among the children.

There were (3.4%) of the study sample of the children were significant co-morbid ADHD and CD children by parents.

Vitelli (1996) found significant co-morbidity was found between childhood CD and ADHD, but CD was the only significant predictor of adult criminality.

Willson & Steiner (2002) the importance of developmental factors in the determination of his behavior, and their significance in treatment planning, are discussed. Although the

current definitions of conduct and substance use disorders are useful and valid, attention to individual contextual factors may enhance the clinical utility of these categories.

Kadesjo and Gillberg (2001) found that the rate of associated school adjustment, learning, and behavior problems at follow up was very high in the ADHD groups.

In addition the study by Busch et al. (2002) found that the children with ADHD from both psychiatric and pediatric practices have prototypical symptoms of the disorder; high levels of co-morbidity with mood, anxiety, and disruptive behavior disorders; and impairments in cognitive, interpersonal, and academic function that do not differ by ascertainment source.

Hurtig et al. (2007) found that adolescents with ADHD had more commonly conduct disorder, oppositional defiant disorder and mild depression than adolescents without ADHD. In addition adolescents with ADHD and co-morbid disorders had more ADHD symptoms than those with ADHD alone.

The researcher sees that the inattentive, hyper active and impulsive children were more ready to be aggressive and disturbance behaviors, beat the youngest children, initiates physical fights with neighbor children at the district, physically hurt any children using bat or sharp object, extort other children or threaten them, ties up any children or injured them and ever broken the home or school furniture. Vitelli (1996) found a significant co-morbidity was found between childhood CD and ADHD, but CD was the only significant predictor of adult criminality.

6.4. Recommendations

Insight of the study results the researcher introduced the following recommendations:

- Establishing psychosocial rehabilitation programs with high adequacy that allow children become more integrated in their society through counseling programs inside the specialized institutions.
- Giving a significant focus on the role of family "fathers and mothers" in psychological intervention through awareness raising activities such as lectures, meeting and symposiums.
- Enhancing program for families and all people had direct relation to the ADHD and CD children.
- A psychosocial counseling program must be started toward the low income families to be more follow the ADHD symptoms of there children. And more psychosocial follow up to the boys in the natural environment.
- Teachers need to learn behavior modification for the general education classroom to support the child with ADHD in addressing symptoms of ADHD in the classroom.
- Full symptoms ADHD children must visit neurological physician periodically, to development of their cases.
- Establishing social committees to be more acceptant and supporting to the ADHD, and CD children.

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Annexes

Annex (1)

DSM-IV Criteria for ADHD (American Psychiatric Association, 1994)

ADH A. either (1) or (2):

(1) six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level Inattention:

(a) Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities.

(b) Often has difficulty sustaining attention in tasks or play.

(c) Often does not seem to listen when spoken to directly.

(d) Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions.

(e) Often has difficulty organizing tasks and activities.

(f) Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort such as schoolwork or homework).

(g) Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools).

(h) Is often easily distracted by extraneous stimuli.

(i) Is often forgetful in daily activities.

(2) Six (or more) of the following symptoms of hyperactivity–impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity:

(a) Often fidgets with hands or feet or squirms in seat.

(b) Often leaves seat in classroom or in other situations in which remaining seated is expected.

(c) Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness).

(d) Often has difficulty playing or engaging in leisure activities quietly.

(e) Is often "on the go" or often acts as if "driven by a motor.

(f) Often talks excessively.

Impulsivity:

(g) Often blurts out answers before the questions have been completed.

(h) Often has difficulty awaiting turn.

(i) Often interrupts or intrudes on others (e.g., butts into size=+1>B. Some hyperactive–impulsive or inattentive symptoms that caused impairment were present before age 7 years.

C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).

D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Annex (2)

ADHD Medications and side effect for ADHD (Haas, 2004: 592)

ADHD Medications: Dosing Guidelines in Children and Adolescents and Clinical Pearls			
Medication[a]	**Average Daily Dose Range (mg/day)**	**Duration of Action (hours)**	**Clinical Pearls**
Amphetamine/dextroamphetamine (Adderall and Adderall XR)	Immediate release, up to 40; XR, up to 30	Immediate release, 4-6; XR, 10-12	Also used to treat ADHD in adults; may cause or worsen tics; some clinicians feel that stimulants are underdosed in adolescents and adults
Atomoxetine (Strattera)	Children/adolescents at 70 kg: 1.2 mg/kg/day; children/adolescents >70 kg: 80-100		Dosing in adults is same as in children/adolescents >70 kg
Bupropion (Wellbutrin and Wellbutrin SR)	3-6 mg/kg/day, not to exceed 300		Dosing in adults is the same as for depression in adults
Clonidine (Catapres)	Children <45 kg: up to 0.2; children >45 kg: up to 0.4		Not as effective for ADHD compared to stimulants, but can help treat tics; commonly used as an adjunct to stimulants
Dexmethylphenidate (Focalin)	Up to 20		
Dextroamphetamine (Dexedrine and Dexedrine Spansules)	Up to 40	Immediate release, 4-6; spansules 6-8	May cause or worsen tics; some clinicians feel that stimulants are underdosed in adolescents and adults
Guanfacine (Tenex)	Children <45 kg: up to 2; children >45 kg: up to 4		Less sedating compared to clonidine
Imipramine (Tofranil)	2-4 mg/kg/day		Also useful for enuresis
Methylphenidate (Ritalin, Methylin, Metadate ER, Methylin ER, Concerta, Ritalin SR, Metadate CD, and Ritalin LA)	Children at 6 years old: immediate release tablets, 10-60; Concerta, 18-54; Metadate CD, 20-60; Ritalin LA, 20-60	Immediate release, 3-6; Concerta, 12; Metadate CD, 6-8; Ritalin LA, 6-8; SR and ER, 5-8	ER and SR may be given in place of regular tablets once daily dose is titrated using regular-release tablets, and the titrated dose corresponds to sustained-release tablet size; some clinicians feel that stimulants are underdosed in adolescents and adults; dosing in adults is the same as in children; may cause or worsen tics
Nortriptyline (Pamelor, Aventyl)	2 mg/kg/day		
Pemoline (Cylert and PemADD)	56. 25- 75		Need to monitor liver function tests at baseline and every 2 weeks thereafter; may cause or worsen tics
Venlafaxine (Effexor)	Children <40 kg: up to 50; children 40 kg: up to 75		Studies used immediate-release tablets
[a]Trade names are in parentheses.			

ADHD Medications: Side Effects and Certain Precautions[a]	
Medication	**Common Side Effects and Certain Precautions**
Amphetamine	Elevation in blood pressure, overstimulation, â€œzombie state,â€ restlessness, insomnia, tremor, unmasking or exacerbation of tics, anorexia, suppression of growth in children with long-term use; if dose is high, may taper to discontinue rather than abruptly stopping
Atomoxetine	Insomnia, dry mouth, decreased appetite, upset stomach, nausea or vomiting, dizziness, problems urinating, and decreased libido; may be discontinued without tapering
Bupropion	See Table A.5
Clonidine/guanfacine	Dizziness, drowsiness, dry mouth, sedation, depression, constipation; withdrawal hypertension on abrupt discontinuation, taper to discontinue
Dextroamphetamine	Elevation in blood pressure, overstimulation, â€œzombie state,â€ restlessness, insomnia, tremor, exacerbation of tics, anorexia, suppression of growth in children with long-term use; if dose is high, may taper to discontinue rather than abruptly stopping
Methylphenidate	Headache, anorexia, nervousness, insomnia, tachycardia, unmasking or exacerbation of tics, suppression of growth in children with long-term use; if dose is high, may taper to discontinue rather than abruptly stopping
Pemoline	Insomnia, unmasking or exacerbation of tics, anorexia, irritability, headache, rash; hepatic dysfunction (must monitor at baseline and every 2 weeks thereafter)
[a]Does not include all side effects of each medication; check manufacturer's package insert for complete list.	

(Haas, 2004: 592)

Annex (3)

DSM-IV Criteria for CD (American Psychiatric Association, 1994)

Diagnostic criteria of CD according to DSM-IV

There is a repetitive and persistent pattern of behavior, in which either the basic rights of others or major age-appropriate societal norms or rules are violated, during which at least three of the following are present in the past 12 months (American Psychiatric Association, 1994):

Aggression to people and animals

(1) frequently bullies others (e.g., deliberate infliction of pain or hurt, including persistent intimidation, tormenting, or molestation).

(2) frequently initiates physical fights (this does not include fights with siblings).

(3) has used a weapon that can cause serious physical harm to others (e.g., bat, brick, broken bottle, knife, gun).

(4) commits a crime involving confrontation with the victim (including purse-snatching, extortion, mugging).

(5) exhibits physical cruelty to other people (e.g., ties up, cuts, or burns a victim).

(6) exhibits physical cruelty to animals.

(7) forces another person into sexual activity.

Destruction of property

(8) deliberately sets fires with a risk or intention of causing serious damage.

(9) deliberately destroys the property of others (other than by fire-setting).

Deceitfulness or theft

10) breaks into someone else's house, building, or car

(11) often lies or breaks promises to obtain goods or favors or to avoid obligations.

(12) steals objects of nontrivial value without confronting the victim, either within the home or outside (e.g., shoplifting, burglary, forgery).

Serious violations of rules

(13) often stays out after dark despite parental prohibition (beginning before 13 years of age).

14) has run away from parental or parental surrogate home at least twice or has run away once for more than a single night (this does not include leaving to avoid physical or sexual abuse).

(15) is frequently truant from school, beginning before 13 years of age.

The disorder does not meet the criteria for dissocial personality disorder, schizophrenia, manic episode, depressive episode, pervasive developmental disorders, or hyperkinetic disorder. (If criteria for emotional disorder are met, the diagnosis should be mixed disorder of conduct and emotions) (American Psychiatric Association, 1994).

Annex (4)

Helsinki Approval Letter

Palestinian National Authority
Ministry of Health
Helsinki Committee

السلطة الوطنية الفلسطينية
وزارة الصحة
لجنة هلسنكي

Date: 5/3/2008

التاريخ: ٥/٣/ ٢٠٠٨

Name: Ekram Elumour

الاسم: اكرام العمور

I would like to inform you that the committee has discussed your application :

نفيدكم علما بان اللجنة قد ناقشت مقترح دراستكم حول:

Socioeconomic factors and behavioral problems among children in Gaza Governorates.

In it\s meeting on _____ and decided the following :-

و ذلك في جلستها المنعقدة لـشهر _____ و قـد قررت ما يلي :

25.3.2008

To approve the above mentioned research study

الموافقة على البحث المذكور عاليه

Signature
التوقيع

Acting Chairperson

Ministry of Health Helsinki Committee

Ministry of Health Helsinki Committee

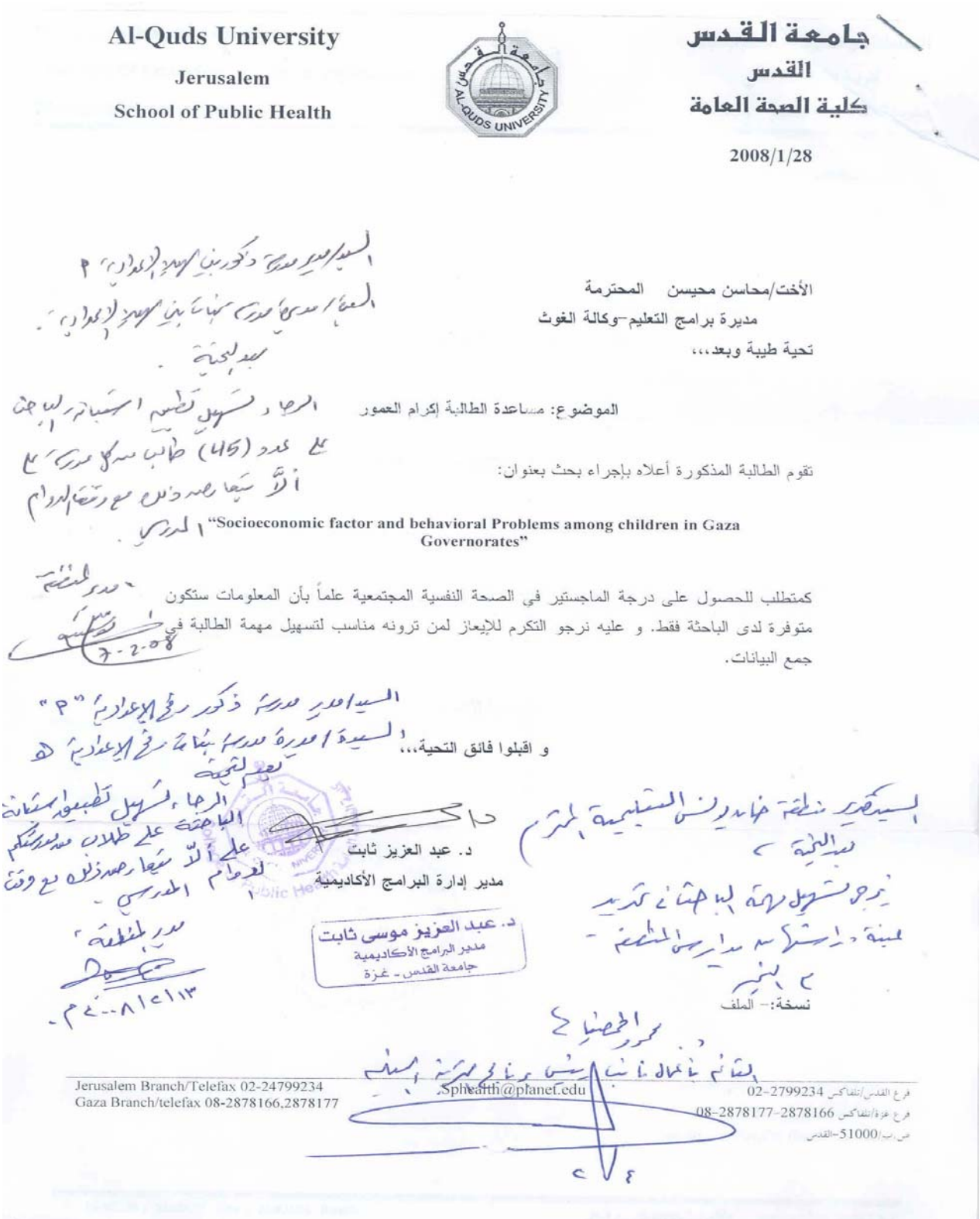
Conditions:-

- Valid for two years from the date of approval to start
- It is necessary to notify the committee in any change in the admitted study protocol
- The committee appreciate receiving one copy of your final research when it is completed

Gaza Etwam – Telefax 972-7-2878166

Annex (5)

Approval Letter UNRWA educational office



Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

2008/1/28

الأخت/محاسن محيسن المحترمة
مديرة برامج التعليم–وكالة الغوث
تحية طيبة وبعد،،،

الموضوع: مساعدة الطالبة إكرام العمور

تقوم الطالبة المذكورة أعلاه بإجراء بحث بعنوان:

"Socioeconomic factor and behavioral Problems among children in Gaza Governorates"

كمتطلب للحصول على درجة الماجستير في الصحة النفسية المجتمعية علماً بأن المعلومات ستكون متوفرة لدى الباحثة فقط. و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالبة في جمع البيانات.

و اقبلوا فائق التحية،،،

د. عبد العزيز ثابت
مدير إدارة البرامج الأكاديمية

د. عبد العزيز موسى ثابت
مدير البرامج الأكاديمية
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Palestinian National Authority
Ministry Of Education & Higher Education
Directorate Of Education –Rafah

السلطة الوطنية الفلسطينية
وزارة التربية والتعليم العالي
مديرية التربية والتعليم – رفح

قسم التخطيط والتطوير التربوي
الرقم : م.ت.ر 27 / أ .
التاريخ : 2008/02/11

السيد / مدير مدرسة / غسان كنفاني الأساسية بنين المحترم
السيدة / مديرة مدرسة / غسان كنفاني الأساسية بنات المحترمة
السلام عليكم ورحمة الله وبركاته،،،

الموضوع : تسهيل مهمة باحثة

لا مانع لدينا من قيام الباحثة / اكرام سليم العمور من تطبيق أدوات بحثها وهي "استبانة الوضع الاقتصادي والاجتماعي – مقياس فرط الحركة وتشتت الانتباه – مقياس اضراب المسلك" وذلك على عينة عشوائية من طلبة مدرستكم الصفوف (السابع، الثامن، التاسع) حسب الأصول .

واقبلوا التحية ،،،

/ مدير التربية والتعليم
د.سعيد إبراهيم حرب

نسخة السيد/ المدير الإداري والفني المحترمين.
نسخة السيد/ رئيس قسم التخطيط المحترم.
نسخة السيدة الباحثة/ (اكرام العمور) المحترمة.

Annex (6)

Approval Letter Governmental education office

بسم الله الرحمن الرحيم

السلطة الوطنية الفلسطينية
وزارة التربية والتعليم العالي
مكتب الوكيل

Palestinian National Authority
Ministry of Education & Higher Education
Deputy Minister Office

الرقم : و ت غ / مذكرة داخلية ٢٣٩
التاريخ : 6 /2/ 2008

السيد / مدير التربية والتعليم – خان يونس حفظه الله،،،
السيد / مدير التربية والتعليم – رفح حفظه الله،،،

السلام عليكم ورحمة الله وبركاته،،،

الموضوع : تسهيل مهمة بحث

تقوم الباحثة / إكرام سليم العمور ، والمسجلة لدرجة الماجستير في الصحة العامة بجامعة القدس – أبو ديس، بعمل بحث بعنوان:

Socioeconomic Factor and Behavioral Problems among Children in Gaza Governorates

لا مانع من قيام الباحثة من تطبيق أدوات بحثها وهي: استبانة الوضع الاقتصادي والاجتماعي – مقياس فرط الحركة وتشتت الانتباه – مقياس إضراب المسلك .

وذلك على عينة عشوائية من طلبة الصفوف السابع والثامن والتاسع ومعلميهم في المدارس الحكومية بمديريتي خان يونس ورفح ، وذلك حسب الأصول .

وتفضلوا بقبول فائق الاحترام ،،،

د. محمد أبو شقير
وكيل وزارة التربية والتعليم العالي

نسخة : الملف

السلطة الوطنية الفلسطينية وزارة التربية والتعليم العالي مديرية التربية والتعليم - خان يونس

غزة. هاتف(08-2861409- 2849311) فاكس(08-2865909) Gaza (08-2861409-2849311) Fax:(08-2865909)
E-MAIL: MOEHE@GOV.PS

Annex (7)
Arabic introduction of Questionnaire

بسم الله الرحمن الرحيم

أخي ولي أمر الطالب/ الطالبة المحترم:

تقوم الباحثة بإعداد رسالة ماجستير حول المشكلات السلوكية عند الأطفال، نرجو منكم تعبئة هذا الاستبيان، وذلك بالإجابة عن جميع الفقرات دون ترك أي منها، علماً بأن البيانات التي سيتم الحصول عليها ستبقى سرية، وستستخدم لأغراض البحث العلمي فقط.

أخي المعلم/ أختي المعلمة:

تقوم الباحثة بإعداد رسالة ماجستير حول المشكلات السلوكية عند الأطفال، نرجو منكم تعبئة هذا الاستبيان، وذلك بالإجابة عن جميع العبارات دون ترك أي منها، علماً بأن البيانات التي سيتم الحصول عليها ستبقى سرية، وستستخدم لأغراض البحث العلمي فقط.

Annex (8)

Socio-demographic Questionnaire
استبيان الحالة الديمغرافية - الاجتماعية

اسم الطفل: .....

العمر: ..... سنة

أنثى ❐ ذكر❐ **الجنس:**

التاسع ❐ الثامن ❐ السابع❐ **الصف:**

معسكر❐ قرية ❐ مدينة❐ **نوع السكن:**

8 فأكثر❐ من 5- 7 أبناء❐ 4 فأقل❐ **عدد جميع الأبناء**:

أكثر من1001-1500 ❐ من 601- 1000 ❐أقل من 600 شيكل ❐ **دخل الأسرة الشهري**:

أكثر من 1501 شيكل❐ شيكل ❐

دراسات عليا❐ جامعي ❐ دبلوم ❐ ثانوي❐ إعدادي ❐ ابتدائي ❐لم يتعلم ❐ **تعليم الأب**:

دراسات عليا❐ جامعي ❐ دبلوم ❐ ثانوي❐ إعدادي ❐ ابتدائي ❐ لم تتعلم ❐**تعليم الأم**:

أخري ____❐ تاجر ❐ موظف ❐ عامل صنايعي ❐ عامل عادي ❐لا يعمل ❐ **عمل الأب**:

أخري _____❐ تاجرة❐ موظفة❐ عاملة عادية ❐ ربة بيت❐**عمل الأم**:

Annex (9)
ADHD scale "DSM-IV"
Form of parents and teachers

ضع / ي علامة صح في الخانة التي تمثل أفضل وصفا للطفل خـلال الـستة أشـهر الماضـية:

م	العبارات	نعم	لا
1	عنده صعوبة في الاستمرار في الانتباه إلي المهمات والواجبات		
2	غالباً ما ينتقل من نشاط إلي أخر دون أن يكتمل النشاط		
3	غالب لا يبدو عليه أنه يسمع لما يطلب منه		
4	عنده صعوبة في إتباع التعليمات والأوامر		
5	لديه صعوبة في تنظيم واجباته وأنشطته		
6	يتجنب ولا يحب الأنشطة التي تحتاج جهود ذهني متواصل مثـل الواجبـات المنزليـة و المدرسية.		
7	غالباً ما يفقد الأشياء الضرورية لأداء الواجبات والمهمات		
8	من السهل تشتيت انتباهه		
9	عادة ما ينسي		
10	يتململ غالباً أو يتلوي في المقعد		
11	يترك كرسيه ومكانه باستمرار		
12	ينشغل غالباً في أداء النشاطات الخطرة دون اعتبار للنتائج		
13	عنده صعوبة في اللعب بشكل هادئ		
14	كثير الحركة		
15	غالباً ما يتكلم بشكل كثير		
16	أجوبته سريعة وغالباً خارجة عن موضوع الأسئلة		
17	يجد صعوبة في انتظار دوره في اللعب والنشاطات		
18	يقاطع ويتطفل غالباً علي الآخرين		

Annex (10)
CD scale "DSM-IV"

Form of parents

يعبأ من قبل الوالدين :

عزيزي ولي أمر الطالب/ة:أرجو منكم قراءة كل عبارة من العبارات التالية جيدا ثم الإجابة عنها بوضع علامة

صح في الخانة التي تمثل الوصف الصحيح لسلوك ابنك/ابنتك خلال ألاثني عشر شهرا السالفة.

م	العبارات	نعم	لا
1.	هل قام ابنك/ ابنتك بضرب الأطفال الأصغر سناً؟		
2.	هل يتحرش/ تتحرش بأولاد الجيران بالحارة؟		
3.	هل قام/ قامت إحدى المرات بالاعتداء جسدياً على أحد الأطفال بالعصا أو بآلة حادة؟		
4.	هل قام/ قامت بابتزاز الأطفال الآخرين أو تهديدهم؟		
5.	هل قام/ قامت إحدى المرات بربط أحد الأطفال أو إحداث جروح لهم؟		
6.	هل قام/ قامت بالاعتداء على الحيوانات مثل القطط والكلاب؟		
7.	هل سبق وأن تكررت الشكاوي من قبل الجيران أو المدرسة ضده/ ها؟		
8.	هل قام/ قامت إحدى المرات بإشعال حريق البيت؟		
9.	هل قام/ قامت إحدى المرات بالاعتداء على الممتلكات العامة مثل الحدائق أو أكشاك التليفون؟		
10.	هل سبق وأن قام/ قامت بالسطو على مكان عام أو سرقة شيء من السيارات العامة؟		
11.	هل يكذب/ تكذب من أجل الحصول على شيء ما؟		
12.	هل الأشياء التي يقوم/ تقوم بسرقتها ذات قيمة؟		
13.	هل يتأخر/ تتأخر خارج البيت ليلاً؟		
14.	هل حدث وأن هرب/ هربت من المنزل؟		
15.	هل سبق و أن هرب/ هربت من المدرسة؟		

Annex (10)
CD scale "DSM-IV"

form of students

يعبأ من قبل الطالب : عزيزي الطالب/ة:أرجو منكم قراءة كل عبارة من العبارات التالية جيدا ثم **الإجابة عنها**

بوضع علامة صح في الخانة التي تمثل **الوصف الصحيح لسلوكك خلال الاثني عشر شهرا السالفة:**

م	العبارات	نعم	لا
.16	هل تقدم على الاعتداء على الأطفال الأصغر سناً؟		
.17	هل تتحرش بأولاد الجيران بالحارة؟		
.18	هل قمت إحدى المرات بالاعتداء جسدياً على أحد الأطفال بالعصا أو بآلة حادة؟		
.19	هل تقوم بابتزاز الأطفال الآخرين أو تهديدهم؟		
.20	هل قمت إحدى المرات بربط أحد الأطفال أو إحداث جروح لهم؟		
.21	هل تقوم بالاعتداء على الحيوانات مثل القطط والكلاب؟		
.22	هل سبق وأن تكررت الشكاوي من قبل الجيران أو المدرسة ضدك؟		
.23	هل قمت إحدى المرات بإشعال حريق البيت؟		
.24	هل قمت إحدى المرات بالاعتداء على الممتلكات العامة مثل الحدائق أو أكشاك التليفون؟		
.25	هل سبق وأن قمت بالسطو على مكان عام أو سرقة شيء من السيارات العامة؟		
.26	هل تكذب من أجل الحصول على شيء ما؟		
.27	هل الأشياء التي تقوم بسرقتها ذات قيمة؟		
.28	هل تتأخر خارج البيت ليلاً؟		
.29	هل حدث وأن هربت من المنزل؟		
.30	هل سبق و أن هربت من المدرسة؟		

Annex (11)
List of experts

1. Prof. Nazmi Abu Mostafa
2. Prof. Sami Abu Sehag
3. Dr. Abdel Azeez Thabet
4. Mr. Yakob Al-Astal
5. Mr. Sami Mansour