PSYCHIATRIC DISORDERS

IN

CHILDREN ATTENDING

A

PRIMARY MENTAL HEALTH SERVICE

Doctor of Philosophy (PhD)

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By

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PSYCHIATRIC DISORDERS IN CHILDREN ATTENDING A PRIMARY MENTAL HEALTH SERVICE

Jon Arcelus

ABSTRACT

A number of Child and Adolescent Mental Health Services (CAMHS) have established Primary Mental Health Worker (PMHW) posts. Their objective is to enhance service provision on the interface between primary care and specialists services. This is to be achieved by a combination of direct assessment and intervention, in addition to consultation, training, liaison and joint work with Tier 1 professionals.

As this service is newly developed, little is known about the nature and frequency of psychiatric disorders among the service users. The aim of this study was to describe socio-demographic characteristics, and the rates of psychiatric disorders of the children attending the Primary Mental Health Service. The K-SADS-P IVR semi-structured interview, the Eyberg Behavioural Inventory, and the Parental Stress Index were used to collect this information.

During the year of the study, 427 children were referred to the Primary Mental Health Service. Of these referrals, 117 (27.4%) were allocated for direct work. From the 117 cases, 97 children and their families agreed to participate in the study. Oppositional Defiant Disorder (ODD) was the most common diagnosis. Other diagnoses were Anxiety (39.2%), Mood (35.1%) and Attention Deficit-Hyperactivity Disorders (28.9%). There was a substantial rate of psychiatric co-morbidity, as 61.8% of the children who participated in the study fulfilled diagnostic criteria for more than one diagnosis. The study also found that 76% of their parents had clinically significant stress levels.

It is concluded that children and adolescents attending Primary Mental Health Services often have complex psychiatric disorders, which may be masked by behavioural problems. Training in the recognition of likely psychiatric co-morbidity and integration of PMHWs in specialist CAMHS are important implications in the planning and implementation of such services.
INTRODUCTION

This thesis is structured in four major sections. The first section comprises chapters one and two. These review the current literature on psychiatric disorders and psychiatric co-morbidity in children and adolescents (chapter one) and the available services for children and adolescents with mental health problems in the UK, particularly with regard to the development of Primary Mental Health Services (chapter two). The second section (chapter three) outlines the methods of the study. The third section (chapters four and five) presents the findings of the study, and the fourth section (chapter six) discusses the relevance of those results to clinical practice, service development, and future research.
CHAPTER I

PSYCHIATRIC DISORDERS IN CHILDREN AND ADOLESCENTS

This chapter describes the most common psychiatric disorders among children and adolescents. This chapter is structured in three parts. The first part discusses the definition and classification of the most common psychiatric disorders found in children and adolescents. The second part of the chapter reviews the epidemiological literature in this area, and the third part discusses different theories and supporting evidence on psychiatric comorbidity.

I-DEFINITION AND CLASSIFICATION

I.A- DEFINITION OF MENTAL HEALTH PROBLEMS AND DISORDERS

The terms ‘psychiatric disorder’ and ‘mental health problem’ are used synonymously by professionals in day-to-day practice. Although both terms describe difficulties that need to be addressed by mental health professionals, there are also important differences between the two, requiring different interventions. In order to define ‘psychiatric disorders’ and ‘mental health problems’ it is first necessary to define ‘mental health’.
Different cultures have varying views on what they perceive as mentally healthy behaviour in children. In general, children who are mentally healthy will have the ability to:

- develop psychologically, emotionally, intellectually and spiritually;
- develop and sustain mutually satisfying personal relationships;
- use and enjoy solitude;
- become aware of others and empathise with them;
- play and learn;
- develop a sense of right and wrong; and
- face problems and setbacks and learn from them in ways which are appropriate to that child's age (Mental Health Foundation, 1999).

Mental health problems in childhood and adolescence can be described as a disturbance of functioning in relationships, mood, behaviour or development which may arise from any number of congenital, constitutional, environmental, family or illness factors. The term 'mental health problem' is therefore used to describe a broad range of emotional and/or behavioural difficulties, which may cause concern or distress. They are relatively common and encompass mental disorders, which are more severe and/or persistent (Health Advisory Service, 1995).

The term 'disorder' implies the existence of a clinically recognizable set of symptoms or behaviour associated in most cases with distress and with interference with personal functions. Social deviance or conflict alone,
without personal dysfunction, should not be included in mental disorder (WHO, 1992; Health Advisory Service, 1995).

I.B- CLASSIFICATION SYSTEMS

I.B.1- Types of classification systems

Classification constitutes a means of ordering information, grouping phenomena and providing a language by which to communicate with other people (Rutter et al, 1975b). It is widely agreed that the diagnostic criteria used to classify diseases should, whenever possible, be based on aetiology. However, in child and adolescent psychiatry, this is not always possible as there are a large number of psychiatric disorders with unknown aetiology. The diagnostic criteria used by health professionals are constantly being updated as the understanding of illnesses and disorders increase (Werry, 1992).

The two major classification systems are briefly described below, in order to consider the diagnostic context of child psychiatric disorders.

a. International Classification of Diseases

In the late 1960s, the World Health Organisation (WHO) persuaded most countries to develop an international classification of diseases in furtherance of international communication. In 1967, the International Classification of Diseases, 8th version (ICD-8) (WHO, 1967) was born and came into use in 1969. This version was then replaced in 1978 by the ninth revision (ICD-9) (WHO, 1978).
A multiaxial system was also developed, to formulate a comprehensive assessment of psychosocial difficulties (Rutter et al., 1975b). This led to the creation of ICD-10 (WHO, 1992). This version remains in use and includes the following axes:

**Axis I:** Clinical psychiatric syndrome  
**Axis II:** Specific delay in development  
**Axis III:** Intellectual capacity  
**Axis IV:** Medical condition  
**Axis V:** Abnormal social situation, including:
  - Abnormal intrafamilial relationships  
  - Familial mental disorders or handicaps  
  - Inadequate or distorted intrafamilial communication  
  - Abnormal qualities of upbringing  
  - Abnormal immediate environment  
  - Acute life events  
  - Societal stressors  

(WHO, 1992; Cantwell & Rutter, 1995)

**b. Classification of the American Psychiatric Association**

The first edition of the American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM-I) was published in 1952. The third edition (DSM-III) (published in 1980) was radically different to previous classification systems, as it was multiaxial (APA, 1980). In 1987, the DSM-III was replaced by an extensive revision, the DSM-III-R. Although
the main bodies in charge of developing classification systems, the WHO and the APA, tried to join forces and produce a new world-wide classification, this did not come to fruition, and the APA developed the DSM-IV in 1994.

Whilst the WHO and APA were not able to produce a single classification system, the consultations between the developers of DSM-IV and ICD-10 were enormously useful in increasing the congruence of the two systems. However, several differences remain between the axes of the two classification systems. The DSM-IV has axes for:

Axis I: Clinical syndrome
Axis II: Lifelong disorders or handicaps, such as personality disorders and specific developmental disorders
Axis III: Associated physical conditions
Axis IV: Severity of psychosocial stresses
Axis V: Highest level of social and occupational functioning in the past year

(Kendell, 1991; APA, 1994)

I.B.2- The use of adult diagnostic criteria for child and adolescent psychiatric disorders

The extent to which adult criteria can be applied to children should be determined by evidence on phenomenology and prognosis. For example, in the case of Obsessive-Compulsive Disorders, the phenomenology is similar
in children and adults. However, this is different for depression. Currently ICD-10 and DSM-IV have few categories for emotional disorders specific to childhood, and those that are included are mostly subtypes of anxiety. Thus the majority of mood disorders in children are diagnosed according to adult criteria. Consequently, most surveys of depression have found very low prevalence rates in children under eight years of age. Yet there are children who cry frequently, say they feel unhappy, look sad and are withdrawn. These same children do, however, usually sleep and eat reasonably well. Clearly low mood in younger children has some phenomenological features and external correlates common with adult depression but also some distinct differences. Some authors have argued that, as the manifestation of behaviour changes with the development of a child, the same diagnosis should not be applied across the age range (Scott, 2002).

I.C- CLASSIFICATION OF THE MOST COMMON CHILD PSYCHIATRIC DISORDERS

As this study aims to describe the psychiatric disorders in children at primary care level, only the most prevalent disorders will be reviewed in this chapter. Epidemiological studies of child psychiatric disorders in the general population found that externalising disorders such as Oppositional Defiant (ODD), Conduct (CD) and Attention Deficit-Hyperactivity Disorders (ADHD); and some internalising (emotional) disorders such as Depressive and Anxiety Disorders, are the most prevalent types of psychopathology (Bird et al, 1996; Costello et al, 1997).
I.C.1- Conduct and Oppositional Defiant Disorders

Usual oppositional behaviour peaks between the ages of 18 and 24 months. During this time, the toddler may behave in an oppositional way as an expression of their growing autonomy. Asserting one’s own will and opposing others is normal and crucial in the development of children. Its function is to establish autonomy and form an identity. When this developmental phase persists across different situations, oppositional behaviour may lead to antisocial behaviour (Robins, 1991). The term ‘antisocial behaviour’ refers to a variety of acts that violate social rules. The extent to which antisocial behaviour is sufficiently severe to constitute a disorder (Conduct or Oppositional Defiant Disorder) depends on its frequency and intensity, and whether it results in a significant impairment of the child’s life as judged by parents, teachers and others (the diagnostic criteria for ODD and CD are described in appendix 1.a).

Some authors have argued that ODD is a variant of normality and that it should not be part of a diagnostic classification system (Anderson et al, 1987). Others, such as Schachar & Wachsmuth (1990), have supported the theory that ODD is a variant of CD. These authors found that ODD children had higher rates of co-morbid psychopathology, learning disabilities, peer and sibling relationships problems, paternal psychiatric disorders and family relationships problems than children without ODD. They also showed that, although ODD was distinguishable from behaviour of normal children, it was difficult to differentiate children with ODD from children with CD.
However, the number of children studied was too small to reach clear conclusions.

Other studies have concluded that ODD, CD and later antisocial personality disorders appear to be hierarchically and developmentally related. They found that ODD was a strong risk factor for CD in boys. In contrast, ODD did not predict later CD in girls but was rather associated with increased risk for continued ODD, depression and anxiety (Loeber et al, 2000; Burke et al, 2002; Rowe et al, 2002).

I.C.2- Attention Deficit-Hyperactivity Disorders (ADHD)

The core symptoms of ADHD are hyperactivity, impulsivity and impaired attention. ADHD has been classified in the DSM-IV (APA, 1994) within Attention Deficit and Disruptive Behaviour Disorders. This classification system differentiates three types of ADHD:-

i) Combined type (symptoms of inattention and of hyperactivity-impulsivity have been present for 6 months);

ii) Predominantly inattentive type (symptoms of inattention are the main problem); and

iii) Predominantly hyperactive-impulsive type (symptoms of hyperactivity-impulsivity are predominant).

Attention Deficit-Hyperactivity Disorder is not a diagnosis used in the ICD-10 classification system (WHO, 1992). This classification uses the term
Hyperkinetic Disorder (HD) instead. Hyperkinetic Disorder is divided into four main groups:-

i) Disturbance of Activity and Attention;

ii) Hyperkinetic Conduct Disorders;

iii) Other Hyperkinetic Disorders; and

iv) Hyperkinetic Disorders, unspecified.

For the full diagnostic criteria for ADHD and Hyperkinetic Disorder, see Appendix 1.b.

Although a number of professionals may use these two diagnoses synonymously, there are some differences between them. This partly explains the varied prevalence rates of ADHD and Hyperkinetic Disorders reported in the literature (Anderson et al, 1987; Bird et al, 1988; Meltzer et al, 1999). The two main differences between ADHD (DSM-IV) and Hyperkinetic Disorder (ICD-10) are:-

1. In the ICD-10, symptoms of hyperactivity and impulsivity are considered separately, whilst in the DSM-IV these symptoms are pooled together; and

2. DSM-IV classifies the criterion 'often talks excessively' as a symptom of hyperactivity, whilst ICD-10 is more specific about this symptom.
The differences between ICD-10 and DSM-IV diagnostic criteria have resulted in each system selecting a different but overlapping group of children. ICD-10 has repeatedly been shown to select a smaller group of children with more severe symptoms than those selected using the DSM-IV (Scahill & Schwab-Stone, 2000).

I.C.3- Mood Disorders

As there is no category for Depressive Disorder specifically for children in either classification system, adult criteria are used instead. The DSM-IV classifies depression under 'Mood Disorders' (Appendix 1.c) and the ICD-10 classifies it under Mood (Affective) Disorders using the same diagnostic criteria as with adults. The ICD-10 also has one category for 'Mixed Disorders of Conduct and Emotions' and one category for 'Emotional Disorders with Onset Specific to Childhood' (WHO, 1992).

I.C.4-Anxiety Disorders

The ICD-10 includes five diagnoses exclusively for children under the category of 'Emotional Disorders with Onset Specific to Childhood'. These are: Separation Anxiety, Phobic Anxiety, Social Anxiety, Sibling Rivalry, and Other Childhood Emotional Disorders. For the remaining types of Anxiety Disorder, both classification systems use adult-based criteria.

The DSM-IV includes the following diagnoses under the category of Anxiety Disorders: Panic Disorder Without Agoraphobia, Panic Disorder With Agoraphobia, Agoraphobia Without History of Panic Disorder, Specific
Phobia, Social Phobia, Obsessive-Compulsive Disorder, Post-Traumatic Stress Disorder, Acute Stress Disorder, Anxiety Disorder Due to a General Medical Condition, Substance-Induced Anxiety Disorder, and Anxiety Disorder Not Otherwise Specified (APA, 1994) (Appendix 1.d).
II-EPIDEMIOLOGY

Having described the main psychiatric disorders in children and adolescents, I will define epidemiological terms which were used during the literature review, and then will discuss the evidence on the prevalence of these disorders.

II.A. DEFINITION OF EPIDEMIOLOGICAL TERMS

**Prevalence rate:**
The proportion of a defined group suffering from a specific illness at a given time.

**Point prevalence:**
The proportion of a defined group suffering from a specific illness at a given time, based on a single measurement at that point in time.

**Period prevalence:**
The proportion of a defined group suffering from a specific illness at a given time, based on repeated assessments of the same population within a stated time period.

**Life-time prevalence:**
This considers all who have ever had an episode of an illness. It is particularly useful when describing remitting conditions such as depression.

**Incidence rate:**
The proportion of new cases in a defined group developing a condition within a stated time period.
Odds Ratio:
The odds of an event is the ratio of the probability of occurrence of an event to the probability of non-occurrence (Araya, 1990).

II.B. PREVALENCE OF CHILD AND ADOLESCENT PSYCHIATRIC DISORDERS IN THE GENERAL POPULATION
Since the 1950s, more than 50 major studies have measured the prevalence of psychiatric disorders in children and adolescents. One of the first and most influential was the Isle of Wight study (Rutter et al, 1970; Rutter et al, 1975a; Rutter et al, 1976). This project began in 1964-65 with a series of epidemiological studies of learning, psychiatric and physical disorders in 3500 9-11 year-old children living on the island. Psychiatric and physical handicap were measured in the same population one year later. Approximately 7% of children were found to have a psychiatric disorder of sufficient severity to cause social handicap. Although the studies are of enormous historical and research importance, they also had some methodological limitations particularly the lack of diagnostic criteria, which should be considered when interpreting the findings.

Ten years later, two major studies from New Zealand and Canada, found a higher prevalence of psychiatric disorders among children and adolescents than previously described. Anderson et al (1987) in New Zealand found a point prevalence of 17.6% after interviewing 792 11-year-old children. The most prevalent disorders were Attention Deficit-Hyperactivity, Oppositional
Defiant and Separation Anxiety Disorder, whilst the least prevalent were Depression and Social Phobia. In the same year, Offord et al (1987) studied the six-month prevalence of four disorders (Conduct, Hyperactivity, Emotional and Somatization Disorder) among 4-16 year olds in Canada. They found that the six-month prevalence rate of psychiatric disorders was 18.1%.

Nearly 25 years after the Isle of Wight studies, the Office for National Statistics interviewed more than 10,000 children, as well as their parents and teachers. The primary purpose of this survey was to produce prevalence rates of the three main childhood mental disorders: Conduct, Hyperactivity and Emotional Disorders. The second aim was to determine the impact and burden of children’s mental health problems in terms of social impairment and adverse consequences for others. Social impairment was measured by the extent to which each particular mental problem interfered with relations with other family members, forming and keeping friendships, participation in leisure activities and scholastic achievement. The third main purpose of the survey was to examine the use of the service. This was a two-stage study that involved a postal questionnaire and face-to-face interview with more than 10,000 parents of children aged 5-15 years and 4,500 children and adolescents aged 11-15 years. According to the authors, the measures devised for the study were intended to combine some of the best features of structured and semi-structured measures. When health problems were identified by the structured questionnaire (the Strengths and Difficulties Questionnaire (Goodman,
1998)), interviewers used open-ended questions and supplementary prompts to get parents and children to describe the problems in their own words. The study found that as many as 10% of children and adolescents aged 5-15 years living in England, Scotland and Wales had some type of mental health disorder (Meltzer et al, 1999). The most common disorders were Conduct (5.3%) and Emotional Disorders (4.3%), followed by Hyperkinetic Disorders (1.4%).

The high prevalence of psychiatric disorders in children and adolescents is not exclusive to Western societies. A study funded by the World Health Organisation found a prevalence of mental health problems between 3.9% to 12% in Japan, 7.0% to 8.3% in China, and 14.1% to 19.1% in Korea (Matsuura et al, 1993). The study concludes that antisocial problems were the most common mental health problems, particularly in China and Japan. The findings were based on parents and teachers completing the Rutter questionnaires, but no diagnostic interviews were used. Similar methodologies may have thus overestimated prevalence rates. The results of representative epidemiological studies are summarised in table 1.1.
**Table 1.1: Prevalence of psychiatric disorders in children and adolescents**

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Population</th>
<th>Country</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rutter et al</td>
<td>1970</td>
<td>9-11 years</td>
<td>UK (rural)</td>
<td>7%</td>
</tr>
<tr>
<td>Rutter et al</td>
<td>1975a</td>
<td>9-11 years</td>
<td>UK (urban)</td>
<td>14%</td>
</tr>
<tr>
<td>Anderson et al</td>
<td>1987</td>
<td>11 years</td>
<td>New Zealand</td>
<td>17.6%</td>
</tr>
<tr>
<td>Offord et al</td>
<td>1987</td>
<td>4-16 years</td>
<td>Canada</td>
<td>18.1%</td>
</tr>
<tr>
<td>Matsuura et al</td>
<td>1993</td>
<td>6-11 years</td>
<td>Asia</td>
<td>Japan: 3.9%-12%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>China: 7%-8.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Korea: 14.1%-19.1%</td>
</tr>
<tr>
<td>Morita et al</td>
<td>1993</td>
<td>12-15 years</td>
<td>Japan</td>
<td>16% - 12-13 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14% - 14-15 years</td>
</tr>
<tr>
<td>Meltzer et al</td>
<td>1999</td>
<td>5-15 years</td>
<td>UK</td>
<td>10%</td>
</tr>
<tr>
<td>Larsson &amp; Frisk</td>
<td>1999</td>
<td>6-16 years</td>
<td>Sweden</td>
<td>12.6%</td>
</tr>
<tr>
<td>Hackett et al</td>
<td>1999</td>
<td>8-12 years</td>
<td>India</td>
<td>9.4%</td>
</tr>
<tr>
<td>Thabet et al</td>
<td>2000</td>
<td>3-16 years</td>
<td>Palestine</td>
<td>14.2%</td>
</tr>
</tbody>
</table>

Most of the epidemiological studies have also established prevalence rates according to gender and age, as presented in table 1.2.
Table 1.2: Prevalence of mental health disorders according to age and gender in the UK (Meltzer et al, 1999)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Prevalence per 100 children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
</tr>
<tr>
<td>5-10</td>
<td>10</td>
</tr>
<tr>
<td>11-15</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
</tr>
<tr>
<td>5-10</td>
<td>6</td>
</tr>
<tr>
<td>11-15</td>
<td>10</td>
</tr>
</tbody>
</table>

The results of these studies show a great variation in the prevalence of psychiatric disorders in children and adolescents. The differences are related to the population studied, the design (one- or two-stage) and/or the instruments used to reach a diagnosis (questionnaires or interviews).

II.C-PREVALENCE OF THE MOST COMMON CHILD AND ADOLESCENT DISORDERS IN THE GENERAL POPULATION

II.C.1- Conduct and Oppositional Defiant Disorders
Most epidemiological studies have identified externalising disorders, particularly ODD, as the most prevalent psychiatric disorders encountered during childhood. These also constitute the most common reason for
referral to child mental health services (30-50%) (Lavigne et al, 1996; Hackett et al, 1999; Yeh & Weisz, 2001).

Lavigne et al (1996) studied 3,860 preschool children aged 2 to 5 years. They found that ODD was by far the most common disorder. ODD was reported by 16.8%, half of whom (8.1%) presented with severe symptomatology. The researchers used the Child Behaviour Checklist (CBCL) (Achenbach, 1979) to measure behavioural problems. Although they reached a DSM-III-R diagnosis based on clinician ratings without a validated semi-structured interview, these results did not differ significantly from other studies, such as Thompson et al (1996).

The Ontario Child Health Survey developed a diagnostic method that conformed to the DSM-III criteria and established an overall rate of 5.5% for Conduct Disorders. This was slightly higher in urban than rural areas (5.6% compared to 5.2%) and about twice as common among boys (Offord et al, 1987) than among girls. Some recent studies have established a similar prevalence rate of Conduct Disorders in spite of using different methodology (Verhulst et al, 1997; Meltzer et al, 1999).

The variation of the prevalence of Conduct and Oppositional Defiant Disorders in some studies can be explained by the different classification systems and/or the different tools used to reach the diagnosis (Offord et al, 1987; Costello, 1989; Robin, 1991; Meltzer et al, 1999). Some of the research tools used are: the Rutter interview (Rutter et al, 1981), the Child
Behaviour Checklist (CBCL) (Achenbach, 1979) or a semi-structured interview such as the K-SADS (Ambrosini & Dixon, 1996).

Some of the epidemiological studies which investigated the prevalence of 'clinically significant behavioural problems' in children are summarised in the following table.

Table 1.3: Prevalence of ODD/CD in children and adolescents

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Population</th>
<th>Country</th>
<th>Prevalence of ODD/CD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rutter et al</td>
<td>1970</td>
<td>9-11 years</td>
<td>UK (rural)</td>
<td>3.2% (Behavioural problems)</td>
</tr>
<tr>
<td>Offord et al</td>
<td>1987</td>
<td>4-16 years</td>
<td>Canada</td>
<td>5.6% (CD)</td>
</tr>
<tr>
<td>Morita et al</td>
<td>1993</td>
<td>12-15 years</td>
<td>Japan</td>
<td>15% in boys 12-13 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1% in girls 12-13 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>22% in boys 14-15 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4% in girls 14-15 yrs (CD/ODD)</td>
</tr>
<tr>
<td>Lavigne et al</td>
<td>1996</td>
<td>2-5 years</td>
<td>USA</td>
<td>8.1% (ODD)</td>
</tr>
<tr>
<td>Thompson et al</td>
<td>1996</td>
<td>2-5 years</td>
<td>UK</td>
<td>13.2% (ODD)</td>
</tr>
<tr>
<td>Meltzer et al</td>
<td>1999</td>
<td>5-15 years</td>
<td>UK</td>
<td>5% (CD)</td>
</tr>
</tbody>
</table>

II.C.2-Attention Deficit-Hyperactivity Disorder (ADHD)/Hyperkinetic Disorder (HD)

ADHD is the most extensively studied child psychiatric disorder. More than 7,000 papers have been written about this disorder in the last 15 years. Prevalence rates vary according to the country, studied population and the
diagnostic criteria used. However, ADHD has been estimated to range from 5-10% in large population studies of pre-school and school-age children (Anderson et al, 1987; Bird, 1996; Scahill & Schwab-Stone, 2000). Studies using the ICD-10 diagnosis of Hyperkinetic Disorders found a prevalence rate of 1.4% in 5-15 year olds (Meltzer et al, 1999).

Some of the epidemiological studies of children and adolescents that have investigated the prevalence of ADHD and Hyperkinetic Disorders are summarised in table 1.4.

Table 1.4: Prevalence of Attention Deficit-Hyperactivity/Hyperkinetic Disorders

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Population</th>
<th>Country</th>
<th>Prevalence of ADHD / HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al</td>
<td>1987</td>
<td>11 years</td>
<td>New Zealand</td>
<td>7.3%</td>
</tr>
<tr>
<td>Bird et al</td>
<td>1988</td>
<td>4-17 years</td>
<td>Puerto Rico</td>
<td>9%</td>
</tr>
<tr>
<td>Landgren et al</td>
<td>1996</td>
<td>6 years</td>
<td>Sweden</td>
<td>2.4-4%</td>
</tr>
<tr>
<td>Sidane et al</td>
<td>1998</td>
<td>5-15 years</td>
<td>India</td>
<td>5%</td>
</tr>
<tr>
<td>Rohde et al</td>
<td>1999</td>
<td>12-14 years</td>
<td>Brazil</td>
<td>5.8%</td>
</tr>
<tr>
<td>Meltzer et al</td>
<td>1999</td>
<td>5-15 years</td>
<td>UK</td>
<td>1% (HD)</td>
</tr>
</tbody>
</table>
II.C.3-Mood Disorders

Most studies in childhood and adolescence have used the term ‘Emotional Disorders’ instead of the diagnosis of ‘Depressive Disorders’. Such studies have found that the prevalence of Emotional Disorders varied between 2.5% (Anderson & McGee, 1994; Goodman et al, 2000c) and 10% (Offord et al, 1987). Most of the authors concluded that Emotional Disorders are more common in girls than boys, particularly in girls aged 12-16 years (Offord et al, 1987; Matsuura et al, 1993; Meltzer et al, 1999).

Research has found that the prevalence of depression increases during adolescence. This may be due to biological factors (e.g. sexual maturation), environmental factors (e.g. increased social and academic expectations, higher chance of exposure to negative events) and psychological factors (e.g. increase in autonomy and abstract thinking) (Birmaher et al, 1998). Using standardised diagnostic criteria and structured interviews, recent studies have demonstrated that the life-time prevalence of Affective Disorders in adolescents is 20.8% among females and 12.8% among males (Lewinsohn et al, 1994). Those studies found that ‘Major Depressive Episode’ was the most prevalent disorder (7.7% in males and 10.9% in females) whilst Dysthymia, Mania and Bipolar Depression were the least common (Kovacs & Devlin, 1998; Wittchen et al, 1998).
II.C.4-Anxiety Disorders

In children, Separation Anxiety (3.5%), Overanxious (2.9%), and Simple Phobic Disorders (2.4%) are the most prevalent types of Anxiety Disorders (Anderson et al, 1987; Bernstein et al, 1996; Valleni-Basile et al, 1996).

In adolescents, the most common disorders are Phobias, particularly Social Phobias (3.5%), Agoraphobia without history of Panic Disorder (2.6%), and Simple Phobias (2.3%). Other less prevalent Anxiety Disorders are Panic Disorders (1.6%), Post-Traumatic Stress Disorders (1.3%), Generalised Anxiety Disorders (0.8%), and Obsessive Compulsive Disorders (0.7%) (Valleni-Basile et al, 1996; Wittchen et al, 1998). The prevalence of Emotional Disorders (Depressive and Anxiety Disorders) is summarised in table 1.5.
Table 1.5: Prevalence of Emotional Disorders (ED) (Depression and Anxiety Disorders)

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Population</th>
<th>Country</th>
<th>Prevalence of emotional disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offord <em>et al</em></td>
<td>1987</td>
<td>4-16 years</td>
<td>Canada</td>
<td>4-11 year old boys-10.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12-16 year old girls-13.6%</td>
</tr>
<tr>
<td>Anderson <em>et al</em></td>
<td>1987</td>
<td>11 years</td>
<td>New Zealand</td>
<td>3.5% Separation Anxiety</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.9% Overanxious</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.4% Phobia</td>
</tr>
<tr>
<td>Cooper &amp; Goodyer</td>
<td>1993</td>
<td>11-16 years</td>
<td>UK</td>
<td>3.6% Major Depressive Disorder</td>
</tr>
<tr>
<td>Anderson &amp; McGee</td>
<td>1994</td>
<td>5-15 years</td>
<td>USA</td>
<td>0.4%-2.5%- ED</td>
</tr>
<tr>
<td>Lewinsohn <em>et al</em></td>
<td>1994</td>
<td>12-18 years</td>
<td>USA</td>
<td>0.4%-8.3%- ED</td>
</tr>
<tr>
<td>Wittchen <em>et al</em></td>
<td>1998</td>
<td>14-24 years</td>
<td>Germany</td>
<td>20.8% girls- Anxiety Problems</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12.8% boys-Anxiety Problems</td>
</tr>
<tr>
<td>Thabet &amp; Vostanis</td>
<td>1998</td>
<td>9-13 years</td>
<td>Palestine</td>
<td>21.5%- Anxiety Problems</td>
</tr>
<tr>
<td>Meltzer <em>et al</em></td>
<td>1999</td>
<td>5-15 years</td>
<td>UK</td>
<td>4%- ED</td>
</tr>
</tbody>
</table>

Most of the epidemiological studies reviewed in this section found that it is fairly frequent for children to fulfil diagnostic criteria for more than one disorder. The term 'co-morbidity' is used in such cases. Co-morbidity raises interesting questions pertaining to the aetiology and interdependence of disorders. The next section will describe the most common type of psychiatric co-morbidity in children and adolescents.
III. CO-MORBIDITY

III.A INTRODUCTION

The term co-morbidity did not begin to appear in medical literature until 1984. It was first used to describe patients presenting with more than one medical condition. In psychiatry this term describes the presence of an additional psychiatric or medical diagnosis in a person with a psychiatric disorder (Wells et al, 1991). Co-morbidity can be classified, according to the nature of the psychiatric disorders, into:

A- Homotypic co-morbidity: When a person suffers from two or more psychiatric disorders that are part of the same diagnostic group, e.g. Major Depressive Disorder and Dysthymia.

B- Heterotypic co-morbidity: When a person suffers from two or more disorders that are not part of the same diagnostic group, e.g. Obsessive-Compulsive Disorder and Schizophrenia (Angold et al, 1999a).

The first description of co-morbidity in child and adolescent psychiatric disorders appeared in 1987 (Anderson et al, 1987). Since then the number of publications in this field has increased exponentially (Caron & Rutter, 1991).
III.B- MOST COMMON TYPES OF PSYCHIATRIC CO-MORBIDITY

Angold et al (1999a) reviewed more than 20 studies on co-morbidity between child and adolescent psychiatric disorders. They found that co-morbidity between CD/ODD and internalising disorders was the most prevalent. Other common co-morbidities occur between ADHD and CD/ODD, and between Depressive and Anxiety Disorders. Most studies on co-morbidity have grouped anxiety and depressive disorders into the category of internalising disorders. This is the format that will be followed in this section.

III.B.1-Co-morbidity between CD/ODD and Internalising Disorders
(Depressive and Anxiety Disorders)

Co-morbidity between ODD/CD and Depressive Disorders ranges between 11.5% (Costello et al, 1997) and 78.6% (Anderson et al, 1987) and co-morbidity between Anxiety Disorders and ODD/CD ranges between 9.9% (Angold et al, 1999b) and 30.7% (Costello et al, 1988). The different rates of co-morbidity can be explained by the population studied (clinical or general), the temporal relationship between disorders, the classification system and the tools used to reach a diagnosis. Table 1.6 shows the results of the most important studies on co-morbidity. For a more in-depth detail of these studies see Appendix 2.
Table 1.6: Rates of co-morbidity between CD/ODD (a) and Depressive disorders (b) and CD/ODD and Anxiety Disorders (c)

<table>
<thead>
<tr>
<th>Study</th>
<th>DSM</th>
<th>N</th>
<th>Age</th>
<th>Period</th>
<th>Popul.</th>
<th>Rates of a in b</th>
<th>Rates of b in a</th>
<th>Rates of a in c</th>
<th>Rates of c in a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al, 1987</td>
<td>III</td>
<td>792</td>
<td>11</td>
<td>1 yr</td>
<td>Gen.</td>
<td>78.6</td>
<td>15.3</td>
<td>32.2</td>
<td>26.4</td>
</tr>
<tr>
<td>Kovacs et al, 1989</td>
<td>III</td>
<td>104</td>
<td>4-16</td>
<td>TA</td>
<td>Gen.</td>
<td>16</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>McGee et al, 1990</td>
<td>III-R</td>
<td>943</td>
<td>15</td>
<td>1 yr</td>
<td>Gen.</td>
<td>32.5</td>
<td>15.3</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Biderman et al, 1995</td>
<td>III-R</td>
<td>424</td>
<td>5-16</td>
<td>Life-time</td>
<td>Clin.</td>
<td>CD in SMDD: 27</td>
<td>CD in MMDD: 20</td>
<td>ODD in SMDD: 73</td>
<td>ODD in MMDD: 47</td>
</tr>
<tr>
<td>Costello et al, 1997</td>
<td>IV</td>
<td>317</td>
<td>10-14</td>
<td>3 mths</td>
<td>Gen.</td>
<td>60.0</td>
<td>11.5</td>
<td>33.3</td>
<td>15.4</td>
</tr>
<tr>
<td>Angold et al, 1999b</td>
<td>IV</td>
<td>970</td>
<td>10-14</td>
<td>3 mths</td>
<td>Gen.</td>
<td>25.7</td>
<td>16.0</td>
<td>13</td>
<td>9.9</td>
</tr>
</tbody>
</table>

TA: at the time of the assessment; SMDD: Severe Major Depressive Disorder; MMDD: Mild Major Depressive Disorder; N/A: not available; Gen: General; Clin.: Clinical
The specific characteristics which differentiate children with Depressive Disorders and CD/ODD from those with Depressive Disorders alone are poorly understood. A retrospective review by Meller & Borchardt (1996) revealed four variables (anxiety, witness to family violence, antisocial behaviour, and impulsive behaviour) that could be used to discriminate between children with Depressive Disorders plus co-morbid CD and children without co-morbidity. Anxiety was particularly associated with Depression without co-morbid Conduct or ODD.

It appears that the addition of CD increases functional impairment in patients and predicts poor outcome (Goodyer et al, 1997; Kovacs & Devlin, 1998). Fombone et al (2001) re-interviewed 149 subjects who had been assessed at the Maudsley Hospital between 1970-1983 and who met DSM-IV criteria for Major Depressive Disorder with or without CD. They found that the diagnosis of CD was associated with heightened risk of adult suicidality and persistent interpersonal difficulties. One of the few studies that looked into the outcome of children and adolescents with Anxiety Disorders with co-morbid CD/ODD found that, as expected, high levels of aggression were associated with a poor outcome. This appears to be the general finding of most studies (Wever & Rey, 1997).

III.B.2- Co-morbidity between Depressive and Anxiety Disorders

Many studies have documented high rates of co-morbidity between Anxiety and Depressive Disorders for both children and adults (Birmaher et al, 1996; Fava et al, 2000). Co-morbid Anxiety Disorders have been reported
in half of the adult patients diagnosed with Major Depressive Disorders (Fava et al, 2000). Among children and adolescents co-morbidity between the two disorders has been found to range between 20% (Reddy et al, 2000) and 71% (Anderson et al, 1987). The great variability may be related not only to the population selected, but also to the specific Anxiety Disorder studied, as most of the studies have grouped the subtypes of Anxiety Disorders into one category (Angold & Costello, 1993). Some of the findings on co-morbidity between Depressive Disorders and Anxiety Disorders are summarised in the following table 1.7.
Table 1.7: Rates of co-morbidity between Depressive (a) and Anxiety Disorders (b)

<table>
<thead>
<tr>
<th>Study</th>
<th>DSM</th>
<th>N</th>
<th>Age</th>
<th>Period</th>
<th>Populat.</th>
<th>Rates of a in b</th>
<th>Rates of b in a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al, 1987</td>
<td>III</td>
<td>792</td>
<td>11</td>
<td>1 yr</td>
<td>General</td>
<td>17.0</td>
<td>71.7</td>
</tr>
<tr>
<td>Kovacs et al, 1988</td>
<td>III</td>
<td>104</td>
<td>5-16</td>
<td>TA</td>
<td>General</td>
<td>N/A</td>
<td>41</td>
</tr>
<tr>
<td>McGee et al, 1990</td>
<td>III-R</td>
<td>943</td>
<td>15</td>
<td>1 yr</td>
<td>General</td>
<td>11.9</td>
<td>30.0</td>
</tr>
<tr>
<td>Biderman et al, 1995</td>
<td>III</td>
<td>424</td>
<td>5-16</td>
<td>Life-time</td>
<td>Clinical</td>
<td>SA in MDD: 30</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SP in MDD: 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PD in MDD: 5</td>
<td></td>
</tr>
<tr>
<td>Costello et al, 1997</td>
<td>IV</td>
<td>317</td>
<td>10-14</td>
<td>3 mths</td>
<td>General</td>
<td>16.7</td>
<td>40</td>
</tr>
<tr>
<td>Angold et al, 1999b</td>
<td>IV</td>
<td>970</td>
<td>10-14</td>
<td>3 mths</td>
<td>General</td>
<td>17.0</td>
<td>20.9</td>
</tr>
<tr>
<td>Essau et al, 2000</td>
<td>IV</td>
<td>1035</td>
<td>12-17</td>
<td>Life-time</td>
<td>General</td>
<td>35 in specific phobia</td>
<td>N/A</td>
</tr>
<tr>
<td>Reddy et al, 2000</td>
<td>III-R</td>
<td>54</td>
<td>5-16</td>
<td>TA</td>
<td>Clinical</td>
<td>20 in OCD</td>
<td>N/A</td>
</tr>
</tbody>
</table>

TA: at the time of the assessment; SA: Separation anxiety; SP: Simple phobia; PD: Panic Disorder; MDD: Major Depressive Disorder

Co-morbidity between Anxiety and Depressive Disorders influences the manifestation of the symptoms as well as the outcome of the disorder. Different studies have shown that subjects with Anxiety Disorder and co-morbid Depressive Disorder have a more severe functional impairment than those without co-morbid Depression. Those studies found that children with...
Anxiety and co-morbid Depressive Disorders had significantly more anxiety symptoms than those without co-morbid Depressive Disorders. In addition, children with both disorders were at greater risk for suicide attempts, substance abuse and CD than those having either diagnosis alone (Johnson & Lydiard, 1998; Weissman et al., 1999; Masi et al., 2000). Interestingly, a recent study found no difference in treatment outcome between children with one or two disorders (Kendall et al., 2001).

III.B.3-Co-morbidity between Attention Deficit-Hyperactivity and CD/ODD

In recent years, evidence has been accumulating on the high levels of co-morbidity of Attention Deficit-Hyperactivity Disorder (ADHD) with a number of disorders, predominantly CD/ODD but also Depression and Anxiety Disorders. ADHD and CD have been found to occur together in 30-50% of the cases (Anderson et al., 1987; Bird et al., 1988; Costello et al., 1988; Biederman et al., 1991; Ferguson et al., 1991). These high levels of co-morbidity have been found in culturally and geographically diverse epidemiological samples as well as in clinical samples (Szatmari et al., 1989; Leung et al., 1996). A summary of the main studies is presented in table 1.8.
Table 1.8: Rates of co-morbidity between ADHD (a) and ODD/CD (b)

<table>
<thead>
<tr>
<th>Study</th>
<th>DSM</th>
<th>N</th>
<th>Age</th>
<th>Period</th>
<th>Populat.</th>
<th>Rates of a in b</th>
<th>Rates of b in a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al, 1987</td>
<td>III</td>
<td>792</td>
<td>11</td>
<td>1 yr</td>
<td>General</td>
<td>34.7</td>
<td>47.2</td>
</tr>
<tr>
<td>Biederman et al, 1987</td>
<td>III</td>
<td>126</td>
<td>6-17</td>
<td>3 mths</td>
<td>Clinical</td>
<td>46</td>
<td>64</td>
</tr>
<tr>
<td>Offord et al, 1987</td>
<td>III</td>
<td>20,000</td>
<td>4-11</td>
<td>6 mths</td>
<td>General</td>
<td>N/A</td>
<td>42.2 (m)</td>
</tr>
<tr>
<td>Bird et al, 1993</td>
<td>III</td>
<td>222</td>
<td>9-16</td>
<td>6 mths</td>
<td>General</td>
<td>N/A</td>
<td>93</td>
</tr>
<tr>
<td>Cohen et al, 1993</td>
<td>III-R</td>
<td>776</td>
<td>9-18</td>
<td>1 yr</td>
<td>General</td>
<td>N/A</td>
<td>56 CD</td>
</tr>
<tr>
<td>Costello et al, 1997</td>
<td>IV</td>
<td>317</td>
<td>10-14</td>
<td>3 mths</td>
<td>General</td>
<td>7.7</td>
<td>50</td>
</tr>
<tr>
<td>Angold et al, 1999b</td>
<td>IV</td>
<td>970</td>
<td>10-14</td>
<td>3 mths</td>
<td>General</td>
<td>7.5</td>
<td>35.5</td>
</tr>
</tbody>
</table>

III.B.4-Co-morbidity between ADHD and Internalising Disorders (Depressive and Anxiety Disorder)

Co-morbidity between both disorders has ranged between 4.7% for Anxiety Disorder and ADHD (Angold et al, 1999) and 74% between Depressive Disorder and ADHD (Biederman et al, 1995). The findings of representative studies are summarised in tables 1.9 and 1.10.
Table 1.9: Rates of co-morbidity between ADHD (a) and Depressive Disorders (b)

<table>
<thead>
<tr>
<th>Study</th>
<th>DSM</th>
<th>N</th>
<th>Age</th>
<th>Time</th>
<th>Populat.</th>
<th>Rates of a in b</th>
<th>Rates of b in a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al, 1987</td>
<td>III</td>
<td>792</td>
<td>11</td>
<td>1 yr</td>
<td>General</td>
<td>57.1</td>
<td>15.1</td>
</tr>
<tr>
<td>Offord et al, 1987</td>
<td>III</td>
<td>20,000</td>
<td>5-16</td>
<td>6 mths</td>
<td>General</td>
<td>N/A</td>
<td>19.3</td>
</tr>
<tr>
<td>Bird et al, 1993</td>
<td>III</td>
<td>222</td>
<td>9-16</td>
<td>6 mths</td>
<td>General</td>
<td>N/A</td>
<td>26.8</td>
</tr>
<tr>
<td>Cohen et al, 1993</td>
<td>III-R</td>
<td>776</td>
<td>9-18</td>
<td>1 yr</td>
<td>General</td>
<td>N/A</td>
<td>13</td>
</tr>
<tr>
<td>Biederman et al, 1995</td>
<td>III-R</td>
<td>424</td>
<td>5-16</td>
<td>Life-time</td>
<td>Clinical</td>
<td>74</td>
<td>N/A</td>
</tr>
<tr>
<td>Milberger et al, 1995</td>
<td>III-R</td>
<td>140</td>
<td>6-17</td>
<td>Life-time</td>
<td>Clinical</td>
<td>N/A</td>
<td>29</td>
</tr>
</tbody>
</table>

Table 1.10: Rates of co-morbidity between ADHD (a) and Anxiety Disorders (b)

<table>
<thead>
<tr>
<th>Study</th>
<th>DSM</th>
<th>N</th>
<th>Age</th>
<th>Time</th>
<th>Populat.</th>
<th>Rates of a in b</th>
<th>Rates of b in a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson et al, 1987</td>
<td>III</td>
<td>792</td>
<td>11</td>
<td>1 yr</td>
<td>General</td>
<td>23.7</td>
<td>26.4</td>
</tr>
<tr>
<td>Offord et al, 1987</td>
<td>III</td>
<td>20,000</td>
<td>4-11</td>
<td>6 mths</td>
<td>General</td>
<td>N/A</td>
<td>21.3 (m)</td>
</tr>
<tr>
<td>Offord et al, 1987</td>
<td>III</td>
<td>20,000</td>
<td>12-16</td>
<td>6 mths</td>
<td>General</td>
<td>N/A</td>
<td>24.4 (m)</td>
</tr>
<tr>
<td>Bird et al, 1993</td>
<td>III</td>
<td>222</td>
<td>9-16</td>
<td>General</td>
<td>N/A</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Cohen et al, 1993</td>
<td>III-R</td>
<td>776</td>
<td>9-18</td>
<td>General</td>
<td>N/A</td>
<td>23 OA</td>
<td></td>
</tr>
<tr>
<td>Angold et al, 1999b</td>
<td>IV</td>
<td>970</td>
<td>10-14</td>
<td>3 mths</td>
<td>General</td>
<td>4.7</td>
<td>17.2</td>
</tr>
</tbody>
</table>

OA: Overanxious disorder; SA: Separation Anxiety Disorder

Follow-up data of children with ADHD and co-morbid Major Depressive Disorders strongly suggest that those disorders are individually associated...
with substantial long-term psychiatric morbidity and that their co-occurrence may be associated with a particularly poor outcome (Biederman et al., 1991). Similar results have been found in anxiety disorders. For example, Pliszka (1998) found that coexisting anxiety in children and adolescents with ADHD appeared to attenuate impulsivity in ADHD, and also that response to stimuli was poorer in ADHD children with co-morbidity.

III.B.5- Substance misuse and psychiatric co-morbidity

Early-onset Substance Misuse Disorders have been shown to be associated with higher levels of psychopathology in male samples. Particularly Conduct Disorder associated with Major Depression has been reported in adolescents with alcohol dependence. Adult men with adolescent onset of substance misuse have been found to have higher rates of co-morbid Conduct Disorder and Attention-Deficit Hyperactivity Disorder than patients with an early or late adult onset substance abuse. Although a clear association between Conduct Disorder, depression and substance misuse has been established, the relationship between Anxiety Disorder and substance misuse is less clear (Myles & Willner, 1999).

III.B.6- Learning disability and psychiatric co-morbidity

Psychiatric disorders are three to four times commoner in children with learning disabilities than in the general population. The range of disorders in these children is similar to those found in children in general. Conduct and Emotional Disorders are both increased by about the same proportion. Some disorders occur much more frequently, most notably Hyperkinetic
Disorder/ADHD and Pervasive Developmental Disorder. Research in this field has found an overall relationship between intellectual level and the presence of psychiatric disorder. The rate of disorder is higher in the more profoundly affected (Scott, 1995).
CHAPTER II

SERVICES FOR CHILDREN AND ADOLESCENTS
WITH MENTAL HEALTH PROBLEMS AND DISORDERS

This chapter describes the services which are currently available for children and adolescents with mental health problems, particularly at primary care level. This second chapter will also review some of the most influential studies on the presentation of mental health problems in children and adolescents attending primary care services.

I-HISTORICAL BACKGROUND

In the UK, the first hospital developed for the assessment and management of people with mental illness was the Bethlem Hospital, which was founded in 1247. Until then, there were very few, if any, special provisions for mentally ill people in the UK and nearly all of them lived in the community or were imprisoned. Much changed after the First World War with the opening in 1923 of the Maudsley Hospital. This hospital provided an outpatient service and voluntary inpatient treatment for mentally ill people in a teaching hospital (Gelder et al, 1991). Contemporary psychodynamic ideas
started influencing British psychiatry and this led to the establishment of the Cassel Hospital and the Tavistock Clinic (Pines, 1991). By the Second World War, physical treatments for mental illness were widely adopted, though these were mainly restricted to the administration of Insulin and electroconvulsive therapy (ECT).

Fortunately psychiatry has moved forward from those early days, and in the last 10-15 years the mental health care of patients has been transferred from 'asylums' to general hospitals and the community. Care in the community is now well established for adult people with mental illness, with an increasing inter-agency focus (Freeman, 1999).

In the UK, Child and Adolescent Mental Health Services (CAMHS) have grown at a different speed to adult services. It has taken longer for our society to acknowledge that children and adolescents also have mental health needs (Zahner et al, 1992).
II- SERVICES FOR CHILDREN AND ADOLESCENTS WITH MENTAL HEALTH PROBLEMS IN THE UK

In 1995 the Health Advisory Service in the UK proposed a model of CAMHS based on four tiers. Tier 1 services are those provided by professionals with whom children with mental health problems first come into contact. Tier 2 services involve specialist child mental health professionals working on the interface with tier 1. Tier 3 services consist of mental health professionals in specialist multi-disciplinary teams, which provide assessment and treatment for disorders that cannot be managed at tier 2. Tier 4 consist of highly specialised services such as inpatient units, day units and specialist outpatient or liaison services (Health Advisory Service, 1995) (Table 2.1). As this study selected a clinical sample attending a service working between tiers 1 and 2, these tiers will be discussed in detail, with a particular emphasis on tier 1 services.
<table>
<thead>
<tr>
<th>Tier</th>
<th>Professionals with whom children and adolescents with mental health problems first come into contact</th>
<th>G.Ps, health visitors, residential social workers, juvenile justice workers, school nurses, teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>Specialist child and adolescent mental health professionals working individually to provide assessment and intervention, as well as support to tier 1</td>
<td>Individuals working as clinical child psychologists, educational psychologists, paediatricians, community psychiatric nurses and child psychiatrists, operating individually on the interface with tier 1</td>
</tr>
<tr>
<td>Tier 3</td>
<td>Mental health professionals in specialist multi-disciplinary teams established to assess and treat mental health disorders</td>
<td>Multi-disciplinary teams of social workers, clinical psychologists, community psychiatric nurses, art, music and drama therapists, child psychotherapists, occupational therapists and child psychiatrists.</td>
</tr>
<tr>
<td>Tier 4</td>
<td>Highly specialised services</td>
<td>Day units, highly specialised outpatient teams, child and adolescent in-patient units</td>
</tr>
</tbody>
</table>
II.A-TIER 1 SERVICES

Tier 1 services consist of professionals such as general practitioners (GPs), social workers, voluntary staff, educational staff, health visitors, accident and emergency doctors, medical officers and child health staff who, whilst not necessarily employed for the prime purpose of promoting mental health, directly or indirectly influence the mental health of children and adolescents through their work. These individuals offer front line service to the public and are in a strong position to identify manifestations of mental health problems in children. Professionals working at this level play an important part in preventing more serious mental health problems by detecting and addressing difficulties at an early stage.

The organisation of primary care services varies from country to country. In the UK general practitioners provide primary care services to the whole population and are the major source of referral to secondary level care. However, in the USA (and most developing countries) there is a less clear distinction between the primary and secondary service levels. In these countries, most of the primary care for children and adolescents is provided by paediatricians (Gujere & Omigbodum, 1995).

Research in children and families attending primary care services has found that psychiatric disorders are common among this population. The next section will describe the key findings of studies in this field.
II.A.1- Psychiatric disorders in primary care

Over the course of a year, most children are taken by their parents to primary care health services at least once. Work with children has been estimated to occupy about a third of a GP's time (Hart, 1982). The majority of consultations with children and adolescents are for physical health problems (95-98%) (Bernard & Garralda, 1995), with the remaining consultations being for psychological or developmental problems. However, it is relatively common for children and adolescents to attend GP surgeries with medically unexplained physical symptoms which may have a psychological aetiology (Garralda & Bailey, 1986 & 1989; Garralda, 1996). Pain complaints (headache, abdominal pain and limb pain), fatigue and gastrointestinal symptoms have been commonly reported among children attending GP surgeries (Offord et al, 1987; Eminson et al, 1996; Taylor et al, 1996).

Research in this area has found that female adolescents report medically unexplained physical symptoms more frequently than male attendants (Offord et al, 1987; Eminson et al, 1996; Taylor et al, 1996) and that these complaints have been found to be associated with symptoms of anxiety and depression in both community and clinical samples (Garralda & Bailey, 1986; Eminson et al, 1996; Taylor et al, 1996).

Although the number of children and adolescents complaining of mental health problems to their GPs appears to be small, studies which have assessed children attending primary care services (whose samples were...
children who consulted their GP for any reason) found that a quarter of them had a psychiatric disorder (Giel et al, 1981; Garralda & Bailey, 1986 & 1989). These studies found that Emotional Disorders, particularly in girls, was the most prevalent diagnosis (Garralda & Bailey, 1986). The same authors also studied adolescents attending GP clinics and found that Major Depression and Dysthymia were the most common disorders, while Conduct, Oppositional Defiant and Attention Deficit-Hyperactivity Disorders were considerably less common amongst adolescents than among children (Kramer & Garralda, 1998b). Despite a high refusal rate in the Kramer & Garralda study (32%), their findings confirmed the previous results of Westman & Garralda (1996).

Similar rates of psychiatric disorders have been found in children and adolescents attending different types of primary care settings. Gureje et al (1994) assessed 990 children aged 7-14 years who attended a walk-in paediatric primary care clinic in Nigeria and found the prevalence rate of psychiatric disorders to be 19.6%. As in previous studies, they also found that Emotional Disorders (Depressive and Anxiety Disorders) predominated and that Conduct Disorders were present only in 4% of the sample. Similar rates of psychiatric disorders have also been found in a recent American study (Campo et al, 1999). The researchers assessed 21,065 children aged 4 to 15 years attending paediatric clinics, and found that 14.6 % suffered from a psychiatric disorder. Some of the studies on the rates of child psychiatric disorders in primary services are summarised in table 2.2.
Table 2.2: Rates of child psychiatric disorders in GP and paediatric practices

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Population</th>
<th>Country</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giel et al</td>
<td>1981</td>
<td>5-15 yr</td>
<td>Sudan, Philippines, India and Colombia</td>
<td>12% to 29%</td>
</tr>
<tr>
<td>Garralda &amp; Bailey</td>
<td>1986</td>
<td>7-12 yr</td>
<td>UK</td>
<td>23%</td>
</tr>
<tr>
<td>Costello et al</td>
<td>1988</td>
<td>7-11 yr</td>
<td>USA</td>
<td>24.7%</td>
</tr>
<tr>
<td>Gureje et al</td>
<td>1994</td>
<td>7-14 yr</td>
<td>Nigeria</td>
<td>19.6%</td>
</tr>
<tr>
<td>Wildman et al</td>
<td>1997</td>
<td>2-16 yr</td>
<td>USA</td>
<td>15-25%</td>
</tr>
<tr>
<td>Kramer &amp; Garralda</td>
<td>1998</td>
<td>13-16 yr</td>
<td>UK</td>
<td>38%</td>
</tr>
<tr>
<td>Campo et al</td>
<td>1999</td>
<td>4-15 yr</td>
<td>USA</td>
<td>14.6%</td>
</tr>
</tbody>
</table>

To conclude, research would appear to show that psychiatric disorders among primary care attendees are common, particularly in female adolescents complaining of physical symptoms. Primary care physicians are in a good position to recognise mental health symptoms and, once identified, to implement preventive interventions. Recognition of mental health problems in itself can be an important intervention leading to a reduction of anxiety, mobilization of family resources and identification of the most appropriate service for the child’s needs (HAS, 1995).

II.B- TIER 2/3 SERVICES

Studies using less reliable methods of assessment (parents and/or GPs completing a symptom check-list) found that of the 15-25% of children with
psychiatric disorders attending GP clinic, 2% were referred on to specialist
tier 2/3 services (Wildman et al, 1997).

Tier 2 services involve child mental health professionals working on their
own. This group includes Clinical Psychologists, Educational Psychologists,
Paediatricians, Community Child Psychiatric Nurses, or Child Psychiatrists.
Tier 3 includes specialist mental health professionals within multi-
disciplinary teams and includes professionals like Social Workers, Clinical
Psychologists, Community Psychiatric Nurses, Art, Music and Drama
Therapists, Child Psychotherapists, Occupational Therapists and Child
Psychiatrists. In most parts of the UK the boundaries between tier 2 and tier
3 services are not clearly defined, particularly in large urban or tertiary
centres where there may be limited filters from primary care to specialist
CAMHS (Gater & Goldberg, 1991).

Some studies have tried to identify the need for CAMHS by analysing the
referrals made by tier 1 workers to specialist services (Hoare et al, 1996;
Ubeysekara & Cox, 1998) and by investigating the factors that determined
referral to specialist mental health services by GPs (Wolpert & Fredman,
1996; Lavigne et al, 1998; Bostic, 1999; Wu et al, 1999). These studies
found that more than three quarters of the referrals were made by GPs (Wu
et al, 1999), that Conduct and Mixed Disorders accounted for 37% of the
diagnostic categories, and that referrals were linked with antisocial
Referrals to specialist services often appear to be part of multiple psychosocial family stressors, including unemployment, marital and mental health problems in mothers, low levels of family support, socio-economic disadvantage, and parenting difficulties (Rooke & Thompson, 1997; Lavigne et al, 1998; Bostic, 1999). These studies concluded that the identification of child psychiatric disorders did not accurately predict the need for referral to specialist services.

II.C- TIER 4 SERVICES

Children and adolescents with severe psychiatric disorders may require input from highly specialised services (Tier 4) such as in-patient psychiatric units. The NHS Health Advisory Service Thematic Review recommended that those services should be provided on a sub-regional or regional basis (HAS, 1995). However, there have been reports of organisational problems in those services, as service provision has often been determined more by historical factors than on evidence (HAS, 1995). A review of all in-patient services in the UK has recently been completed by Royal College of Psychiatrists’ Research Unit (2001). One of the aims of this review was to facilitate some of the changes required in these units.

In the USA, adolescent in-patient units are becoming increasingly focused on a model of diagnosis, assessment and containment. The focus of a brief hospitalisation is to reach the ‘minimum necessary change’ before discharge. As the need to treat young people with severe mental disorders
increases, most of the UK specialist adolescent units are following the steps adopted by these American units. However, the view of some professionals working in these services is that this method of working dispenses with the notion of the ward as a therapeutic agent (Cotgrove & Gowers, 1999).

In the UK, the process of commission and expansion of specialist services has often been described as poorly planned. Indeed there is great variation across health districts in the structure and model of CAMHS. However, over the past few years there have been attempts to develop more rational ways of planning services for children with mental health needs (Harrington et al., 1999). Although some studies estimated that around 8.9% of the child and adolescent population presents with mental health problems severe enough to require tier 2/3 referral and 0.08% will require highly specialist services (tier 4) (Kurtz, 1996; Stallard & Potter, 1999), the identification of demand for specialist services is not easy, as clinical samples do not reflect population need, and positive cases identified in epidemiological studies do not often result in clinical referrals.

Even with a well-organised CAMHS structure, there are still considerable gaps between the different tiers, particularly between tier 1 and specialist services. With a view to bridging these gaps, a new service model has been introduced in the UK: the Primary Mental Health Service (HAS, 1995). One of the aims of this new service is to reduce long waiting lists for specialist services, which are a significant cause of distress to children,
families and referrers (Roberts & Partridge, 1998). Other aims of the service are to offer consultation, training, supervision and support to primary care professionals, with the principle aim of strengthening interventions within primary care.
III-PRIMARY MENTAL HEALTH SERVICES

III.A. HISTORICAL BACKGROUND

In 1997 the House of Commons Health Committee published its report on child and adolescent mental health services. The report reiterated the findings of previous studies describing provision of CAMHS as "inadequate in quality and geographical spread" and having suffered historical neglect within the NHS. It observed weaknesses in both the commissioning and provision of CAMHS. The absence of specific goals in the existing Health of the Nation targets was highlighted and the report recommended that the Department of Health (DoH) should prioritise child and adolescent mental health services. The report also recommended closer co-operation between agencies and professionals (DoH, 1997) and supported the concept of primary child and adolescent mental health workers as a cost effective way of improving prevention and early diagnosis of mental health problems.

Following those recommendations, a number of CAMHS established Primary Mental Health Worker (PMHW) posts, whose objective was to enhance service provision at Tier 1 level through collaborative work. Their role includes a combination of support, consultation, training, liaison and joint work with Tier 1 professionals.
III.B- CHARACTERISTICS OF PRIMARY MENTAL HEALTH WORKERS

The HAS Report advocated that the Primary Mental Health Worker (PMHW) role should be undertaken by a senior professional from a mental health background, i.e. from nursing, social work, psychology, occupational therapy or medicine. It was suggested that some of those professionals could take on a number of roles that were traditionally exclusive to doctors. This is not a new concept. As a result of consumer led demands for greater access to other primary care professionals, in conjunction with the decline in size of the medical workforce, many GP clinics have adopted a shift of care from doctors to nurses (Sergison et al, 1999). The core attributes of the Primary Mental Health Worker, as described by the Department of Health (DoH, 1997), are summarised in Table. 3.3.

Table 3.3 Core Attributes of a Primary Mental Health Worker (DoH, 1997)

- Specialist knowledge of child and adolescent mental health
- Experience of working in a community setting with children, adolescents and their families
- Senior level within their profession, with the ability to take responsibility for decision making
- Ability to provide clinical supervision and consultation to other professionals on a variety of levels
- Excellent communication and networking skills
- A range of direct work/therapeutic skills
III.C- ROLE OF THE PRIMARY MENTAL HEALTH WORKERS

The fundamentals of the PMHW role encompass the provision of specialist consultation, training, supervision and support to primary care professionals, with the principle aim of strengthening interventions within primary care. Some of these roles are discussed in more detail.

III.C.1- The Liaison Role of the PMHW

According to Roberts (1997), the use of the term 'liaison' within a mental health setting typically implies working between psychiatric and non-psychiatric services, and is seen as collaboration between different agencies. In psychiatry, this role was originally introduced in the 1970s, when there was concern for the increasing number of suicide attempts and deliberate self-harm in the adult population (Catalan et al, 1980). It was initially a crisis intervention initiative predominantly based at accident and emergency departments (A&E). It was usually nursing staff who undertook such posts, with the aim of assessing the person at the time of crisis, undertaking short-term interventions and referring the individual to a more specialist service when necessary.

The main aims of the liaison role have been described as:

- a reduction in duplication of service provision;
- education of professionals to ensure appropriate referrals to specialist services; and
- the development of a strategic approach in the planning of care for patients (Catalan et al, 1980; DoH, 1997; Roberts, 1997).
The liaison role is particularly important for children and adolescents with mental health problems attending primary care services, as previous research has established that these can be classified into four groups:

1- Presenting with mental health problems.
2- Presenting with psychosomatic symptoms or physical problems associated with mental health problems.
3- Presenting with physical symptoms, but also having a hidden psychopathology
4- Referred by other agencies, although the families may not perceive a mental health problem (Garralda & Bayle, 1986; Westman & Garralda, 1996; Kramer & Garralda, 1998b).

All these groups are relevant to PMHS, but they each requires a different approach. Less is known about children in contact with non-health agencies such as social services and the non-statutory sector.

Davis et al (2000), who assessed 253 parents and young people aged 0 to 16 years attending GP clinics, found that nearly 72% had at least one moderate-to-severe problem, and more than a quarter (37%) presented with three or more severe problems. Difficulties varied according to age and gender. Over 85% of the sample had at least one risk factor for child mental health problems, and over 51% had three or more. Parental mental health problems were found to be the most common risk factor. The authors suggested the need for a co-ordinated multi-agency approach and
advocates the role of professionals such as PMHWs to liase and coordinate those services.

III.C.2- Consultation and advice role of PMHW

Consultation was developed during the 1930s and its origins lie within the nursing role (Roberts, 1997). Consultation was historically undertaken by psychiatrists in a general medical setting, and it was found that access to such skill was essential in collaboration with primary care professionals. The consultation role is described by Bower & Gask (2002) as a model of interface between health primary care and specialist mental health services. In child and adolescent mental health services, this role also includes non-health services such as education and social services, due to the regular contact of children and families with these agencies.

The role of consultation can take the form of either telephone or face-to-face interaction. Also, supervision groups for primary care professionals who have concerns regarding a child's mental well being, or are unsure where to refer, or what services are available. These groups could be undertaken with Health Visitors, School Nurses and within GP surgeries, and could discuss individual cases or general issues. The DoH perceives the role of the Primary Mental Health Worker as being the main facilitator of these discussions and also as providing advice where necessary.

In addition, consultation can be provided to professional community forums and voluntary agencies (e.g. Parenting Networks, Home Start, Special
Needs Forums, Volunteer Groups, local Voluntary Action Forums, Domestic Violence Forums) with a view to providing education, support and information. This would serve to strengthen the confidence of these professionals to recognise and tackle mental health difficulties early (Davis et al., 1997; Hobbs & Murray, 1999; Bower et al., 2001).

III.C.3- Joint work with primary care professionals and direct work with children and families

Joint work between primary care professionals and Primary Mental Health Workers has been described as one of the most important elements of this new service. This role can be undertaken in a number of ways, for example in the form of a joint assessment with a practitioner already involved in a case, or by supporting the practitioner in the work they are already undertaking, thereby assisting them to develop choices for intervention (Gale & Sebuliba, 1997). Once the joint process has ended, it then becomes important that supportive or supervisory plans for the professional who continues the work with the case are put in place, therefore enabling ongoing communication and management.

The Primary Mental Health Worker would also be able to offer direct work in the form of brief focused interventions of approximately six to eight treatment sessions. Direct work is tailored to meet the needs of the individual child/adolescent and family, i.e. parenting training, cognitive-behavioural therapy, solution-focused brief therapy, or anger management. Intervention should target identified needs and may need to be
implemented in partnership with other agencies (Gale & Sebuliba, 1997). The locality-based intervention a PMHW can offer is one of the main strengths of the service, as this reduces non-attendance rates. This is of prime importance, as non-attendance rates in specialist CAMHS have been found to be between 15 to 28%. Those studies found that the main reasons for non-attendance were: improvement of the child's symptoms during the waiting period, anxiety about seeing a psychiatrist, and financial difficulties (Hoare et al, 1996; Ubeysekara & Cox, 1998).

Services offering locality-based interventions have been found to increase clinical effectiveness. O'Shea et al (2000) described a school-based mental health service for refugee children that offered a range of individual and family interventions. The authors showed that children receiving these interventions had improved mental health outcomes.

Home-based services have also been described in the literature. Day & Davis (1999) described a service that aimed to increase the effectiveness and availability of child mental health promotion, prevention and early intervention. Workers acted as advisers for parents of pre-school children with emotional/behavioural problems. This service led to an improvement in self-esteem and a decrease of stress, rates of depression and anxiety in parents. The authors of these studies emphasised the need for locality-based services particularly for families that may have difficulties in attending specialised services (Day & Davis, 1999; O'Shea et al, 2000).
In recent years the interface between primary and specialist services has been bridged by a range of professionals operating in different roles, such as Family Support Workers or specialist mental health professionals working with primary care agencies (Day & Davis, 1999; Appleton & Hammond-Rowley, 2000). Most of these emerging services target children with a variety of behavioural problems and their families, and apply different forms of parenting interventions. Earlier randomised trials on the efficacy of parenting interventions (e.g. Webster-Stratton, 1991) have been replicated with families seeking help from a range of community services (Scott, 1998). These have been applied in a variety of settings such as child mental health services, social services and non-statutory agencies. Client populations have inevitably differed, as have the referral pathways and service objectives, with specialist CAMHS prioritising the treatment of more complex and co-morbid disorders, family support services geared towards prevention of abuse and early intervention for high risk children, and non-statutory services aiming at primary or secondary prevention for less complex cases (Window et al, 2004).

The Parent Adviser Service model in the UK is an illustration of effective input of specialist CAMHS into primary health care, as this has been successfully delivered by health visitors, school nurses and community paediatricians following training by a specialist psychology service (Davis et al, 1997). This model involves a number of service components, predominantly parent counselling, consultation and training to primary care
professionals and school-based health promotion (Day et al, 1998; Davis et al, 2000). Similar forms of intervention could be offered by the PMHWs.

III.D- CHALLENGES IN IMPLEMENTING THE PRIMARY MENTAL HEALTH WORKER ROLE

It is essential that the role of the Primary Mental Health Worker provides a link between primary and specialist tiers and is pro-active in the filtering of referrals to specialist CAMHS, directing children towards the most appropriate service for their needs and advising referrers. However, primary care professionals could see the PMHW role as ‘blocking’ access to CAMHS or that the position has been developed as a tactic to guard CAMHS from insurmountable demand (Gale & Vostanis, 2003). However, it should be recognised that the new PMHW service could also be overwhelmed by demand, particularly as research has shown that a large number of the children attending primary care services present with mild emotional and behavioural problems that will not require the involvement of specialist services (DoH, 1997).

As the PMHS is a new service, there is limited information on the characteristics of their target client group. A recent study has described the characteristics of young people referred to a PMHS linked to a Youth Offending Team (YOT). The authors of the study found a wide range of those referred presented with mental health difficulties that would justify referral to CAMHS, namely concerns indicating possible depressive, eating,
anxiety, psychotic, ADHD and pervasive developmental disorders (Callaghan et al, 2003a). Although the study was based on service records and clinical interviews (HoNOSCA), it established high levels of mental health problems among the young people. However, this particular population may be very different to the population of children referred by tier 1 services to generic PMHS. Knowledge on the nature and frequency of psychopathology in children attending the PMHS is particularly important in order to aid this new service to develop networks and working protocols with primary care professionals, and to identify PMHW’s training needs. This was the rationale for this study.
CHAPTER III

METHODS

I-AIMS AND HYPOTHESES OF THE STUDY

The aims and hypotheses of the study were as follows:

Aim (1): To establish the socio-demographic characteristics of the population attending the Primary Mental Health Service.

Hypothesis (1): It was hypothesised that a high number of the children attending a Primary Mental Health Service would have unemployed parents, family history of mental illness and high levels of parental stress.

Aim (2): To establish the nature and frequency of child psychiatric disorders among attendants at a Primary Mental Health Service.

Hypothesis (2): As the service was set up primarily to divert referrals of behavioural problems from specialist (Tier 3) CAMHS, it was hypothesised
that the vast majority of attendants would fulfil diagnostic criteria for Oppositional Defiant and Conduct Disorders.

**Aim (3):** To establish the co-morbidity of child psychiatric disorders among attendants at a Primary Mental Health Service.

**Hypothesis (3):** As co-morbidity between Oppositional Defiant/Conduct Disorders and other psychiatric disorders has been found to be high, it was hypothesised that a substantial proportion of children attending the Primary Mental Health Service would also fulfil diagnostic criteria for another disorder, i.e. that some accepted cases would overlap with those requiring specialist (Tier 3) assessment and treatment.

II. SAMPLE

II.A- SAMPLING METHODS

II.A.1-Source of cases

The subjects were selected from referrals to the Leicester and Leicestershire Primary Mental Health Service (PMHS). The Primary Mental Health Team was developed in 1999 after a successful bid for CAMHS waiting-list-monies. At the time of the study, the team comprised of seven Primary Mental Health Workers (PMHWs) who had a variety of professional backgrounds and experience, namely mental health nursing and social work. The PMHWs operate within identified target localities with children
up to 16 years old and their families. These localities represent targeted deprived inner-city areas (Leicester city) as well as semi-urban (Hinckley, Loughborough and Coalville) and rural areas. These areas were identified because of hypothesised high rates of child mental health need according to high index of socio-economic deprivation. In addition to increased referrals to specialist CAMHS, the targeted localities had high child protection registrations and high use of educational resources for behavioural, emotional and learning difficulties. Each PMHW covered a locality of 50,000 general population or 11,000 young people under 16 years (Leicestershire Multi-agency Training, 2000).

During the first year, the PMHWs concentrated on significantly reducing the CAMHS waiting list by seeing children and families waiting as 'lower priority' cases, i.e. predominantly children with oppositional behaviours or mild emotional difficulties. The service objective was to enable the specialist CAMHS teams (Tier 3) to concentrate on working with children with acute, severe or longstanding mental health or developmental disorders such as depression, anxiety, eating disorders, autism or ADHD.

During the second year, the PMHWs developed their own operational criteria and accepted referrals directly from primary care agencies. It was during this phase of the service that this research was conducted.
II.A.1.a-Source of referrals

The Primary Mental Health Service accepts referrals from different agencies operating at primary care level (tier 1): GPs, health visitors, community paediatricians, school nurses, social workers and educational professionals. Referrals are discussed by the team at their weekly meeting. The PMHS model can be viewed as a process with three levels of intervention. Each level can precipitate a move to subsequent levels and there can be interface with other agencies or specialist CAMHS at any stage, depending on the established level of need. The process usually starts with consultation and may progress to joint working with the referring professional (or an identified professional deemed more appropriate to meet the child's needs), liaison with other agencies, or direct intervention with children and families.

The PMHW's work is defined in two ways. First, the PMHW actively filters referrals to the CAMHS teams through their referral meeting and, second, through direct requests for consultation by primary care professionals. Using this model aids both the PMHW and the primary care professional to define the level of support and intervention, i.e. managing children's mental health needs successfully in tier 1 or ensuring access to services which are deemed appropriate to the determined level of need, including the identification of children requiring specialist CAMHS intervention (Gale & Vostanis, 2003).
A large proportion of referrals are initially discussed between the PMHW and the primary care professional (clarification and consultation) in order to decide whether the case needs to be directly assessed by the PMHW. This discussion can take place face-to-face or over the telephone. Often, following a preliminary discussion, it is agreed that the professional could manage the case effectively at tier 1 with support from the PMHW. If this view is taken, an advanced stage of consultation is employed, which involves the development of a written plan identifying aims and desired outcomes.

II.A.1.b-Referrals accepted for direct work by the PMHS

At any stage of the model it may be necessary for the PMHW to undertake direct intervention with the child. This option is available and appropriate when the child's difficulties are not responding to any intervention attempted by the primary care professional, or where there are concerns regarding the child's level of mental health need, i.e. where there is concern that the child's need cannot be supported through the consultation/liaison process. Cases selected for direct work are usually not considered appropriate for intervention from another agency or specialist CAMHS.

The aim of direct work is for the case to be managed at tier 1 once intervention is completed. Primary Mental Health Workers offer direct work in the form of a brief, focused intervention of approximately six to eight sessions followed by a formal review with the child and the family. Direct
work is tailored to meet the needs of the child and family and includes parenting training, cognitive-behavioural therapy, solution-focused therapy or anger management. This is supervised by the senior PMHW.

II.A.1.c- Referrals directed to Tier 3 CAMHS

Children suspected of having more serious or complex disorders such as Attention Deficit-Hyperactivity, Developmental, Psychotic Disorders or self-harm are usually referred onto the specialist (Tier 3) CAMHS team in their locality.

II.B-INCLUSION AND EXCLUSION CRITERIA FOR THE STUDY

The subjects were selected from consecutive referrals to the Leicestershire Primary Mental Health Service over one year.

II.B.1- Inclusion criteria

- Children accepted by the PMHS for direct work
- Children aged six years or older (as the research tools used have only been validated for children over this age)

II.B.2- Exclusion criteria

- Children not accepted by the PMHS for direct intervention
- Children younger than six years
III. MEASURES

Five instruments were used in this study:

1- In order to describe the characteristics of the sample of children and their families attending the PMHS:

A. A checklist of socio-demographic characteristics of the children and their families.

   *Aim of the tool:* to describe the socio-demographic characteristics of the children and families attending this service.

B. The Parental Stress Index (PSI) (Abidin, 1983a).

   *Aim of the tool:* to measure levels of parental stress.

C. The Eyberg Child Behavioural Inventory (ECBI) (Eyberg & Ross, 1978).

   *Aim of the tool:* to measure the severity of child behavioural problems.

2- In order to establish the nature and severity of psychiatric disorders of children and adolescents attending the PMHS:

D. The Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997).

   *Aim of the tool:* to measure the severity of mental health problems.

Aim of the tool: to establish the psychiatric disorders of children and adolescents attending this service.

These five instruments will be discussed in more detail next.

III.A-CHECKLIST OF SOCIO-DEMOGRAPHIC CHARACTERISTICS

III.A.1-Description of the instrument

This is a checklist of socio-demographic characteristics. The following information about the children and their families was collected from the parent(s): age of the child, gender, ethnicity, family status, father's employment, mother's employment, history of mental illness in the family, and type of referrer (Appendix 3.a).

III.A.2-The use of this tool in this study

The aim of using this checklist was to collect information about the socio-demographic characteristics of the children and their families attending the Primary Mental Health Service.
III.B-PARENTAL STRESS INDEX (PSI) (Abidin, 1983a)

III.B.1-Description of the instrument

This is a 120-item questionnaire that measures the degree of stress associated with parenting. The instrument yields a global stress score and has been validated for use in clinical and non-clinical samples. The PSI has been validated for use with parents of children younger than 12 years (Abidin & Wilfong, 1989; Thome, 2000; Waldron et al, 2001).

The PSI total score is divided in two different domains:

1. **Child Domain** (47 items)

   This relates to the child as a source of stress and assesses the extent to which child characteristics are perceived as posing difficulties for parents. This domain includes six subscales: Distractibility/Hyperactivity (DI), Adaptability (AD), Reinforces parent (RE), Demandingness (DE), Mood (MO), and Acceptability (AC).

2. **Parental Domain** (54 items)

   This relates to the parent’s views of their own functioning and includes seven subscales that are known to be of particular salience in families coping with children. This domain includes: Competence (CO), Isolation (IS), Attachment (AT), Health (HE), Role Restriction (RO), Depression (DP) and Spouse (SP).
A high score on the Child Domain may be associated with child characteristics that make it difficult for the parent to fulfil their role. This may indicate that the child characteristics are contributing factors to the overall stress in the parent-child system. A high score on the Parental Domain suggests that the sources of stress and potential dysfunction of the parent-child system may be related to dimensions of the parent's functioning (Appendix 3.b).

III.B.2-Administering the PSI

The PSI takes approximately 20 minutes to complete. The parent is initially asked to read the instructions on the first page of the questionnaire. Each item is scored by circling the answer SA (strongly agree), A (agree), NS (not sure), D (disagree) or SD (strongly disagree). The sum of the child domain score and parental domain score constitute the 'total stress' score. A total score above 260 is an indication that a referral for professional consultation is necessary (Abidin, 1995).

III.B.3-Scoring the PSI

The scores are translated into population norms by using the PSI profile that accompanies the Parental Stress Index. Using this table the researcher is able to compare the PSI scores with established norms (percentiles scores) from the general population.

In this study, scores were grouped into five different categories:-

1. Scores below the 50th percentile

2. Scores between the 50th and 85th percentiles
3. Scores between the 85th and 95th percentiles
4. Scores between 95th and 99th percentiles
5. Scores above the 99th percentile

III.B.4-Validity and reliability of the PSI

The PSI has been standardised in parents of children between one month and 12 years old. Several studies have supported the construct and predictive validity of the different categories and domains of the PSI. These studies have demonstrated that the PSI was able to identify specific areas of stress in children with developmental, attachment (Stuart et al, 2000; Hawley et al, 2003) and physical problems (Paradise et al, 1999). The PSI was also able to discriminate between clinical (ADHD, Conduct Disorders) and non-clinical groups of children (Kazdin, 1990; Webster-Stratton, 1990). The validity of the PSI has been demonstrated by comparing it with instruments such as the Beck Depression Inventory and the Edinburgh Postnatal Depression Scale (Ostberg et al, 1997). The PSI has also been validated in trans-cultural research involving diverse populations such as Chinese, Italian, Portuguese, Latin American and French Canadian (Abidin, 1983b; Abidin, 1995). These studies demonstrated that the PSI maintains its validity in diverse non-English speaking cultures.

Its test-retest reliability has also been demonstrated by several studies. For example, the test-retest reliability of the PSI was calculated in a clinical sample of 30 mothers attending a parenting clinic for consultation on child
behaviour. Correlation coefficients between the first set of scores and the scores obtained one to three months after the initial assessment was 0.63 for the child domain, 0.91 for the parental domain and 0.96 for the total stress score (Loyd & Abidin, 1985).

III.B.5-Use of the PSI in research

The PSI has been used in different settings, though predominantly with parents of children with developmental/physical and behavioural problems. Research has found inconclusive associations between PSI scores and paediatric attendance (Abidin, 1983b; Abidin & Wilfong, 1989). Other studies have used the PSI to investigate maternal stress in children with hearing difficulties (Paradise et al., 1999; Stuart et al., 2000) and children with growth-deficiency (Bithoney et al., 1995).

Several studies have compared the levels of behavioural problems in children with parental stress levels (Kazdin, 1990). One of those studies by Eyberg et al. (1992) showed that there was a strong association between maternal stress and disruptive child behaviour. They examined 165 clinic-referred children. These results confirmed previous findings by Adams & Tidwell (1989).
III.B.6-The use of this tool in this study

The Parental Stress Index was used to investigate:

a) the levels of parental stress among the parents of children attending the PMHS;

b) whether parental stress was related to parental or child characteristics (e.g. family history of mental illness);

c) whether there was an association between levels of parental stress and severity of child behavioural problems in this sample; and

d) whether there was a difference between the stress levels of parents of children with ODD without co-morbid disorder and parents of children with ODD and other co-morbid psychiatric disorders, i.e. whether stress was related to the ODD diagnosis independent of the co-morbidity.

III.C-EYBERG CHILD BEHAVIOURAL INVENTORY (ECBI) (Eyberg & Ross, 1978)

III.C.1-Description of the instrument

This is a standardized parent-report scale which consists of 36 common childhood problem behaviours and yields a Problem Intensity and a Problem Number Score (Eyberg & Ross, 1978) (Appendix 3.c).
III.C.2- Administering and scoring the ECBI

The Problem Number Score is determined by calculating the number of 'yes' responses to the question “Is this a problem for you?”. This score ranges between 0 and 36.

The Problem Intensity Score is determined by calculating the total value of ratings for each behavior on a 1 (never) to 7 (always) Likert score in response to the question “How often does this occur with your child?”

The meaning of the score for each question is as follows:-

➢ a score of 1 indicates that the child ‘never’ experiences the behaviour;
➢ a score of 2 indicates a frequency of the behaviour between 'never' and 'seldom';
➢ a score of 3 indicates that the frequency of the behaviour is between 'seldom' and 'sometimes';
➢ a score of 4 indicates that the child 'sometimes' demonstrates the specific behaviour;
➢ a score of 5 indicates a frequency of the behaviour between 'sometimes' and 'often';
➢ a score of 6 indicates a frequency of the behaviour between 'often' and 'always'; and
➢ a score of 7 indicates that the behaviour is 'always' present.

The scores are summed to yield a Problem Intensity Score (PIS). This score range is between 36 and 252.
Clinical cut-off scores for the ECBI are 127 for the problem intensity score and 11 for the problem number score. These scores were empirically derived and subsequent tests of them revealed a robust capacity to discriminate between problem and non-problem children (Eyberg & Ross, 1978; Garcia-Tornel et al, 1998).

III.C.3-Validity and reliability
Eyberg & Ross (1978) established the validity and reliability of the ECBI by studying children aged between 2 and 7 years old. They showed that this instrument was able to differentiate between problem and non-problem children, thus supporting its validity. The properties of the ECBI were also studied in an older population of children by Schuhmann et al, (1996) when the Child Behaviour Checklist (Achenbach, 1979) was compared with the ECBI in 159 children aged 4 to 16 years attending a paediatric clinic. They concluded that the ECBI was an effective screening measure for behavioural problems in this population. The test-retest reliability of the ECBI was tested by Spanish researchers in 527 children attending a primary care setting. High coefficients of internal consistency (Cronbach’s alpha=0.87) and stability (intra-group correlation=0.89) were obtained in this study (Fernandez de Pinedo, 1998).

III.C.4-Use of the ECBI in research
Several studies have used the Eyberg Child Behavioural Inventory to measure the degree of behavioural problems in children. Silver et al (1999) examined whether socio-demographic and condition-related characteristics
were associated with conduct problems in children with chronic health conditions. The authors found that, of the 356 children assessed, 138 (38.8%) had conduct problems as defined by the criteria of the Eyberg Child Behavior Inventory. Conduct problems were associated with younger children, the mother having a husband or partner unrelated to her child, poorer perceived prognosis, the child having learning disabilities and maternal self-reports of high emotional distress. The ECBI has also been shown to be a useful instrument for paediatricians to detect behavioural problems associated with physical illness (Narayan et al, 1996; Friman et al, 1998; Garcia-Tornel et al, 1998). This instrument has also been used to measure behavioural change following intervention (Webster-Stratton, 1988; Tynan et al, 1999).

III.C.5-Use of the ECBI in this study

The Eyberg Child Behavioural Inventory was used to investigate:

a) the severity of behavioural problems in children and adolescents attending the Primary Mental Health Service;

b) whether there was a relationship between the levels of stress in parents and the degree of behavioural problems in their child;

c) whether there was a difference between the levels of behavioural problems according to the psychiatric disorder; and

d) whether there was a difference in the severity of behavioural problems between children with ODD without co-morbid disorder and children with ODD and other co-morbid psychiatric disorders, i.e. whether severity of
behavioural problems was related to the ODD diagnosis independent of co-morbidity.

III.D-STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ) (Goodman, 1997)

III.D.1-Description of the instrument

The SDQ is a brief behavioural screening questionnaire for 3-16 year-olds. It exists in several versions to meet the needs of researchers, clinicians and educationalists. All versions of the SDQ ask about 25 attributes, some positive, others negative. These 25 items are grouped into five scales (emotional, conduct, hyperactivity/inattention and peer relationship problems, and prosocial behaviour) which each include five items (Goodman, 1997) (Appendix 3.d).

III.D.2-Administering and scoring the SDQ

The answer for each item is scored between 0 and 2. The scoring is as follows:-

0- Not true
1- Somewhat true
2- Certainly true

If the item is phrased positively these scores are reversed. Item scores are summed to provide a score for each problem category. The score for each category ranges from 0 to 10.
To generate a total difficulties score the scores of the four problem categories (conduct, emotional, hyperactivity and peer problems) are summed without including the prosocial score. The total difficulty score can therefore range from 0 to 40.

Category bands and total difficulties scores can be classified as 'normal', 'borderline' or 'abnormal'. These bands, which are not adjusted for age or gender, have been chosen so that approximately 80% of children in the community are considered to be in the 'normal' category, 10% in the 'borderline' and 10% in the 'abnormal' category (Goodman, 1997).

The interpretations of the scores are as follows:-

- Scores ranging from 0 to 3 in the category of emotional problems are considered to be normal, 4 is considered to be borderline and scores between 5 and 10 are considered to be abnormal;

- For the conduct and peer problems categories, scores ranging from 0 to 2 are considered to be normal, 3 is borderline and scores between 4 and 10 are considered to be abnormal;

- Scores ranging from 0 to 5 in the category of hyperactivity problems are considered to be normal, 6 is borderline and scores between 7 and 10 are considered to be abnormal; and

- Bands in the prosocial behaviour category are defined reversibly to the previous categories, thus scores ranging from 6 to 10 are considered to be normal, 5 is borderline and scores between 0 and 4 are considered to be abnormal.
The total difficulties score can also be classified into normal, borderline and abnormal bands. Scores ranging from 0 to 13 are considered to be normal, scores between 14 and 16 are borderline, and scores between 17 and 40 are considered to be abnormal.

**III.D.3-Validity and reliability of the SDQ**

In order to test the validity of this instrument, Goodman (1997) compared the SDQ to other research tools. He administered the Rutter Parent and Teacher Scales (Rutter, 1967; Rutter et al, 1970) and the SDQ to 403 children drawn from dental and psychiatric clinics, and found a high correlation between the two instruments and the SDQ (table 3.1).

*Table 3.1: The inter-measure correlation for each type of rater (Goodman, 1997)*

<table>
<thead>
<tr>
<th>SDQ</th>
<th>Rutter Parent Scale</th>
<th>Rutter Teacher Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total deviance/difficulties</td>
<td>0.88</td>
<td>0.92</td>
</tr>
<tr>
<td>score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct problems</td>
<td>0.88</td>
<td>0.91</td>
</tr>
<tr>
<td>score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional problems</td>
<td>0.78</td>
<td>0.87</td>
</tr>
<tr>
<td>score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyperactivity problems</td>
<td>0.82</td>
<td>0.90</td>
</tr>
<tr>
<td>score</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The same author validated this screening questionnaire in 5-15 year-old children living in the community (N=487) and children from a psychiatric
clinic (N=232). The SDQ scores correlated highly (r=0.74) with the ratings of a standardised interview (Goodman, 1999). Another study investigated at the value of the SDQ in predicting child psychiatric disorders in the community. The authors of this study found that the SDQ identified individuals with a psychiatric disorder, with a specificity of 94.6% and a sensitivity of 63.3%. The questionnaire was able to identify over 70% of individuals with conduct, hyperactivity, depressive and some anxiety disorders, but less than 50% of individuals with specific phobias, separation anxiety and eating disorders (Goodman et al, 1998; Goodman et al, 2000a; Goodman, 2001).

Goodman & Scott (1999) compared the properties of the SDQ and the Child Behaviour Checklist (CBCL; Achenbach, 1991), which were completed by mothers of 132 children aged 4 to 7 years. SDQ and CBCL scores were highly correlated and equally able to discriminate psychiatric from non-psychiatric cases. The SDQ was more sensitive than the CBCL in detecting inattention and hyperactivity problems.

The SDQ has been used extensively in the UK as well as in the rest of the world to identify the rates of mental health problems in children and adolescents in clinical and non-clinical populations (Smedje et al, 1999; Goodman et al, 2000a,b,c; Klasen et al, 2000; Koskelainen et al, 2000; Thabet et al, 2000). Goodman et al (2003) used this instrument in 10,438 British 5-15 year-old children. That study found that younger children were
III.D.4-Use of this tool in this study

The main aim of using the Strengths and Difficulties Questionnaire was to investigate whether this instrument was useful in detecting psychiatric disorders and psychiatric co-morbidity in children attending the PMHS. Therefore, the results of the SDQ scores will be compared with results of the K-SADS semi-structured interview.

This instrument will also provide the opportunity to identify the degree of mental health problems among the population studied and compare this with previous studies conducted using the same instrument.

III.E-THE SCHEDULE FOR AFFECTIVE DISORDERS AND SCHIZOPHRENIA FOR SCHOOL-AGE CHILDREN - PRESENT STATE
(K-SADS-P IVR) (Ambrosini & Dixon, 1996)

III.E.1-Description of the instrument

This is a semi-structured diagnostic interview designed to assess current psychopathology in children and adolescents. The original K-SADS-P IVR was developed by Puig-Antich and Chambers as an extension of the adult SADS (Endicott & Spitzer, 1978). There are two versions of the K-SADS:
the K-SADS-P IVR (Present State) and the K-SADS-E (Epidemiological). The main difference between the two versions is the diagnostic time frame:

1- The K-SADS-E was developed to assess lifetime and current episodes of psychopathology.

2- The K-SADS-P IVR assesses psychopathology during the previous 12 months, and the current episode during the week preceding the interview (the latter was used in this study).

The K-SADS-P IVR was updated by Ambrosini and Dixon to its current version (K-SADS-P IVR), which is compatible with the DSM-IV. The Research Diagnostic Criteria (RDC) were used to reach a diagnosis for those syndromes covered both in the Research Diagnostic Criteria (Spitzer et al, 1978) and the Diagnostic and Statistical Manual 4th version (DSM-IV) (APA, 1994). For psychiatric disorders not included in the RDC, the DSM criteria were employed. The diagnostic categories included in the K-SADS-P IVR are presented in table 3.2. (Due to the length of this instrument (128 pages), the K-SADS-P IVR is not included as an appendix).
Table 3.2. Primary diagnoses assessed by the K-SADS-IVR

<table>
<thead>
<tr>
<th>Affective Disorders</th>
<th>Emotional Disorders</th>
<th>Behavioural Disorders</th>
<th>Psychoses</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depression</td>
<td>Avoidant</td>
<td>Oppositional</td>
<td>Schizophrenia</td>
<td>Anorexia</td>
</tr>
<tr>
<td>a) Non-endogenous</td>
<td></td>
<td>Defiant</td>
<td></td>
<td>Nervosa</td>
</tr>
<tr>
<td>b) Endogenous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Psychotic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor Depression</td>
<td>Generalized</td>
<td>ADHD</td>
<td>Schizo-affective</td>
<td>Bulimia</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td></td>
<td></td>
<td>Nervosa</td>
</tr>
<tr>
<td>Dysthymia</td>
<td>Overanxious</td>
<td>Conduct Disorder</td>
<td>Schizotypal</td>
<td></td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>Separation</td>
<td>Substance Abuse</td>
<td>Paranoid</td>
<td></td>
</tr>
<tr>
<td>a) Mania</td>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Bipolar I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Hypomania</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Bipolar II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclothymia</td>
<td>Obsessive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compulsive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simple Phobia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Phobia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Panic Disorder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post Traumatic</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III.E.2-Administration of the K-SADS

The authors of this instrument recommend that the K-SADS is administered to the parent(s) first and then to the child alone. They recommend that the
parent should be interviewed first, except when assessing adolescents when the young person should be interviewed before the parent.

The first section of the interview is unstructured. This section aims to establish the following:

- a chronology of the evolution of the current episode of the disorder;
- the onset of the disorder; and
- the period of greatest severity of symptoms.

Following the unstructured interview, the parent is interviewed using the semi-structured section of the interview. Probes are included to illustrate ways of eliciting the information necessary to score each item. These probes can be adjusted to the developmental level of the child.

The child is subsequently assessed, usually only in the interviewer’s presence. During the interview the child is asked about the presence or absence of each symptom. Following the recording of the child’s account, the assessor makes a clinical judgement as to the presence or absence and severity of the symptoms. When there are discrepancies between parent and child reports, the examiner should ask the child whether he/she agrees with their parent’s perception. If the discrepancy is not resolved, the parent and child should be seen together. The assessor ultimately needs to use his/her best clinical judgement to resolve the discrepancy. The most frequent disagreements occur in items describing subjective phenomena
such as guilt, hopelessness, sleep difficulties, hallucinations and suicidal ideation (Ambrosini, 2000).

III.E.3-Scoring the K-SADS-P IVR

The K-SADS-P IVR rates each DSM/RDC symptom required for a diagnosis. These ratings are on a numerical scale ranging from either 0 to 6, or 0 to 4. When a symptom has a score of 3 or above it is considered that the symptom is positive. Some symptoms can also be scored from 0 to 2. These ordinal values represent levels of symptom severity and frequency.

For those symptoms scored from 0 to 6, the coding of the score is as follows:

0-No information
1-Not at all
2-Slight
3-Mild
4-Moderate
5-Severe
6-Extreme

For symptoms scored from 0 to 4, the coding of the rating is:

0-No information
1-Not at all
2-Slight
3- Mild to moderate
4- Severe to extreme

Some items are scored from 0 to 2 with the following coding:
0-No information
1-Symptom or behaviour absent
2-Symptom or behaviour present

III.E.4-Validity of the K-SADS

The K-SADS has been validated against several established diagnostic instruments. For example, one major study compared the K-SADS to the Beck Depression Inventory (BDI) for adolescents, the Children's Depression Inventory (CDI) for pre-adolescents and the clinician-rated Hamilton Depression Rating Scale (HDRS) in 356 adolescent and 116 preadolescent psychiatric outpatients. Patients with Major Depressive, Minor Depressive and Dysthymic Disorder were compared with non-depressed psychiatric controls. The findings supported satisfactory validity (McConville et al, 1995; McLaughlin et al, 1997). Similar results were established by Kaufman et al (1997) who compared the K-SADS-P IVR to the internalising and externalising subscales of the Child Behaviour Checklist, the Conners Parent Rating Scale for ADHD and the Screen for Child Anxiety Related Emotional Disorders. Table 3.3 summarises some of these findings.
Table 3.3. Validity, Sensitivity and Specificity of K-SADS when compared to the BDI, HDRS and CDI (McConville et al, 1995; McLaughlin et al, 1997)

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>Cronbach α</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>356</td>
<td>0.90</td>
<td>92</td>
<td>71</td>
</tr>
<tr>
<td>HDRS</td>
<td>144</td>
<td>0.82</td>
<td>93</td>
<td>95</td>
</tr>
<tr>
<td>CDI</td>
<td>116</td>
<td>0.89</td>
<td>41*</td>
<td>87</td>
</tr>
</tbody>
</table>

BDI: Beck Depression Inventory; HDRS: Hamilton Depression Rating Scale; CDI: Children's Depression Inventory

*The low sensitivity found was not related to the K-SADS but to the CDI. In the prepubertal sample, the CDI was not very sensitive in identifying affective disorder nor did it differentiate between Major Depressive and Dysthymic Disorders. Authors in this field have argued that the CDI measures a broader depressive construct than other instruments (Jensen et al, 1993).

III.E.5-Reliability of the K-SADS

Chambers et al (1985) investigated the test-retest reliability of the K-SADS in 52 children aged 6 to 17 years, and found that the majority of the symptoms were reliably assessed in the test-retest format for Depressive, Conduct, Oppositional Defiant and Attention Deficit-Hyperactivity Disorders. Similar results of inter-rater reliability using videotaped interviews were established by Ambrosini et al (1989). Reliability scores have consistently improved in recent editions of the K-SADS. Inter-rater reliability has been higher in Major Depressive, Minor Depressive/Dysthymic, Generalised Anxiety, Separation Anxiety and Oppositional Defiant Disorders (Ambrosini,
The inter-rater kappa coefficients of six diagnoses in two versions of the K-SADS are presented in table 3.4.

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>K-SADS III (n=25)</th>
<th>K-SADS IV (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depression</td>
<td>0.80</td>
<td>0.90</td>
</tr>
<tr>
<td>Minor Depression</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>Generalised Anxiety Disorder</td>
<td>0.85</td>
<td>0.78</td>
</tr>
<tr>
<td>Separation Anxiety Disorder</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>Oppositional Defiant Disorder</td>
<td>0.89</td>
<td>0.80</td>
</tr>
<tr>
<td>ADHD</td>
<td>0.88</td>
<td>0.80</td>
</tr>
</tbody>
</table>

III.E.6-Training for the use and scoring of the K-SADS

The researcher contacted senior researchers in the UK who were familiar with this instrument (Prof. Harrington, Prof. Garralda, Dr. Scott, Prof. Goodyer, Prof. Goodman and Dr Fombonne) to obtain advice regarding training and utilization of the K-SADS. Although some formal training used to be available in this country, this was no longer the case. Prof Ambrosini in the USA, who developed the instrument, was also contacted and informed the researcher that no training courses were available in the USA or the UK, in spite of the recommendation that training be undertaken before using this instrument.
Prof. Ambrosini sent the latest version of the K-SADS plus the scoring forms to the researcher. The researcher was in regular communication with Prof. Ambrosini, who was able to offer guidance and advice on how to use this instrument. Any doubts in relation to the K-SADS were discussed with and supervised by Prof. Ambrosini through e-mail (appendix 3.e).

Before the research took place, and in order to become familiar with the instrument, the researcher used the K-SADS in three clinical cases selected from the local CAMHS. These interviews were recorded on audiotape. The researcher asked an independent researcher (a Consultant Child and Adolescent Psychiatrist), who was familiar with the instrument and who had used the instrument in a previous study (Nicol et al, 2000), to confirm the scoring and diagnosis by independently scoring the recorded interviews. No discrepancies were found between the two raters.

III.E.7- The use of this tool in this study

The K-SADS was the main instrument used in this study. This tool was used to investigate:

a) the psychiatric diagnoses of the children and adolescents attending the service. The aim was to establish whether children attending this service suffered from mild mental health problems that do not require referral to specialist teams, i.e. whether referrals reflected the specification criteria of the Primary Mental Health Service;

b) the degree of psychiatric co-morbidity in children and adolescents attending this service;
c) the relationship between disorders and socio-demographic variables;
   and

d) whether the screening instrument (SDQ) can detect likely psychiatric
disorders by comparing the results of this instrument with the K-SADS.

IV- PROCEDURE

IV.A-PILOT STUDY

IV.A.1-Aims and procedure of the pilot study
In order to estimate the time which would be required to complete the
assessment, the questionnaires were piloted with three patients selected
from the local CAMHS. Informed consent was sought from the participants.
The K-SADS interviews were audio-taped. As detailed above, an
independent researcher who was familiar with the implementation of this
instrument listened to the tapes and completed the K-SADS.

IV.A.2-Results
The assessment took, on average, 90 minutes. Of the three patients
studied, two fulfilled diagnostic criteria for ADHD with co-morbid
Oppositional Defiant Disorder. The third patient fulfilled diagnostic criteria
for Moderate Depressive Episode with co-morbid Generalised Anxiety
Disorder. The investigator and the independent assessor agreed with
these diagnoses.
IV.A.3- Modifications following the pilot study

IV.A.3.a- K-SADS Interview

➢ Parents found that the K-SADS interview was too lengthy and some questions appeared to be irrelevant (particularly those questions related to psychosis). It was decided that this would be explained to parents at the beginning of the interview but that the questions would not be omitted.

IV.A.3.b- Parental Stress Index

➢ The three parents that took part in the pilot study needed the help of the investigator to clarify some of the questions of the PSI. It was decided that help from the researcher would be offered.

➢ Some parents were unable to answer some questions of the PSI. It was decided that the researcher would explain at the beginning of the visit to all parents that some questions could be left blank.

➢ It was also noted that parents preferred not to have their child in the same room when completing the PSI. It was decided that parents would have the choice whether to have their children in their room or not.

IV.A.3.c- Strengths and Difficulties Questionnaire

➢ No problems were reported.

IV.A.3.d- Eyberg Child Behavioural Inventory

➢ No problems were reported.
IV.A.3.e- Demographic checklist

➢ Following the pilot study, small alterations were made to the demographic questionnaire and the information sheet.

Once these alterations were made data collection for the main study was initiated.

IV.A.4- PROCEDURE OF SUBJECT RECRUITMENT

The following steps were followed in order to recruit the children and their families:

➢ The researcher met weekly with the Primary Mental Health Service secretary. She provided him with a list of all new cases accepted for direct work that week.

➢ The parents of the children accepted by the PMHS were contacted by post to invite them to take part in this study. As specified by the Local Research Ethics Committee, the letter was authored by the senior PMHW.

➢ Parents were sent an introductory letter, a consent form and an information sheet about the research (Appendix 4.a).
➢ The researcher aimed to assess all cases before the PMHW appointment in order to avoid bias resulting from the PMHW assessment.

➢ Parents who agreed to participate in the study were asked to sign the consent form and return it in the stamped address enveloped enclosed with the letter.

➢ Once the consent form was received, the researcher contacted the family by telephone to organise an appointment. In those cases where no telephone number was available, the researcher would make the appointment by post.

➢ Families were offered the choice of being visited at home or attending the local CAMHS.

➢ The majority of the appointments were made during school holidays or after school to enable the children to meet with the investigator.

➢ In a few cases, more than one visit was organised.

➢ Once parents agreed to take part in the study, the child’s GP and the PMHW were informed of their decision.
V- RESEARCH ETHICS COMMITTEE APPROVAL

The project was submitted to the Leicestershire Health Authority Research Ethics Committee. The Committee suggested some changes to the consent forms, information sheet and process of recruitment. Following those alterations, the project was approved (Appendix 4b).

VI- STATISTICAL ANALYSIS

Advice was provided by the statistician at the Greenwood Institute of Child Health and by the Trent Institute Statistics Department. The data was coded, entered, and analysed using the SPSS statistical package (SPSS/PCT, 1992). The results of the study are presented in the next two chapters. The first chapter (chapter IV) presents the socio-demographic characteristics of the child and their family, and the results of the Parental Stress Index, ECBI and SDQ. The second chapter (chapter V) describes the results of the K-SADS, i.e. psychiatric disorders and psychiatric co-morbidity.

The results of the study, the statistical analysis used and the rationale for using them are as follows:
1- **Socio-demographic characteristics**

The following information will be described:

a. the Socio-demographic characteristics of the children and families accepted by the Primary Mental Health Service;

b. the Socio-demographic characteristics of the children and families who agreed to take part in the study; and

c. a comparison will be drawn between the socio-demographic characteristics of the two groups, to identify any bias that may have been introduced by the selection process

   i. *Chi-Square* ($\chi^2$) will be used to compare categorical data (e.g. gender).

   ii. *T-test* will be used to compare continuous scores of unrelated samples (e.g. age).

*As some variables, such as type of referrer and ethnicity, did not have adequate variation of sub-categories, these were not included in subsequent analyses.

2- **Parental Stress Index**

The following information will be described:

a- the descriptive statistics of the PSI scores

b- the quantitative results (which will be presented in five groups according to the percentiles); and
3- Eyberg Child Behavioural Inventory

The following information will be described:

a. In order to describe the severity of the behavioural problems in children and adolescents attending the Primary Mental Health Service:
   i. the results of the ECBI scores will be described; and

b. In order to find out whether the needs of the children differ according to areas of residence and gender:
   i. the results of the ECBI of boys will be compared with those of girls; and
   ii. the results of the ECBI of children living in the inner-city areas will be compared with those of children living in semi-urban areas.

As ECBI scores were not normally distributed, Non-parametric Mann-Whitney U test will be used to compare these two groups.

c. In order to find out whether there is an association between the stress in the parents and the level of behavioural problems in their child, the relationship between ECBI and PSI scores will be established.

As this data is ordinal and continuous, the non-parametric Spearman's rank correlation test will be used.
4- Strengths and Difficulties Questionnaire

The following information will be described:

a. In order to describe the severity of mental health problems in children and adolescents attending this service, the following will be presented:
   i. the descriptive statistics of the SDQ scores;
   ii. the frequency of caseness according to established cut-off scores; and

b. In order to find out whether there is an association between the levels of behavioural problems and other mental health problems, the relationship between ECBI and SDQ scores will be established.
   As this data is ordinal and continuous, the non-parametric Spearman's rank correlation will be used.

c. In order to find out whether there is an association between the levels of stress in parents and mental health problems in children, the relationship between SDQ and PSI scores will be established. The same test as above will be used for this analysis.
5. **K-SADS-IVR**

The following data will be presented:

a. Frequencies of psychiatric disorders in the children and adolescents studied.

b. As an important part of the study is to describe the levels of co-morbidity in this population and to discuss the hypothesis regarding co-morbidity, the most common symptoms for each disorder will be described. This information will facilitate the discussion of the high levels of co-morbidity found in certain groups.

c. The socio-demographic characteristics, the levels of behavioural problems (ECBI) and parental stress (PSI) for each disorder.

d. The types and frequencies of psychiatric co-morbidity.

e. In order to establish whether co-morbidity is associated with stress levels in parents or severity of behavioural problems, children with and without co-morbid disorders will be compared on these variables. 

*The $\chi^2$ test will be used to compare categorical data and the Kruskal-Wallis test for ordinal and non-parametric continuous data.*

f. In order to find out whether the SDQ questionnaire was useful in detecting psychiatric disorders in this service population, the number of children diagnosed with certain disorders by the K-SADS will be compared to the number of children with
clinically significant scores for the same disorder according to the SDQ. This analysis will be undertaken on two different premises. Firstly, the borderline scores of the SDQ will be considered to be clinically non-significant and, secondly, those scores will be considered to be clinically significant.

Statistics significance is set at 5% level.
CHAPTER IV

RESULTS. I

ECBI, PSI AND SDQ

The results of the study are described in two chapters. Chapter IV presents the analysis of the demographic data, the Parental Stress Index, the Eyberg Child Behavioural Inventory and the Strengths and Difficulties Questionnaire. Chapter V presents the analysis of the K-SADS-P IVR.

I. REFERRALS TO THE PRIMARY MENTAL HEALTH SERVICE

The data was collected between 1st of November 1999 and 1st of November 2000. During this period, 427 children were referred to the Primary Mental Health Service. Of these referrals, 117 (27.4%) cases were accepted for direct work. The breakdown of activities during this year is shown in table 4.1.
Table 4.1: Breakdown of PMHS activities during one year (n=427)

<table>
<thead>
<tr>
<th>Breakdown of activities</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation and advice offered to referrer</td>
<td>163</td>
<td>38.2%</td>
</tr>
<tr>
<td>Assessment and/or direct work</td>
<td>117</td>
<td>27.4%</td>
</tr>
<tr>
<td>Joint work and/or liaison with referrer or other appropriate agency</td>
<td>56</td>
<td>13.1%</td>
</tr>
<tr>
<td>Referrals directed to specialist CAMHS</td>
<td>31</td>
<td>7.3%</td>
</tr>
<tr>
<td>Referrals directed to multi-agency initiatives</td>
<td>39</td>
<td>9.1%</td>
</tr>
<tr>
<td>Referrals out of area or above age limit</td>
<td>21</td>
<td>4.9%</td>
</tr>
<tr>
<td>Total</td>
<td>427</td>
<td>100%</td>
</tr>
</tbody>
</table>

Of the 117 cases accepted for direct work, there were no children below the age of 6 years (therefore all families were invited to take part in the study). From these 117 cases, 12 (10.2%) families did not return the consent form. A further eight (6.8%) who initially agreed to participate in the study, could not be contacted by the researcher. The remaining 97 families took part in the study, with a response rate of 82.9%.

I.A-DEMOGRAPHIC CHARACTERISTICS OF ALL CASES ACCEPTED FOR DIRECT WORK BY THE PMHS (N=117)

This information was collected from the referral letter. From the 117 cases accepted by the Primary Mental Health Service, 73 (62.4%) were male and 44 (37.6%) were female. The mean age was ten years and five months, with a minimum age of 6 years and a maximum age of 16 years.
More than half of the children (54.7%, N=64) lived in a semi urban/rural area and 53 (45.3%) in an inner city area. The vast majority of cases (84.7%, N=99) were referred by their General Practitioner (GP), eight
(6.8%) were referred by the local specialist Child and Adolescent Mental Health Service (tier 3 team), four (3.4%) by the Educational Psychology Department, three (2.6%) by a Health Visitor, two (1.7%) by a school and one (0.8%) case was referred by a Paediatrician (Table 4.2).

Table 4.2: Source of all cases accepted for direct work by the PMHS (N=117)

<table>
<thead>
<tr>
<th>Source of referrals</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP</td>
<td>99</td>
<td>84.7%</td>
</tr>
<tr>
<td>Specialist CAMHS</td>
<td>8</td>
<td>6.8%</td>
</tr>
<tr>
<td>Educational Psychologist</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td>Health Visitor</td>
<td>3</td>
<td>2.6%</td>
</tr>
<tr>
<td>School</td>
<td>2</td>
<td>1.7%</td>
</tr>
<tr>
<td>Paediatrician</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100%</td>
</tr>
</tbody>
</table>

I.B-DEMOGRAPHIC CHARACTERISTICS OF FAMILIES WHO TOOK PART IN THE STUDY (N=97)

Of the 97 cases assessed, 60 (61.9%) were male and 37 (38.1%) were female. The mean age of the sample was 10 years and 1 month, with a minimum age of 6 years and a maximum age of 16 years. There was no significant difference in age between boys and girls (t=1.78, 95%CI=-2.31 to 0.12, p=0.07). More than half of the assessed children lived in a semi-urban/rural area (56.7%, N=55) and 42 (43.3%) lived in an inner city area. Children living in semi-urban/rural areas did not differ significantly in age
from children living in inner city areas. General Practitioners were the main referrers to this new service: 81 (83.5%) cases were referred by GPs, six (6.2%) by the specialist CAMHS (tier 3), four (4.1%) by Educational Psychologists, three (3.1%) by a Health Visitor, two (2.1%) by a school, and one (1%) case by a Paediatrician (Table 4.3).

Table 4.3: Source of referrals of families who took part in the study (N=97)

<table>
<thead>
<tr>
<th>Source of referrals</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP</td>
<td>81</td>
<td>83.5%</td>
</tr>
<tr>
<td>Specialist CAMHS</td>
<td>6</td>
<td>6.2%</td>
</tr>
<tr>
<td>Educational Psychologist</td>
<td>4</td>
<td>4.1%</td>
</tr>
<tr>
<td>Health Visitor</td>
<td>3</td>
<td>3.1%</td>
</tr>
<tr>
<td>Teacher</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Paediatrician</td>
<td>1</td>
<td>1.0%</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100%</td>
</tr>
</tbody>
</table>

Most of the children studied were white (91.8%, N=89), four (4.1%) children were of Asian origin, three (3.1%) were black and one (1.0%) was of mixed race. More than half of the children (59.8%, N=58) were attending primary school, 38 (39.2%) attended secondary school and one (1%) child attended a special needs school.
I.B.1-Family characteristics

The mother completed the demographic checklist in all cases (100%, N=97). Single-parent families where the mother was the main carer were slightly over represented (36.1%, N=35). Thirty-three (34%) children came from nuclear families, three of whom lived with their mother alone, as their parents were in the process of separating. Twenty-nine (29.9%) children lived in a step-parent family. There was no statistical difference in age (t=0.83, 95%CI=-0.71 to 1.74, p=0.40) or gender (χ²=1.14, d.f.=1, p=0.28) between children living with two parents and those living with a single parent. The number of children in each family were as follows:

- twenty-nine (29.9%) children had one sibling;
- thirty-one (32%) had two siblings;
- nineteen (19.6%) had three siblings;
- four (4.1%) had four siblings;
- three (3.1%) had five siblings; and
- one (1%) child had six siblings.

In ten (10.3%) cases the index child was the only child. More than half of the siblings (54.6%, N=53) were below the age of five years.

I.B.2-Parental employment

I.B.2.a- Father's employment

In those cases where the father no longer had contact with the family, his employment before he left the household was recorded. In 19 (19.6%) cases the mother was not aware of the father's employment. Of the 97
children studied, 32 (33%) had an unemployed father, 17 (17.5%) had a father with an unskilled manual job, 13 (13.5%) semi-skilled manual, seven (7.2%) skilled manual, four (4.1%) intermediate and one (1%) father was a professional. In four (4.1%) cases the father had died. There was no statistical difference in age (t=1.26, 95%CI=-2.24 to 0.50, p=0.21) or gender ($\chi^2=1.51$, d.f.=1, p=0.47) between children of employed and unemployed fathers.

I.B.2.b- Mother’s employment

More than half of the mothers studied were unemployed (61.9%, N=60). Nineteen (19.6%) had an unskilled manual job, eight mothers (8.2%) had semi-skilled manual work, six (6.2%) skilled manual, two (2.1%) had an intermediate manual job, one (1%) was a manager and one (1%) was a professional. There was no statistical difference in age (t=1.13, 95%CI=-1.93 to 0.53, p=0.26) or gender ($\chi^2=0.65$, d.f.=1, p=0.41) between children with employed and unemployed mothers.

I.B.3-Family history of mental illness

Nearly three-quarters of the children had a family history of mental illness (74.2%, N=72). Of the 72 children with a family history of mental illness, 62 (86.1%) had a history of depression in the mother and 6 (8.3%) had a history of depression in the father. In one (1.3%) case there was a history of depression in both parents. The father of one child (1.3%) suffered from psychosis and two (2.7%) children had a history of mental illness in a grandparent but not in either parent. There was no statistical difference in
age between children with and without a family history of mental illness (t=1.63, 95%CI=-0.24 to 2.47, p=0.1). However, girls were significantly more likely than boys to have a mental illness in the family ($\chi^2=7.0$, d.f.=1, p=0.008).

As some variables such as type of referrer and ethnicity did not have adequate variation of sub-categories, these were not included in subsequent analyses.

**I.C-COMPARISON BETWEEN CHILDREN WHO TOOK PART IN THE STUDY WITH THOSE WHO DID NOT TAKE PART**

Of the 117 cases who were invited to take part in the study, 97 children and parents agreed to participate. Children who took part in the study were compared on the basic demographic variables of age and gender with those who did not take part.

**I.C.1- Age**

As the variable ‘age’ was normally distributed, the two groups were compared using the t-test. Children who took part in the study were significantly younger than children who did not take part (t=2.65, 95%CI=0.47 to 3.26, p=0.009).
Table 4.4: Mean age of children studied and children who did not take part in the study

<table>
<thead>
<tr>
<th>Participated in the study</th>
<th>N (%)</th>
<th>Mean age</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>20 (17.1%)</td>
<td>12</td>
</tr>
<tr>
<td>Yes</td>
<td>97 (82.9%)</td>
<td>10.1</td>
</tr>
</tbody>
</table>

I.C.2- Gender

In order to compare the gender of children who participated in the study with the group of children who did not, the $\chi^2$ test was used. There were no statistical differences between the two groups ($\chi^2=0.07$, d.f.=1, $p=0.79$).

Table 4.5: Gender of children studied and children who did not take part in the study

<table>
<thead>
<tr>
<th>Did not participate in the study</th>
<th>Participated in the study</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (%)</td>
<td>(N%)</td>
<td></td>
</tr>
<tr>
<td>13 (65%)</td>
<td>60 (61.8%)</td>
<td>Male</td>
</tr>
<tr>
<td>7 (35%)</td>
<td>37 (38.2%)</td>
<td>Female</td>
</tr>
</tbody>
</table>
II. PARENTAL STRESS INDEX (PSI)

As the Parental Stress Index has only been validated for children below the age of 12 years, this questionnaire was only used in this subgroup. Of the 97 young people who took part in the study, 22 (22.6%) were older than 12 years. Therefore the PSI was completed by 75 (77.3%) mothers.

II.A- RAW PSI SCORES

II.A.1- Child Domain Items

The highest scores were found in the ‘demandiness’ and ‘distractibility/hyperactivity’ items. The overall child domain scores ranged between 75 and 206, with a mean value of 146.5 and standard deviation of 29.1 (Table 4.6).

II.A.2- Parental Domain Items

Parents scored ‘lack of competence’ as the main factor contributing to stress in their lives. The item ‘depression’ was also scored highly. The overall ‘parental domain’ scores ranged between 91 and 234, with a mean value of 160.7 and standard deviation of 35.9 (Table 4.6).

II.A.3- Total Parental Stress Scores

The total stress scores ranged between 173 and 493. The mean value was 309.1 and standard deviation of 60.9 (Table 4.6).
II.A.4- Child Life Stress

The children who took part in the study had a mean value of 9.3 in the life stress category, (range between 0 and 31) and a standard deviation of 7.1 (Table 4.6).

Table 4.6: Means, Standard Deviation, Minimum and Maximum scores for each item of the Parental Stress Index (N=73)

<table>
<thead>
<tr>
<th>Items of the PSI</th>
<th>Mean</th>
<th>Std Deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Domain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distractibility/hyperactivity</td>
<td>30.9</td>
<td>7.9</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>Adaptability</td>
<td>29.8</td>
<td>10.5</td>
<td>7</td>
<td>48</td>
</tr>
<tr>
<td>Reinforces parents</td>
<td>17.4</td>
<td>5.8</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>Demandiness</td>
<td>31.0</td>
<td>6.7</td>
<td>16</td>
<td>48</td>
</tr>
<tr>
<td>Mood</td>
<td>16.8</td>
<td>3.2</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Acceptability</td>
<td>18.5</td>
<td>6.7</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td><strong>Total Child Domain</strong></td>
<td>146.5</td>
<td>29.1</td>
<td>75</td>
<td>206</td>
</tr>
<tr>
<td><strong>Parental Domain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>42.7</td>
<td>9.6</td>
<td>22</td>
<td>61</td>
</tr>
<tr>
<td>Isolation</td>
<td>16.7</td>
<td>4.9</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>Attachment</td>
<td>18.9</td>
<td>5.9</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Health</td>
<td>14.8</td>
<td>4.5</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Role restriction</td>
<td>23.4</td>
<td>6.6</td>
<td>8</td>
<td>37</td>
</tr>
<tr>
<td>Depression</td>
<td>28.8</td>
<td>6.8</td>
<td>13</td>
<td>44</td>
</tr>
<tr>
<td>Spouse</td>
<td>15.1</td>
<td>6.9</td>
<td>4</td>
<td>32</td>
</tr>
<tr>
<td><strong>Total Parental Domain</strong></td>
<td>160.7</td>
<td>35.9</td>
<td>91</td>
<td>234</td>
</tr>
<tr>
<td><strong>Total Stress</strong></td>
<td>309.1</td>
<td>60.9</td>
<td>173</td>
<td>493</td>
</tr>
<tr>
<td><strong>Life Stress</strong></td>
<td>9.3</td>
<td>7.1</td>
<td>0</td>
<td>31</td>
</tr>
</tbody>
</table>
II.B-INTERPRETATION OF PSI SCORES

Previous research has established that total PSI scores above 260 were an indication that professional consultation was required (Abidin, 1995). Therefore, based on the PSI total scores, families attending the PMHS were divided into two groups:

1- parents with clinically significant stress levels; and
2- parents with clinically non-significant stress levels

Table 4.7: Number of parents (%) with clinically significant and non-significant total PSI scores levels of stress (N=75)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinically non-significant</td>
<td>18</td>
<td>24%</td>
</tr>
<tr>
<td>Clinically significant</td>
<td>57</td>
<td>76%</td>
</tr>
</tbody>
</table>

II.C- PSI PERCENTILE SCORES

PSI scores can also be compared with established norms (percentiles scores) from the general population. Based on these, the population studied was grouped into the following categories:-

a) parents with stress levels below the 50%ile;
b) parents with stress levels between the 50-85%iles;
c) parents with stress levels between 85-95%iles;
d) parents with stress levels between 95-99%iles; and
e) parents with stress levels above the 99%ile.
II.C.1-Total PSI percentiles

A substantial number of families (45.3%, N=34) had total PSI scores above the 99th percentile, with a further N=9 (12%) scoring between the 95th and 99th percentile. The high total PSI scores were particularly accounted for by high scores in the child domain, rather than the parental domain. Percentiles scores are, therefore, presented separately for the two domains (table 4.8).

II.C.2-Child domain percentiles

More than half of the children studied (56%, N=42) had scores above the 99th percentile. The items which more frequently scored above the 99th percentiles were: ‘demandiness’ (98.7%, N=74), ‘mood’ (49.3%, N=37), ‘reinforces parents’ (49.3%, N=37) and ‘acceptability’ (41.3%, N=31) (table 4.8).

II.C.3- Results of the parental domain

Sixteen (21.3%) parents had scores above the 99th percentile. The items more frequently scored above the 99th percentiles were: ‘competence’ (37.3%, N=28) and ‘attachment’ (36%, N=27) (table 4.8).
Table 4.8: PSI Percentiles (%) Scores

<table>
<thead>
<tr>
<th>PSI items</th>
<th>&lt;50 %ile</th>
<th>50-85 %ile</th>
<th>85-95%ile</th>
<th>95-99%ile</th>
<th>&gt;99%ile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Domain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distractibility</td>
<td>12 (16%)</td>
<td>14 (18.7%)</td>
<td>9 (12%)</td>
<td>20 (26.7%)</td>
<td>20 (26.7%)</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>18 (24%)</td>
<td>13 (17.3%)</td>
<td>12 (16%)</td>
<td>17 (22.7%)</td>
<td>15 (20%)</td>
</tr>
<tr>
<td>Adaptability</td>
<td>4 (5.3%)</td>
<td>5 (6.7%)</td>
<td>16 (21.3%)</td>
<td>13 (17.3%)</td>
<td>37 (49.3%)</td>
</tr>
<tr>
<td>Reinforces parents</td>
<td>1 (1.3%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>74 (98.7%)</td>
</tr>
<tr>
<td>Demandiness</td>
<td>2 (2.7%)</td>
<td>3 (4.0%)</td>
<td>4 (5.3%)</td>
<td>29 (38.7%)</td>
<td>37 (49.3%)</td>
</tr>
<tr>
<td>Mood</td>
<td>11 (14.7%)</td>
<td>13 (17.3%)</td>
<td>11 (14.7%)</td>
<td>9 (12%)</td>
<td>31 (41.3%)</td>
</tr>
<tr>
<td>Acceptability</td>
<td>1 (1.3%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>74 (98.7%)</td>
</tr>
<tr>
<td>Total Child Domain</td>
<td>5 (6.7%)</td>
<td>5 (6.7%)</td>
<td>16 (21.3%)</td>
<td>7 (9.3%)</td>
<td>42 (56%)</td>
</tr>
<tr>
<td><strong>Parental Domain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>8 (10.7%)</td>
<td>5 (6.7%)</td>
<td>15 (20%)</td>
<td>19 (25.3%)</td>
<td>28 (37.3%)</td>
</tr>
<tr>
<td>Isolation</td>
<td>9 (12%)</td>
<td>34 (45.3%)</td>
<td>14 (18.7%)</td>
<td>3 (4%)</td>
<td>15 (20%)</td>
</tr>
<tr>
<td>Attachment</td>
<td>3 (4%)</td>
<td>22 (29.3%)</td>
<td>10 (13.3%)</td>
<td>13 (17.3%)</td>
<td>27 (36%)</td>
</tr>
<tr>
<td>Health</td>
<td>15 (20%)</td>
<td>29 (38.7%)</td>
<td>9 (12%)</td>
<td>14 (18.7%)</td>
<td>8 (10.7%)</td>
</tr>
<tr>
<td>Role restriction</td>
<td>23 (30.7%)</td>
<td>13 (17.3%)</td>
<td>19 (25.3%)</td>
<td>13 (17.3%)</td>
<td>7 (9.3%)</td>
</tr>
<tr>
<td>Depression</td>
<td>5 (6.7%)</td>
<td>20 (26.7%)</td>
<td>14 (18.7%)</td>
<td>23 (30.7%)</td>
<td>13 (17.3%)</td>
</tr>
<tr>
<td>Spouse</td>
<td>39 (52%)</td>
<td>22 (29.3%)</td>
<td>4 (5.3%)</td>
<td>7 (9.3%)</td>
<td>2 (2.7%)</td>
</tr>
<tr>
<td>Total Parental Domain</td>
<td>10 (13.3%)</td>
<td>19 (25.3%)</td>
<td>19 (25.3%)</td>
<td>11 (14.7%)</td>
<td>16 (21.3%)</td>
</tr>
<tr>
<td>Total Stress</td>
<td>4 (5.3%)</td>
<td>14 (18.7%)</td>
<td>14 (18.7%)</td>
<td>9 (12%)</td>
<td>34 (45.3%)</td>
</tr>
</tbody>
</table>
| Life Stress            | 23 (30.7%) | 36 (48%)   | 9 (12%)  | 5 (6.7%) | 2 (2.7%)| 112
III. THE EYBERG CHILD BEHAVIOURAL INVENTORY

III.A. DESCRIPTIVE STATISTICS OF THE EYBERG CHILD BEHAVIOURAL INVENTORY

All questionnaires were completed by mothers. The mean total score was 126.03, the median 130 and the standard deviation 50.63. The minimum score was 42 and the maximum score was 209. The highest mean for a single question was 4.93. This question was: “gets angry when doesn’t get his or her own way” (table 4.9).
<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gets angry when doesn’t get his or her own way</td>
<td>4.93</td>
<td>1.79</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Argues with parents about rules</td>
<td>4.80</td>
<td>1.90</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Has temper tantrums</td>
<td>4.66</td>
<td>2.05</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Acts defiantly</td>
<td>4.19</td>
<td>1.86</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Argues with brothers and sisters</td>
<td>4.16</td>
<td>2.19</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Shouts and screams</td>
<td>4.14</td>
<td>2.02</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Does not obey house rules</td>
<td>4.05</td>
<td>2.01</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Refuses to obey until threatened</td>
<td>4.00</td>
<td>2.03</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Constantly seeks attention</td>
<td>3.97</td>
<td>2.24</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Fights with sisters and brothers</td>
<td>3.91</td>
<td>2.23</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Cries easily</td>
<td>3.70</td>
<td>1.90</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Has difficulty concentrating</td>
<td>3.68</td>
<td>1.88</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Is easily distracted</td>
<td>3.67</td>
<td>1.87</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Refuses to help in the house</td>
<td>3.67</td>
<td>2.00</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Has short attention span</td>
<td>3.66</td>
<td>1.89</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Refuses to go to bed on time</td>
<td>3.66</td>
<td>2.31</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Argues with friends</td>
<td>3.65</td>
<td>2.09</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Is overactive and restless</td>
<td>3.65</td>
<td>2.07</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Cheeky to adults</td>
<td>3.59</td>
<td>2.01</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Slow in getting to bed</td>
<td>3.51</td>
<td>2.03</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Fights with friends</td>
<td>3.51</td>
<td>2.28</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Interrupts</td>
<td>3.49</td>
<td>2.17</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Fails to finish tasks or projects</td>
<td>3.49</td>
<td>1.88</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Has poor table manners</td>
<td>3.37</td>
<td>1.93</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Whines</td>
<td>3.37</td>
<td>1.78</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Lies</td>
<td>3.34</td>
<td>1.96</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Has difficulties entertaining him/herself</td>
<td>3.26</td>
<td>2.05</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Teases or provokes other children</td>
<td>3.18</td>
<td>2.03</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Destroys toys and other objects</td>
<td>2.96</td>
<td>1.81</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Careless with objects</td>
<td>2.88</td>
<td>1.82</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Hits parents</td>
<td>2.61</td>
<td>1.79</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Dawdles in getting dress</td>
<td>2.61</td>
<td>1.93</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Dawdles or lingers at mealtimes</td>
<td>2.57</td>
<td>1.72</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Refuses to eat food presented</td>
<td>2.53</td>
<td>1.80</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Steals</td>
<td>1.99</td>
<td>1.56</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Wets the bed</td>
<td>1.54</td>
<td>1.04</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Eyberg total score</td>
<td>126.03</td>
<td>50.63</td>
<td>42</td>
<td>209</td>
</tr>
</tbody>
</table>
III.B-MEANING OF THE SCORES

As explained in the previous chapters, a clinical cut-off score of 127 has been established (Eyberg & Ross, 1978; Garcia-Tornel et al., 1998). According to this score children were divided into two groups:

1- Children with clinically significant scores; and
2- Children with clinically non-significant scores (table 4.10).

Table 4.10: Number of children (%) with clinically significant and non-significant ECBI scores (N=97)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinically non-significant</td>
<td>45</td>
<td>46.4 %</td>
</tr>
<tr>
<td>Clinically significant</td>
<td>52</td>
<td>53.6 %</td>
</tr>
</tbody>
</table>

III.C-COMPARISON OF THE EYBERG TOTAL SCORES ON GENDER AND LOCALITY

Severity of behavioural problems was compared between children living in inner-city and semi-urban/rural areas. No statistical differences were found between the two groups of children on the total ECBI score (Mann-Whitney U, Z=0.77, p=0.44). As expected, boys (141.92) had a mean ECBI total score higher than girls (100.27) and the difference between the two groups was statistically significant (Mann-Whitney U, Z=-3.82, p=0.001). The differences applied to most of the ECBI questions. Overall, the number of boys with clinically significant scores was higher than the number of girls ($\chi^2=8.2$, d.f.=1, p=0.04).
III.D-RELATIONSHIP BETWEEN THE ECBI AND PSI

Eyberg Child Behavioural Inventory scores were compared with the Parental Stress Index scores in order to test out the relationship between behavioural problems in children and stress in parents. Using the Spearman’s correlation test, a significant association was found between ECBI total scores and PSI child domain (r=0.51; N=75, p=0.0001), parental domain (r= 0.49; N=75, p=0.0001) and total PSI total scores (r=0.57; N=75, p=0.0001). This indicates that the higher the severity of behavioural problems in a child, the higher the stress levels in their parents. This association applied to both the characteristics of the child and factors associated with the parent (Figure 4.3; 4.4; 4.5). This correlation does not, however, imply a causal direction between these two variables.

Figure 4.3: Correlation between Child Domain and ECBI

4.4: Correlation between Parental Domain and ECBI
Figure 4.5: Correlation between Total Stress and ECBI
IV. THE STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ)

IV.A- DESCRIPTIVE STATISTICS

The mean SDQ total score was 18.8. The mean scores of the different SDQ subscales are shown in table 4.11.

Table 4.11: Mean, Standard Deviation, Minimum and Maximum scores of SDQ subscales

<table>
<thead>
<tr>
<th>SDQ category</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional problems</td>
<td>4.6</td>
<td>3.4</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>4.9</td>
<td>2.9</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Hyperactivity problems</td>
<td>5.0</td>
<td>3.0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Peer problems</td>
<td>4.1</td>
<td>2.9</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Prosocial Subscale</td>
<td>5.4</td>
<td>3.0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Total difficulties</td>
<td>18.8</td>
<td>5.6</td>
<td>1</td>
<td>32</td>
</tr>
</tbody>
</table>

IV.B- RATES OF LIKELY CLINICAL CASENESS

As discussed in the previous chapter, SDQ scores can be grouped into Normal, Borderline and Abnormal bands. These bands have been chosen so that roughly 80% of children in the community are considered to be in the 'normal', 10% in 'borderline' and 10% in the 'abnormal' category (Goodman, 1997).
The analysis of the SDQ scores showed that, of the 97 children studied, 17 (17.5%) had normal values for the total SDQ score, 13 (13.4%) had borderline scores and 67 (69.1%) were within the abnormal clinical range. As expected, the majority of the children showed abnormal scores for the conduct problems subscale (71.1% (N=69)) but, surprisingly, there was only one child with an abnormal score on the emotional problems subscale (1%, N=1) (table 4.12).

Table 4.12: Caseness according to the SDQ (N=97)

<table>
<thead>
<tr>
<th>SDQ category</th>
<th>Normal N (%)</th>
<th>Borderline N (%)</th>
<th>Abnormal N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional problems</td>
<td>43 (44.3%)</td>
<td>53 (54.6%)</td>
<td>1 (1.1%)</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>23 (23.7%)</td>
<td>5 (5.2%)</td>
<td>69 (71.1%)</td>
</tr>
<tr>
<td>Hyperactivity</td>
<td>57 (58.8%)</td>
<td>6 (6.2%)</td>
<td>34 (35%)</td>
</tr>
<tr>
<td>problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer problems</td>
<td>35 (36%)</td>
<td>2 (2.1%)</td>
<td>60 (61.9%)</td>
</tr>
<tr>
<td>Prosocial subscale</td>
<td>46 (47.5%)</td>
<td>8 (8.2%)</td>
<td>43 (44.3%)</td>
</tr>
<tr>
<td>Total difficulties</td>
<td>17 (17.5%)</td>
<td>13 (13.4%)</td>
<td>67 (69.1%)</td>
</tr>
</tbody>
</table>
IV.C- RELATIONSHIP BETWEEN ECBI AND SDQ

The relationship between behavioural (ECBI) and mental health problems (SDQ) was explored using the Spearman's correlation test. An association of $r=0.45$ ($p=0.0001$) was established between total ECBI and total SDQ total scores. ECBI scores were negatively correlated with SDQ emotional problems scores ($r=-0.54$, $p=0.0001$) (however, the numbers were very small) and positively correlated with the SDQ hyperactivity ($r=0.52$, $p=0.0001$), conduct ($r=0.62$, $p=0.0001$) and peer problems scores ($r=0.23$, $p=0.02$). This indicates that the ECBI and the SDQ agreed on the detection of behavioural problems.
Figure 4.6: Correlation between SDQ emotional and ECBI scores

Figure 4.7: Correlation between SDQ conduct and ECB scores

Figure 4.8: Correlation between SDQ total difficulties and ECBI scores
IV.D-RELATIONSHIP BETWEEN PSI AND SDQ SCORES

To establish whether stress in parents was associated with mental health problems in their children, the association between PSI and SDQ scores was examined (table 4.13).

Table 4.13: Correlation between PSI and SDQ scores

<table>
<thead>
<tr>
<th>SDQ</th>
<th>Total PSI scores</th>
<th>Parental Domain</th>
<th>Child Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperactivity problems</td>
<td>r=0.40; p=0.0001</td>
<td>r=0.33; p=0.003</td>
<td>r=0.35; p=0.002</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>r=0.50; p=0.0001</td>
<td>r=0.36; p=0.001</td>
<td>r=0.55; p=0.0001</td>
</tr>
<tr>
<td>Emotional problems</td>
<td>r=-0.1; p= n.s</td>
<td>r=-0.24; p= n.s</td>
<td>r= -0.1; p= n.s</td>
</tr>
<tr>
<td>Total SDQ scores</td>
<td>r=0.48; p=0.001</td>
<td>r=0.36; p=0.001</td>
<td>r=0.46; p=0.0001</td>
</tr>
</tbody>
</table>

These findings indicate that there was an association between total parental stress (parental and child domain) and total SDQ scores in children and that this association was particularly present for the Hyperactivity and Conduct problem subscales. No correlation was established between SDQ emotional and PSI (total, parental and child domain) scores.
Figure 4.9: Correlation between PSI and SDQ conduct score

Figure 4.10: Correlation between PSI and hyperactivity score

Figure 4.11: Correlation between PSI and total SDQ score
CHAPTER V

RESULTS. II

SCHEDULE OF AFFECTIVE DISORDERS and SCHIZOPHRENIA FOR SCHOOL AGE CHILDREN (6-18 YEARS)-PRESENT STATE (K-SADS-P IVR)

This chapter presents the findings of the K-SADS-P IVR. The chapter is structured into three sections. The first section presents the frequency of psychiatric disorders, the socio-demographics and symptomatology of the population studied. The second section describes the nature and rates of psychiatric co-morbidity and the final section of the chapter briefly compares the rates of psychiatric morbidity established by K-SADS-P IVR and the SDQ.

I-RESULTS OF THE K-SADS-P IVR:

PSYCHIATRIC DIAGNOSIS

All children were assessed using the K-SADS-P IVR semi-structured interview. The K-SADS was first administered to the mother followed by the child on their own. As recommended by the authors, children above the
The assessment showed that three (3.1%) children did not fulfil diagnostic criteria for a psychiatric disorder. The most common diagnosis was Oppositional Defiant Disorder (ODD). Nearly three-quarters (73.1%, N=71) of the children fulfilled diagnostic criteria for this disorder. The psychiatric diagnoses are presented in table 5.1. As a high number of children fulfilled diagnostic criteria for more than one psychiatric disorder, the total percentage in the table is higher than 100%.
Table 5.1: Psychiatric diagnosis of the children and adolescents studied (N=97)

<table>
<thead>
<tr>
<th>Psychiatric Diagnosis</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oppositional Defiant Disorder</td>
<td>71</td>
<td>73.1%</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>38</td>
<td>39.1%</td>
</tr>
<tr>
<td>Mood Disorder</td>
<td>34</td>
<td>35.1%</td>
</tr>
<tr>
<td>Attention Deficit-Hyperactivity Disorder</td>
<td>28</td>
<td>28.9%</td>
</tr>
<tr>
<td>Separation Anxiety Disorder</td>
<td>26</td>
<td>26.8%</td>
</tr>
<tr>
<td>Minor Depressive Disorder</td>
<td>25</td>
<td>25.8%</td>
</tr>
<tr>
<td>ADHD Combined Type</td>
<td>13</td>
<td>13.4%</td>
</tr>
<tr>
<td>ADHD Predominantly Inattentive Type</td>
<td>9</td>
<td>9.3%</td>
</tr>
<tr>
<td>General Anxiety Disorder</td>
<td>8</td>
<td>8.1%</td>
</tr>
<tr>
<td>Probable Major Depressive Disorder</td>
<td>7</td>
<td>7.2%</td>
</tr>
<tr>
<td>ADHD Predominantly Hyperactive-Impulsive Type</td>
<td>6</td>
<td>6.2%</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Post-traumatic Stress Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Obsessive Compulsive Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Definite Major Depressive Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

The characteristics of the children and their families according to the diagnosis of the child will be described next.

I.A-DIAGNOSIS OF OPPOSITIONAL DEFIANT /CONDUCT DISORDER

This diagnostic group was the most prevalent. More than three-quarters (75.3%, N=73) of the children fulfilled diagnostic criteria for ODD or CD. Of the 73 children, 71 (97.3%) fulfilled diagnostic criteria for Oppositional
Defiant Disorder and two (2.7%) children had a diagnosis of Conduct Disorder (figure 5.1).

Figure 5.1: Diagnosis of ODD/CD

I.A.1- Socio-demographic characteristics of children with a diagnosis of CD/ODD

Of the 73 children with this diagnosis, 50 (68.5%) were boys and 23 (31.5%) were girls. The difference between the two genders was statistically significant ($\chi^2=5.5$, $p=0.01$). The mean age was 9.9. More than half of the children with this diagnosis lived in semi urban/rural areas (52.1%, N=38), with non-nuclear families (67.1%, N=49) and unemployed
mothers (68.9%, N=50). More than three-quarter of them (76.3%, N=56) had a family history of psychiatric illness (table 5.5).

I.A.2. Symptoms of Oppositional Defiant/ Conduct Disorder

I.A.3.a. Symptoms of Oppositional Defiant Disorder

The most common symptom present in these children was 'temper tantrums' (76%, N=54). Other common symptoms were: being 'argumentative' (67.6%, N=48), 'easily annoyed/touchy' (66.1%, N=47) and 'non-compliant' (64.7%, N=46). Children with ODD also presented with symptoms of other disorders, particularly ADHD and Emotional Disorders (Table 5.2).

I.A.3.b. Symptoms of Conduct Disorder

Only two of the 97 children fulfilled the diagnostic criterion of Conduct Disorder. The main symptoms these children displayed were: 'truancy', 'non-confrontational stealing', 'bullying', fighting', 'pathological lying' and 'running away'.
### Table 5.2: The most common symptoms in children with ODD/CD (N=73)

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptoms of ODD/CD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temper tantrums</td>
<td>54</td>
<td>76.0%</td>
</tr>
<tr>
<td>Argumentative</td>
<td>48</td>
<td>67.6%</td>
</tr>
<tr>
<td>Easily annoyed/touchy</td>
<td>47</td>
<td>66.1%</td>
</tr>
<tr>
<td>Non-compliant</td>
<td>46</td>
<td>64.7%</td>
</tr>
<tr>
<td>Angry/resentful</td>
<td>36</td>
<td>50.7%</td>
</tr>
<tr>
<td>Spiteful</td>
<td>30</td>
<td>42.2%</td>
</tr>
<tr>
<td>Provocative</td>
<td>30</td>
<td>42.2%</td>
</tr>
<tr>
<td>Blames others</td>
<td>27</td>
<td>38.0%</td>
</tr>
<tr>
<td><strong>Symptoms of other disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often doesn’t listen*</td>
<td>28</td>
<td>38.4%</td>
</tr>
<tr>
<td>Often acts before thinking*</td>
<td>26</td>
<td>35.6%</td>
</tr>
<tr>
<td>Irritability**</td>
<td>25</td>
<td>34.2%</td>
</tr>
<tr>
<td>Excessive shifts in activities*</td>
<td>24</td>
<td>32.9%</td>
</tr>
<tr>
<td>Always on the go*</td>
<td>23</td>
<td>31.5%</td>
</tr>
</tbody>
</table>

* Symptoms of ADHD

** Symptoms of Emotional Disorders

### I.B-Diagnosis of Anxiety Disorders

Thirty-eight (39.2%) children fulfilled diagnostic criteria for an Anxiety Disorder. More than half of them (68.4%, N=26) had a diagnosis of Separation Anxiety Disorder, eight (21.1%) Generalised Anxiety Disorder, two (5.3%) Post-traumatic Stress Disorder and two (5.3%) Obsessive Compulsive Disorder (figure 5.2).
I.B.1. Socio-demographic characteristics of children with Anxiety Disorders

Of the 38 children with this diagnosis, 19 (50%) were boys and 19 (50%) were girls. More than half lived in semi-urban areas (55.3%, N=21) and in non-nuclear families (68.4%, N=26). There were no statistical differences according to any of these variables (table 5.5).

I.B.2-Symptoms for the diagnosis of Anxiety Disorders

I.B.2.a- Symptoms of Separation Anxiety Disorder

This was the most commonly diagnosed psychiatric disorder within this category. Children presented particularly with symptoms of ‘fearful
thoughts of harm' (57.9%, N=22), 'clinginess' (57.9%, N=22) 'distress in separation' (47.3%, N=18) and 'school refusal' (47.3%, N=18) (table 5.3).

I.B.2.b- Symptoms of Generalised Anxiety Disorder

The most common symptoms among children with this diagnosis were 'worries about the future' (39.5%, N=14) and 'irritability' (26.4%, N=10). Children with Anxiety Disorders also presented with symptoms of other disorders, particularly of Mood and Oppositional Defiant Disorders (table 5.3).

Table 5.3. The most common symptoms in children with Anxiety Disorders (N=38)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms of Anxiety Disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fearful thoughts of harm</td>
<td>22</td>
<td>57.9%</td>
</tr>
<tr>
<td>Clinginess</td>
<td>22</td>
<td>57.9%</td>
</tr>
<tr>
<td>Distress in separation</td>
<td>18</td>
<td>48.3%</td>
</tr>
<tr>
<td>School refusal</td>
<td>18</td>
<td>48.3%</td>
</tr>
<tr>
<td>Worries about the future</td>
<td>14</td>
<td>39.5%</td>
</tr>
<tr>
<td>Sleep problems</td>
<td>12</td>
<td>31.6%</td>
</tr>
<tr>
<td>Nightmares</td>
<td>11</td>
<td>28.4%</td>
</tr>
<tr>
<td>Irritability</td>
<td>10</td>
<td>26.4%</td>
</tr>
<tr>
<td>Lack of concentration</td>
<td>8</td>
<td>21.1%</td>
</tr>
<tr>
<td>Restlessness</td>
<td>7</td>
<td>18.4%</td>
</tr>
<tr>
<td>Symptoms of other disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritability*</td>
<td>19</td>
<td>50.0%</td>
</tr>
<tr>
<td>Temper tantrums**</td>
<td>19</td>
<td>50.0%</td>
</tr>
<tr>
<td>Depressed mood*</td>
<td>16</td>
<td>42.1%</td>
</tr>
<tr>
<td>Easily annoyed**</td>
<td>16</td>
<td>42.1%</td>
</tr>
<tr>
<td>Anhedonia*</td>
<td>15</td>
<td>39.5%</td>
</tr>
</tbody>
</table>

* Symptoms of Mood Disorder ** Symptoms of ODD

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I.C. DIAGNOSIS OF MOOD DISORDER

Of the 97 children, 34 (35.1%) had a diagnosis of Mood Disorder. Twenty-five (73.5%) of them fulfilled diagnostic criteria for Minor Depressive Disorder, seven (20.6%) for Probable Major Depressive Disorder and two (5.9%) for Definite Major Depressive Disorder (figure 5.3).

![Figure 5.3. Diagnosis of Mood Disorder](image)

1.B.2. Socio-demographic characteristics of children with the diagnosis of Mood Disorder

The majority of the children with this diagnosis were girls (52.6%, N=18) and lived in semi urban/rural areas (67.6%, N=23). Interestingly, the mothers of the majority of these children were employed (58.8%, N=20) and the majority of the children (82.4%, N=28) had a family history of psychiatric illness (table 5.5).
1.B.3. Symptoms of Mood Disorder

The most common symptom in these children was ‘irritability’. Twenty-nine children out of the 34 (85.3%) presented with this symptom and 28 (82.4%) had symptoms of depressed mood. Children with Mood Disorders also presented with symptoms of other psychiatric disorders, particularly Separation Anxiety and Oppositional Defiant Disorders (Table 5.4).
Table 5.4. The most common symptoms in children with Mood Disorders (N=34)

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptoms of Mood Disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritability</td>
<td>29</td>
<td>85.3%</td>
</tr>
<tr>
<td>Depressive Mood</td>
<td>28</td>
<td>82.4%</td>
</tr>
<tr>
<td>Difficulty in concentrating</td>
<td>15</td>
<td>44.1%</td>
</tr>
<tr>
<td>Self-pity</td>
<td>13</td>
<td>38.3%</td>
</tr>
<tr>
<td>Guilt</td>
<td>11</td>
<td>32.3%</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>9</td>
<td>26.5%</td>
</tr>
<tr>
<td>Anhedonia-loss of pleasure</td>
<td>8</td>
<td>23.5%</td>
</tr>
<tr>
<td>Anhedonia-loss of interest</td>
<td>7</td>
<td>20.6%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>6</td>
<td>17.6%</td>
</tr>
<tr>
<td>Weight gain</td>
<td>5</td>
<td>14.7%</td>
</tr>
<tr>
<td>Increased appetite</td>
<td>5</td>
<td>14.7%</td>
</tr>
<tr>
<td>Terminal insomnia</td>
<td>3</td>
<td>8.8%</td>
</tr>
<tr>
<td><strong>Symptoms of other disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School refusal*</td>
<td>15</td>
<td>44.1%</td>
</tr>
<tr>
<td>Fearful thoughts*</td>
<td>12</td>
<td>35.3%</td>
</tr>
<tr>
<td>Temper tantrums**</td>
<td>12</td>
<td>35.3%</td>
</tr>
<tr>
<td>Argumentative**</td>
<td>11</td>
<td>32.4%</td>
</tr>
<tr>
<td>Clinging*</td>
<td>10</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

* Symptoms of Anxiety Disorders  ** Symptoms of ODD
I.D. DIAGNOSIS OF ATTENTION DEFICIT-HYPERACTIVITY DISORDER

Twenty-eight (28.9%) children had a diagnosis of Attention Deficit-Hyperactivity Disorder. Thirteen (46.4%) of them fulfilled the diagnostic criteria for ADHD Combined Type, nine (32.1%) for ADHD Predominantly Inattentive Type and six (21.4%) for ADHD predominantly Hyperactive-Impulsive Type (figure 5.4).

![Figure 5.4: Diagnosis of ADHD](image)

I.D.1. Characteristics of children with a diagnosis of ADHD

Of the 28 children with this diagnosis, twenty-six (92.9%) were boys and 2 (7.1%) were girls. The difference between the two genders was statistically significant ($\chi^2=16.0$, $p=0.0001$, d.f=1). The mean age was 8.8 years old. Children with this diagnosis lived equally in semi urban/rural (50%, $N=14$) and inner city areas (50%, $N=14$). The majority of these children (64.3%, $N=18$) lived in non-nuclear families and had unemployed mothers (67.9%, $N=19$) (table 5.5).
Table 5.5: Socio-demographic characteristics and psychiatric diagnosis (%)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age</td>
<td>10.1</td>
<td>9.9</td>
<td>10.2</td>
<td>10.2</td>
<td>8.8</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>60</td>
<td>50 (61.9%)</td>
<td>19 (50%)</td>
<td>16 (47.1%)</td>
<td>26 (92.9%)</td>
</tr>
<tr>
<td>Female</td>
<td>37</td>
<td>23 (38.1%)</td>
<td>19 (50%)</td>
<td>18 (52.9%)</td>
<td>2 (7.1%)</td>
</tr>
<tr>
<td>Area of residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi-urban/rural area</td>
<td>55</td>
<td>38 (56.7%)</td>
<td>21 (55.3%)</td>
<td>23 (67.6%)</td>
<td>14 (50%)</td>
</tr>
<tr>
<td>Inner city area</td>
<td>42</td>
<td>35 (43.3%)</td>
<td>17 (44.7%)</td>
<td>11 (32.4%)</td>
<td>14 (50%)</td>
</tr>
<tr>
<td>Family status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-nuclear families</td>
<td>64</td>
<td>49 (66.0%)</td>
<td>26 (68.4%)</td>
<td>22 (64.7%)</td>
<td>18 (64.3%)</td>
</tr>
<tr>
<td>Nuclear families</td>
<td>33</td>
<td>24 (34.0%)</td>
<td>12 (31.6%)</td>
<td>12 (35.3%)</td>
<td>10 (35.7%)</td>
</tr>
<tr>
<td>Maternal employment status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployed mothers</td>
<td>60</td>
<td>50 (61.9%)</td>
<td>26 (68.4%)</td>
<td>14 (41.2%)</td>
<td>19 (67.9%)</td>
</tr>
<tr>
<td>Employed mothers</td>
<td>37</td>
<td>23 (38.1%)</td>
<td>12 (31.6%)</td>
<td>20 (58.8%)</td>
<td>9 (32.1%)</td>
</tr>
<tr>
<td>Family history of psychiatric illness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric illness in family</td>
<td>72</td>
<td>56 (74.2%)</td>
<td>29 (75.1%)</td>
<td>28 (82.4%)</td>
<td>17 (60.7%)</td>
</tr>
</tbody>
</table>
I.D.2. Symptoms of Attention Deficit-Hyperactivity Disorder (ADHD)

The most common symptoms among children with a diagnosis of ADHD were “fails to finish or follow through” (82.2%, N=23) and “often doesn’t listen” (78.6%, N=22). Children with ADHD also presented with numerous symptoms of ODD (Table 5.6).

Table 5.6: The most common symptoms in children with ADHD (N=28)

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptoms of ADHD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fails to finish things</td>
<td>23</td>
<td>82.2%</td>
</tr>
<tr>
<td>Often doesn’t listen</td>
<td>22</td>
<td>78.6%</td>
</tr>
<tr>
<td>Often acts before thinking</td>
<td>21</td>
<td>75%</td>
</tr>
<tr>
<td>Difficulties in staying seated</td>
<td>19</td>
<td>67.9%</td>
</tr>
<tr>
<td>Always on the go</td>
<td>18</td>
<td>64.3%</td>
</tr>
<tr>
<td>Often careless</td>
<td>18</td>
<td>64.3%</td>
</tr>
<tr>
<td>Interrupts and intrudes</td>
<td>18</td>
<td>64.3%</td>
</tr>
<tr>
<td>Excessive shifts in activities</td>
<td>18</td>
<td>64.3%</td>
</tr>
<tr>
<td>Blurts out answers</td>
<td>17</td>
<td>60.7%</td>
</tr>
<tr>
<td>Excessive running</td>
<td>16</td>
<td>57.2%</td>
</tr>
<tr>
<td><strong>Symptoms of other disorders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temper tantrums*</td>
<td>23</td>
<td>82.1%</td>
</tr>
<tr>
<td>Easily annoyed*</td>
<td>17</td>
<td>60.7%</td>
</tr>
<tr>
<td>Blames others*</td>
<td>16</td>
<td>57.1%</td>
</tr>
<tr>
<td>Argumentative*</td>
<td>16</td>
<td>57.1%</td>
</tr>
<tr>
<td>Blames others*</td>
<td>15</td>
<td>53.5%</td>
</tr>
</tbody>
</table>

* Symptoms of ODD
II-RESULTS OF THE K-SADS: PSYCHIATRIC CO-MORBIDITY

II.A-TYPES AND RATES OF PSYCHIATRIC CO-MORBIDITY

The number of children with psychiatric co-morbidity was very high. Of the 97 children studied, three (3.1%) did not have any psychiatric disorder, 34 (35.1%) had one diagnosis and 60 children (61.8%) fulfilled diagnostic criteria for more than one diagnosis (Table 5.7).

Table 5.7: Types and rates of psychiatric co-morbidity (N=97)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oppositional Defiant Disorder with no co-morbidity</td>
<td>21</td>
<td>21.6%</td>
</tr>
<tr>
<td>Minor Depressive and Oppositional Defiant Disorder</td>
<td>7</td>
<td>7.2%</td>
</tr>
<tr>
<td>ADHD (Hyperactive/Impulsive) and Oppositional Defiant Disorder</td>
<td>6</td>
<td>6.2%</td>
</tr>
<tr>
<td>Separation Anxiety and Oppositional Defiant Disorder</td>
<td>6</td>
<td>6.2%</td>
</tr>
<tr>
<td>Minor Depressive and Separation Anxiety and Oppositional Defiant Disorder</td>
<td>6</td>
<td>6.2%</td>
</tr>
<tr>
<td>ADHD (Combined type) and Oppositional Defiant Disorder</td>
<td>5</td>
<td>5.2%</td>
</tr>
<tr>
<td>ADHD (Inattentive type) and Oppositional Defiant Disorder</td>
<td>4</td>
<td>4.1%</td>
</tr>
<tr>
<td>Separation Anxiety and Oppositional Defiant Disorder and ADHD (Combined)</td>
<td>4</td>
<td>4.1%</td>
</tr>
<tr>
<td>Minor Depressive and Separation Anxiety Disorder</td>
<td>4</td>
<td>4.1%</td>
</tr>
<tr>
<td>Minor Depressive Disorder with no co-morbidity</td>
<td>3</td>
<td>3.1%</td>
</tr>
<tr>
<td>ADHD (Inattentive) with no co-morbidity</td>
<td>3</td>
<td>3.1%</td>
</tr>
<tr>
<td>Generalised Anxiety Disorder with no co-morbidity</td>
<td>3</td>
<td>3.1%</td>
</tr>
<tr>
<td>Probable Major Depressive Disorder with no co-morbidity</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Minor Depressive and Posttraumatic Stress Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Probable Major Depressive and Separation Anxiety Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Probable Major Depressive and Oppositional Defiant Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Generalised Anxiety and ADHD (Combined Type) and Oppositional Defiant Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Generalised Anxiety and Oppositional Defiant Disorder</td>
<td>2</td>
<td>2.1%</td>
</tr>
<tr>
<td>Major Depressive and Separation Anxiety Disorder</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Major Depressive and Oppositional Defiant Disorder</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Generalised Anxiety and Conduct Disorder</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Separation Anxiety Disorder with no co-morbidity</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Conduct Disorder with no co-morbidity</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Probable Major Depressive and Separation Anxiety and ODD</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Minor Depressive and Obsessive Compulsive and ODD and ADHD (Inattentive)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Minor Depressive and Separation Anxiety and ODD and ADHD (Combined)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Minor Depressive and Oppositional Defiant Disorder and ADHD (Combined)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Oppositional Defiant and Obsessive Compulsive Disorder and ADHD (Inattentive)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>No psychiatric disorder</td>
<td>3</td>
<td>3.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>97</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

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In order to establish broad patterns of co-morbidity, diagnoses were subsequently grouped into four homogeneous categories:

1. Mood Disorders (MD), including Minor and Major Depressive Disorders;
2. Anxiety Disorders (AD), including Generalised Anxiety, Separation Anxiety, Posttraumatic Stress, Obsessive Compulsive and Phobic Disorders;
3. Attention Deficit-Hyperactivity Disorders (ADHD), including all types of ADHD;
4. Oppositional Defiant Disorders (ODD), including Oppositional Defiant and Conduct Disorders.

The frequencies of disorders in relation to these broad groups are presented in two tables and one figure. Table 5.8 presents co-morbidity with each of the main diagnostic groups.
Table 5.8 Broad categories of psychiatric co-morbidity (N=60)

<table>
<thead>
<tr>
<th>Psychiatric Diagnosis</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Co-morbidity with ODD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>ODD and AD - total</em></td>
<td>25</td>
<td>41.6</td>
</tr>
<tr>
<td>ODD and AD</td>
<td>9</td>
<td>15.0</td>
</tr>
<tr>
<td>ODD and AD and MD</td>
<td>7</td>
<td>11.6</td>
</tr>
<tr>
<td>ODD and AD and ADHD</td>
<td>7</td>
<td>11.6</td>
</tr>
<tr>
<td>ODD and AD and ADHD and MD</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td><em>ODD and ADHD - total</em></td>
<td>24</td>
<td>40.0</td>
</tr>
<tr>
<td>ODD and ADHD</td>
<td>14</td>
<td>23.3</td>
</tr>
<tr>
<td>ODD and ADHD and AD</td>
<td>7</td>
<td>11.6</td>
</tr>
<tr>
<td>ODD and ADHD and AD and MD</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>ODD and ADHD and MD</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td><em>ODD and MD - total</em></td>
<td>21</td>
<td>35.0</td>
</tr>
<tr>
<td>ODD and MD</td>
<td>11</td>
<td>18.3</td>
</tr>
<tr>
<td>ODD and MD and AD</td>
<td>7</td>
<td>11.6</td>
</tr>
<tr>
<td>ODD and MD and ADHD</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>ODD and MD and ADHD</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Co-morbidity with MD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>MD and AD - total</em></td>
<td>18</td>
<td>30.0</td>
</tr>
<tr>
<td>MD and AD</td>
<td>9</td>
<td>15.0</td>
</tr>
<tr>
<td>MD and AD and ODD</td>
<td>7</td>
<td>11.6</td>
</tr>
<tr>
<td>MD and AD and ADHD and ODD</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td><em>MD and ADHD - total</em></td>
<td>3</td>
<td>5.0</td>
</tr>
<tr>
<td>MD and ADHD and ODD and AD</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>MD and ADHD and ODD</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Co-morbidity with ADHD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>AD and ADHD - total</em></td>
<td>9</td>
<td>15.0</td>
</tr>
<tr>
<td>AD and ADHD</td>
<td>7</td>
<td>11.6</td>
</tr>
<tr>
<td>AD and ADHD and ODD</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>AD and ADHD and MD</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

ODD: Oppositional Defiant Disorder  
ADHD: Attention Deficit-Hyperactivity Disorder  
MD: Mood Disorder  
AD: Anxiety Disorder
Figure 5.5 also presents the different diagnostic subgroups.  

Figure. 5.5. Summary of psychiatric diagnoses

ODD: Oppositional Defiant Disorder  
ADHD: Attention Deficit-Hyperactivity Disorder

MD: Mood Disorder  
AD: Anxiety Disorder

The next table (5.9) presents the relationship between different diagnostic groups, i.e. the proportion of each diagnosis which is co-morbid with another broad disorder.
Table 5.9: Relationship between diagnostic groups (N=97)

<table>
<thead>
<tr>
<th></th>
<th>ADHD (N=28)</th>
<th>Mood Disorder (N=34)</th>
<th>Anxiety Disorder (N=38)</th>
<th>CD/ODD (N=73)</th>
<th>No other diagnosis (N=34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD</td>
<td>X</td>
<td>3</td>
<td>9</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>(3.09%)</td>
<td>(9.2%)</td>
<td>(24.7%)</td>
<td>(3.09%)</td>
<td></td>
</tr>
<tr>
<td>Mood Disorder</td>
<td>3</td>
<td>X</td>
<td>18</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>(3.09%)</td>
<td>(18.5%)</td>
<td>(20.6%)</td>
<td>(5.1%)</td>
<td></td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>9</td>
<td>18</td>
<td>X</td>
<td>25</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(9.2%)</td>
<td>(18.5%)</td>
<td>(25.7%)</td>
<td>(4.1%)</td>
<td></td>
</tr>
<tr>
<td>CD/ODD</td>
<td>24</td>
<td>21</td>
<td>25</td>
<td>X</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>(24.7%)</td>
<td>(21.6%)</td>
<td>(25.7%)</td>
<td>(22.6%)</td>
<td></td>
</tr>
</tbody>
</table>

These tables show that co-morbidity between Oppositional Defiant Disorders and other psychiatric disorders was very common, particularly between Oppositional Defiant and Anxiety Disorders. As ODD was the most common disorder in this clinical sample, further analysis will only include children with ODD to explore the impact of socio-demographic variables on co-morbidity, the relationship with parental stress (PSI score) and its detection by the screening questionnaire (SDQ).

2.B-CHARACTERISTICS OF CHILDREN PRESENTING WITH PSYCHIATRIC CO-MORBIDITY

In order to find out whether ODD children with co-morbid disorders were different to ODD children without co-morbidity, this section describes the socio-demographic characteristics and the PSI, EBI and SDQ scores of
children with ODD with and without co-morbidity. All children with a
diagnosis of ODD (N=73) were grouped according to the co-morbid
disorder:

- Children with ODD without any psychiatric co-morbidity: ODD
- Children with ODD and Emotional Disorder* (Anxiety and Depressive
  Disorders): ODD+ED
- Children with ODD and ADHD: ODD+ADHD

*Anxiety and Depressive Disorders were analysed as one group as these have been found
to be relatively homogeneous when co-morbid with ODD, in contrast with those with co-
morbid ADHD, which were analysed as a separate group.

Overall, the study found that 22 children had a diagnosis of ODD without
any other psychiatric disorder, 27 presented with ODD+ED and 14 with
ODD+ADHD. Ten children presented with ODD, ADHD and Emotional
Disorders but they were not included in the analysis, as the data derived
from them were difficult to interpret. Table 5.10 summarises the socio-
demographic characteristics and the PSI, EBI and SDQ scores for the three
groups of children.
Table 5.10: Socio-demographic characteristics of children with ODD with and without psychiatric co-morbidity (N=63)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>ODD without co-morbidity (N=22)</th>
<th>ODD and Emotional Disorders (N=27)</th>
<th>ODD and ADHD (N=14)</th>
<th>Statistical Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age</td>
<td>10.2</td>
<td>10.9</td>
<td>8.8</td>
<td>$\chi^2=4.35$, df=2 p=0.11</td>
</tr>
<tr>
<td>Male</td>
<td>15 (68.2%)</td>
<td>13 (48.1%)</td>
<td>14 (100%)</td>
<td>$\chi^2=11.1$, df=2 p=0.004 *</td>
</tr>
<tr>
<td>Living in inner-city</td>
<td>11 (50%)</td>
<td>13 (48.1%)</td>
<td>7 (50%)</td>
<td>$\chi^2=0.02$, df=2 p=0.9</td>
</tr>
<tr>
<td>Non-nuclear families</td>
<td>14 (63.6%)</td>
<td>21 (77.8%)</td>
<td>8 (57.1%)</td>
<td>$\chi^2=2.14$, df=2 p=0.34</td>
</tr>
<tr>
<td>Mother unemployed</td>
<td>17 (77.3%)</td>
<td>16 (59.3%)</td>
<td>11 (78.6%)</td>
<td>$\chi^2=2.51$, df=2 p=0.28</td>
</tr>
<tr>
<td>Family history of mental illness</td>
<td>18 (81.8%)</td>
<td>22 (81.5%)</td>
<td>7 (50%)</td>
<td>$\chi^2=5.7$, df=2 p=0.05 *</td>
</tr>
<tr>
<td>Mean total stress (PSI)</td>
<td>332.2</td>
<td>299.1</td>
<td>317.9</td>
<td>$\chi^2=2.7$, df=2 p=0.25</td>
</tr>
<tr>
<td>Mean EBI score</td>
<td>154.7</td>
<td>109.1</td>
<td>166.9</td>
<td>$\chi^2=20.6$, df=2 p=0.0001 *</td>
</tr>
<tr>
<td>Total SDQ score</td>
<td>19</td>
<td>19.2</td>
<td>20.8</td>
<td>$\chi^2=2.36$, df=2 p=0.3</td>
</tr>
</tbody>
</table>

* Statistically Significant
(For the last three comparisons, the K-Wallis tests were used)

2.B.1-Comparing the socio-demographic characteristics between the groups (table 5.10)

The three groups were compared using the Kruskal-Wallis Test for continuous data and the Chi-Square for categorical data. A statistically significant difference in the children's gender was found ($\chi^2=11.1$, d.f=2, p=0.004). All children with ODD+ADHD were male (100%, N=14), however
only 48.1% (N=13) of the children in the ODD+ED category and 15 (68.2%) children in the ODD category were male.

Table 5.10 also shows that the number of children with a family history of mental illness was significantly higher in the ODD+ED group than in the ODD+ADHD group ($\chi^2 = 4.41$, d.f=1, p=0.03). No major differences were found between the three groups of children in relation to age, area of residence, family status or mothers’ employment status.

2.B.2-Comparison of PSI, EBI and SDQ scores between the three groups (table 5.10)

It was not surprising to find that the scores for the three instruments were high in the three groups. However, the behavioural problems of children with ODD+ED were less severe than the other two groups and the difference was highly significant ($\chi^2 = 20.6$, d.f=2, p=0.0001). Interestingly, the SDQ scores were similar across the three groups. This indicates that all three groups had high levels of mental health problems and that these high scores were independent of co-morbidity. In order to find out whether the SDQ (that actually is being used by the Primary Mental Health Workers) is useful in detecting co-morbid disorders in children with behavioural problems, the next section compares the frequency of caseness according to the K-SADS and the SDQ.
ILL-COMPARISON BETWEEN SDQ AND K-SADS RATES OF CASENESS

This last section compares the frequency of cases established by the K-SADS and the SDQ. The aim is to test out the capacity of this screening questionnaire (SDQ), which is frequently used at Tier 1-2 level, to detect psychiatric disorders within this clinical sample.

As initially discussed in chapter 3, total SDQ scores can be grouped into normal, abnormal and borderline. There are no clear guidelines on whether borderline scores should be considered to be clinically significant or not. When comparing the rates of caseness established by the SDQ and the K-SADS, the analysis was conducted twice, initially with SDQ borderline scores grouped with normal scores (i.e. clinically non-significant) and subsequently with these scores grouped with the abnormal scores (i.e. clinically significant).

III.A-COMPARISON BETWEEN THE RATES OF SDQ AND K-SADS CASES, WITH SDQ BORDERLINE SCORES CONSIDERED AS CLINICALLY NON-SIGNIFICANT

Only one (2.9%) of the 34 children diagnosed as suffering from a Mood Disorder (Major and Minor Depression) by the K-SADS was identified as having clinically significant Emotional Problems according to the SDQ. This indicates that 33 cases were not identified. In contrast, the SDQ identified
10 children as having hyperkinetic problems, even though these children did not fulfil the K-SADS diagnostic criteria. In summary, the SDQ appears to be a sensitive but not specific instrument for identifying children with Emotional Disorders and ADHD when they present with high levels of behavioural problems. However, this instrument was able to identify most of the children with ODD (table 5.11).

III.B-COMPARISON BETWEEN SDQ AND K-SADS CASES, WITH SDQ BORDERLINE SCORES CONSIDERED AS CLINICALLY SIGNIFICANT

When the borderline scores of the SDQ were considered to be clinically significant, the findings were very different. The SDQ detected 54 children with clinically significant scores for the Emotional Problems category. This number appears to be very high when compared with the 34 children diagnosed as suffering from Mood Disorder by the K-SADS. However, as children with Anxiety Disorders will also be part of the category of emotional problems, within the SDQ, for an accurate comparison, the number of children with Anxiety Disorders without co-morbid Mood Disorders (N=20), diagnosed by the K-SADS must be added to the number of children with Mood Disorders (N=34). This raises the number of children with Emotional Problems to 54 (table 5.11).

For the Hyperkinetic category, the number of clinically significant scores was 40, i.e. 12 more than those diagnosed with ADHD by the K-SADS. Finally, 74 children presented with clinically significant scores for the
Conduct Problems category, i.e. only one more child than those diagnosed with ODD by the K-SADS (table 5.11). Table 5.12 and table 5.13 show the Sensitivity, Specificity, Positive Predictive Value, and Negative Predictive Value of the SDQ.

Table 5.11: Comparison between the number of children with psychiatric disorders (K-SADS) and mental health problems (SDQ)

<table>
<thead>
<tr>
<th>K-SADS Diagnosis and SDQ categories</th>
<th>K-SADS</th>
<th>SDQ Borderlines values coded as clinically non significant</th>
<th>SDQ Borderlines values coded as clinically significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Disorders and Emotional Problems</td>
<td>MD (34)</td>
<td>1</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>AD without co-morbid MD (20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD and Hyperkinetic Problems</td>
<td>28</td>
<td>34</td>
<td>40</td>
</tr>
<tr>
<td>ODD and Conduct Problems</td>
<td>73</td>
<td>69</td>
<td>74</td>
</tr>
</tbody>
</table>

Table 5.12: Sensitivity (%), Specificity (%), Positive Predictive Value (PV+) (%), Negative Predictive Value (PV-) (%), of the SDQ considering that Borderline values are clinically non-significant (N=97)

<table>
<thead>
<tr>
<th>SDQ categories</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PV+</th>
<th>PV-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Problems</td>
<td>1.8%</td>
<td>100%</td>
<td>100%</td>
<td>44%</td>
</tr>
<tr>
<td>Hyperkinetic Problems</td>
<td>100%</td>
<td>91%</td>
<td>82%</td>
<td>100%</td>
</tr>
<tr>
<td>Conduct Problems</td>
<td>94%</td>
<td>100%</td>
<td>100%</td>
<td>85%</td>
</tr>
</tbody>
</table>
Table 5.13: Sensitivity (%), Specificity (%), Positive Predictive Value (PV+) (%), Negative Predictive Value (PV-) (%), of the SDQ considering that Borderline values are clinically significant (N=97)

<table>
<thead>
<tr>
<th>SDQ categories</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PV+</th>
<th>PV-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Problems</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Hyperkinetic Problems</td>
<td>100%</td>
<td>82%</td>
<td>70%</td>
<td>100%</td>
</tr>
<tr>
<td>Conduct Problems</td>
<td>98%</td>
<td>95%</td>
<td>98%</td>
<td>95%</td>
</tr>
</tbody>
</table>

These results indicate that the SDQ should be interpreted cautiously for children with high levels of behavioural problems and co-morbid psychiatric disorders. In order to identify all children with emotional (Mood and Anxiety Disorder) and conduct problems (ODD/CD), children with borderline SDQ scores should be considered together with those in the SDQ clinical range. However, the Hyperkinetic Problems category of the SDQ produces a high number of false negatives. Therefore it should not be recommended that clinicians use this tool to diagnose ADHD.
CHAPTER VI

DISCUSSION

This discussion chapter is structured in three sections. The first section discusses the findings of the study in the context of the available literature in this field. The second section considers the implications of these findings for clinical practice, service development and training. The final section discusses the methodological implications, limitations of the study and future research required.

I- FINDINGS OF THIS STUDY

I.A- SOCIO-DEMOGRAPHIC CHARACTERISTICS AND BEHAVIOURAL PROBLEMS IN CHILDREN AND ADOLESCENTS ATTENDING THE PMHS

During the year of the study, more than 400 children were referred to the PMHS, about a quarter of whom were accepted for 'direct' therapeutic work. The majority of the children who were accepted for this work were white male children with high levels of behavioural problems. Adolescents rarely attended this service. Considering the multi-ethnic population living in Leicestershire, it was surprising to see the small number of children from
ethnic minorities attending this service. However, previous studies have already shown that families from ethnic minority groups attend mental health services much less frequently than Caucasian families (Messent & Murrell, 2003).

Although this research shows that the degree of behavioural problems in the children accepted for direct work was high, the overall findings are comparable to previous studies (Friman et al, 1998) Table 6.1 presents the ECBI scores in the research literature and this study.

Table 6.1: Frequency (%) of children with ECBI scores above 127 in different studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Age</th>
<th>N</th>
<th>Type of population</th>
<th>Clinically Significant scores (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friman et al 1998</td>
<td>5-13 y</td>
<td>92</td>
<td>Children with primary nocturnal enuresis</td>
<td>32%</td>
</tr>
<tr>
<td>Friman et al 1998</td>
<td>5-13 y</td>
<td>92</td>
<td>Children with behavioural problems</td>
<td>61%</td>
</tr>
<tr>
<td>Friman et al 1998</td>
<td>5-13 y</td>
<td>92</td>
<td>attending paediatric clinics</td>
<td></td>
</tr>
<tr>
<td>Friman et al 1998</td>
<td>5-13 y</td>
<td>92</td>
<td>General population of children</td>
<td>17%</td>
</tr>
<tr>
<td>Silver et al 1999</td>
<td>5-8 y</td>
<td>356</td>
<td>Children with chronic health condition</td>
<td>38.8%</td>
</tr>
<tr>
<td>Arcelus**</td>
<td>6-8 y</td>
<td>30</td>
<td>Children attending PMHS</td>
<td>58.1%</td>
</tr>
<tr>
<td>Arcelus*</td>
<td>6-16 y</td>
<td>97</td>
<td>Children attending PMHS</td>
<td>46.4%</td>
</tr>
</tbody>
</table>

** Present study

* In order to compare the results of this study with the biggest study in the table, and in view of the difference in age in the population studied, the results of children 6 to 8 years old from my study are shown in the table.
I.B- PSYCHIATRIC DIAGNOSIS

The results of the SDQ showed that the majority of the children attending this service presented with a clinically significant mental health problems. The results of the SDQ for the population studied are similar to the Goodman et al (2000b) study, but conduct problems were more prevalent among children attending a PMHS than among children attending CAMHS (table 6.2).

Table 6.2: Frequency (%) of likely clinical caseness according to SDQ Scores

<table>
<thead>
<tr>
<th>Study</th>
<th>Age</th>
<th>N</th>
<th>Type of population and settings</th>
<th>Clinically significant scores in the SDQ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meltzer et al, 1999</td>
<td>5-15 y</td>
<td>&gt;1000</td>
<td>General UK population</td>
<td>9.5% (TD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.3% (CP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.3% (EP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.4% (HP)</td>
</tr>
<tr>
<td>Goodman et al, 2000b</td>
<td>4-16 y</td>
<td>101</td>
<td>Children attending mental health clinic</td>
<td>74% (TD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>48% (CP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21% (EP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36% (HP)</td>
</tr>
<tr>
<td>Arcelus*</td>
<td>6-16 y</td>
<td>97</td>
<td>Children attending PMHS</td>
<td>69.1% (TD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>71.1% (CP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.1% (EP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35% (HP)</td>
</tr>
</tbody>
</table>

* Present study

TD: Total Difficulties; EP: Emotional; CP: Conduct; HP: Hyperactivity Problems scores
As the service was aimed at children with less severe mental health problems, particularly behavioural problems, it was not surprising to find that more than three-quarters of the children fulfilled diagnostic criteria for Oppositional Defiant Disorder (ODD). This diagnostic concept has been subject to longstanding debate. Some authors have argued that this disorder should not be part of psychiatric classification. They suggest that, by giving a medical name to a group of antisocial behaviours, responsibility for the behaviour can be taken away from the child and the family (Anderson et al., 1987; Earls, 1995). Others have argued that, by formulating the clinical significance of a group of symptoms, a body of knowledge can be applied (Schachar & Wachsmuth, 1990; Scott, 2002). For example, if no diagnosis is given to a boy who is persistently aggressive and disobedient, professionals may describe him as “a child who gets a lot into trouble”. Interventions could vary from changing the environmental circumstances related to his outbursts to extensive cognitive-behavioural sessions with him to try to understand what makes him angry and enable him to develop new coping strategies. Alternatively, if a diagnosis of Conduct Disorder is used, considerable evidence-base can be taken into consideration when determining the type of treatment he should receive. For example, behavioural interventions, which have been found to be effective for children with Conduct and Oppositional Defiant Disorders, can be offered to the family (Robins, 1991; Scott 2002).
Using a psychiatric diagnosis to describe a child with behavioural problems may be criticised as unnecessarily labelling him/her. Psychiatrists, in particular, may be accused of ‘medicalising’ a child’s difficulties by using terms such as ‘disorders’ or ‘diagnoses’ whereas other professionals (teachers or social workers), and some parents, may conceptualise the child’s problems as an understandable variation of their development, which they refer to as ‘behavioural difficulties’. Other parents and professionals, however, may welcome a medical diagnosis which may be perceived as a simplification of long-standing and complex parenting and social difficulties.

One additional constraint is that the defining criteria for many child psychiatric diagnoses are predominantly descriptive. The majority of childhood problems arise from an excess of behaviours exhibited by many young people, such as aggression or anxiety. They are seldom due to qualitatively distinct phenomena more often seen in adult conditions, such as hearing voices. Consequently, choosing a cut-off point to make a categorical entity from a dimensional construct may be a difficult and arbitrary process (Dilling, 2000; Scott, 2002). This is a challenge for the next revision of the two major classification systems.

Whatever the debate about the concepts of ODD or ‘behavioural difficulties’, this study found that, as the PMHS was aimed at children with a broad range of behavioural problems, referrals to this service level were appropriate. The population attending the PMHS were not found to suffer
from severe psychiatric disorders, such as eating disorders and psychosis, that would require intervention by specialist (tier 3-4) CAMHS.

I.C- PSYCHIATRIC CO-MORBIDITY

This study also found that more than 70% of the children also fulfilled diagnostic criteria for other psychiatric disorders, such as Emotional Disorders (particularly Separation Anxiety and Minor Depressive Disorders) and ADHD. Those disorders were predominantly co-morbid with ODD. The rates of psychiatric co-morbidity found in this study were higher than previously reported (Anderson et al, 1987; Angold & Costello, 1993; Anderson & McGee, 1994; Kuhne et al, 1997; Pliszka, 1998; Angold et al, 1999a; Meltzer et al, 1999; Wilens et al, 2002).

The high rates of psychiatric co-morbidity found in different studies raises the question of whether children with more than one diagnosis are different to children diagnosed with only one disorder. When comparing different diagnostic groups, this study found that behavioural problems were more severe among children with ODD and co-morbid ADHD (all of them male) and lower in children with ODD and co-morbid Emotional Disorders. This study also replicates previous findings of higher levels of parental psychopathology (parental stress and history of mental illness), more severe behavioural problems, and more peer relationships problems and socio-economic adversities in children with ODD and co-morbid ADHD than in children with either condition alone (Faraone et al, 1997; Angold et al, 1999a). Overall, the findings of this study suggest that, as children with co-
morbidity had different characteristics from children with a single diagnosis, they would require a different intervention.

However, the co-occurrence of two or more disorders may not always be a real finding. Several authors have discussed the possibility that apparent co-morbidity is simply an artefact rather than a real psychopathological phenomenon (Angold & Costello, 1993; Caron & Rutter, 1991).

I.C.1- Aetiology of co-morbidity: artefactual co-morbidity

Artefactual co-morbidity could happen as a result of the information collection strategies used; the temporal relationship between psychiatric disorders; some disorders representing early manifestation of others; epiphenomenal co-morbidity; and/or the classification system used. A number of these possible explanations will now be considered.

I.C.1.a- Co-morbidity as a result of methodological issues

Co-morbidity can be the result of coding single behaviours as different symptoms. For example, if a child “often leaves the seat in the classroom or in other situations in which remaining seated is expected”, this symptom counts towards the diagnosis of ADHD (DSM-IV, APA, 1994). However, if the child is told to sit still and fails to do so, the parent or teacher may report that the child “often actively defies or refuses to comply with adult requests or rules” and this will be a symptom of ODD (DSM-IV, APA, 1994). Thus the same behaviour can be coded as a symptom of ADHD and/or as a symptom of ODD. This study found that irritability was the most commonly
reported symptom for children diagnosed with Depressive Disorder. However, as irritability can make a child more argumentative and moody, this symptom can also be interpreted by parents as a defiant behaviour. In a similar way, school refusal was found to be the most prevalent symptom of Separation Anxiety Disorder. However, children who refuse to go to school can also be considered as oppositional because of ongoing arguments with parents and teachers about school attendance.

Therefore, when researchers conduct assessments unaided by structured procedures, these can be subject to information-collection and decision-making bias. The use of structured assessments for research purposes, self-report questionnaires from children and parents, and interviews with both parents and children, can aid the elimination of this type of clinician bias (Costello et al, 1988; Angold et al, 1999a).

Some authors have argued that false co-morbidity may also occur because certain symptoms are shared by different and unrelated diagnoses (Caron & Rutter, 1991). Two studies tried to test this hypothesis by looking at whether co-morbidity remains when overlapping symptoms are removed from the criteria for two distinct diagnoses. Those studies examined co-morbidity with ADHD and other psychiatric diagnoses and found that the majority of children maintained their co-morbid diagnosis even when overlapping symptoms were controlled for (Biederman et al, 1995; Milberger et al, 1995). They concluded that co-morbidity is not just an artefact of overlapping diagnostic criteria.
**I.C.1.b-Co-morbidity as a result of temporal relationships between psychiatric disorders**

The term 'co-morbidity' has been used to describe the co-occurrence of two different disorders independently of the temporal relationship between the two disorders. Whereas some epidemiological studies have considered disorders co-occurring over a relatively short time span, others have reported rates of co-occurrence over six months, one year, three years or the individual's lifetime. Clearly such different time spans will reflect very different rates of co-morbidity. Based on the temporal relationship between disorders, Angold *et al* (1999a) proposed two types of co-morbidity:

**A- Concurrent co-morbidity:** When both disorders are present at the time of the assessment, although their times of onset and offset may not be coterminous.

**B- Successive (or lifetime) co-morbidity:** When two disorders do not overlap in time. The disorders in question may never have been present simultaneously.

**I.C.1.c-Co-morbidity as a result of one disorder representing an early manifestation of another**

Several disorders have been found to represent an early manifestation of another diagnosis. ODD is mainly diagnosed in younger children and often seems to be a precursor of CD in adolescents. CD in childhood and adolescence is also proven to be an established precursor of antisocial
personality disorder in adult life (Tremblay et al, 1994; Stevenson & Goodman, 2001).

I.C.1.d- Co-morbidity as a result of the epiphenomenal co-morbidity

When three conditions are associated with one another, it is possible that one of the conditions is the real link between the two other. This phenomenon has been defined as epiphenomenal co-morbidity. For example, there is significant association between Depressive and Anxiety Disorders. Additionally a clear link has been found between Depressive and Conduct Disorders, and between Anxiety and Conduct Disorders. It could be argued that the latter association could be explained by the combination of the former two (Angold et al, 1999a).

I.C.1.e- Co-morbidity as a result of the classification system used

I.C.1.e.1- One disorder (Disorder A) versus two different disorders (Disorder B and Disorder C)

A clear example of how classification systems can affect the rates of co-morbidity is presented by Caron & Rutter (1991). They showed that multiple diagnoses are more likely to occur using the DSM-IV than the ICD-10. This could be explained because:

1) In ICD-10 the clinician is expected to choose the diagnosis that closely matches the symptoms of the patient. The assumption is that mixed clinical pictures are more likely to represent an atypical manifestation of one disorder rather than the co-occurrence of two
disorders. However, DSM-IV assumes that when symptoms for two disorders occur together, two separate diagnoses should be used (Caron & Rutter, 1991).

2) ICD-10 has developed some categories for those disorders presenting with features of different diagnoses. For example, if a child presents with symptoms of Emotional Disorders and Conduct Disorders, he/she will be diagnosed as suffering from Mixed Disorders of Conduct and Emotions (one disorder) if using the ICD-10 (WHO, 1992) and two disorders if using the DSM-IV (APA, 1994). Epidemiological studies have found that there is a strong link between Hyperkinetic/ADHD and CD resulting in the ICD-10 introducing a new diagnostic term ‘Hyperkinetic Conduct Disorder’ (WHO, 1992). However, the DSM-IV (APA, 1994) uses two different diagnoses to classify a child presenting with symptoms of both disorders. The danger of developing new diagnoses for those disorders presenting with features of different disorders is that we could end up with an even greater proliferation of disorders and subcategories than we already have. If only one component of the combined disorder needs to be different from its uncombined form, we face a proliferation of unnecessary subcategories.

Therefore, we can conclude that, if the ICD-10 system had been used in this study, the majority of children would have been diagnosed as suffering from Hyperkinetic Conduct Disorders and Mixed Disorders of Conduct and Emotions.
I.C.1.e.2- One dimensional disorder (Spectrum Disorder A) versus two different disorders (Disorder A and Disorder B)

Co-morbidity may arise because clinicians assign naturally linked sets of phenomena to different classes of disorders. Some authors have argued that diagnostic approaches simply impose arbitrary cut-off points on a series of dimensional phenomena. According to this theory, disorders involve no qualitative discontinuity between abnormality and normality but rather involve a pattern of symptoms resulting from quantitative variation on a range of behavioural dimensions. For example, the Depression dimension always contains a mixture of depressive and anxiety symptoms (Achenbach, 1979). This could imply that children with symptoms of Depression have the same disorder as children with symptoms of Depression and Anxiety, and that both are part of the Depressive Disorder Spectrum.

Although some authors have argued that co-morbidity occurs as an artefact, others support that co-morbidity is usually a real phenomenon (Biederman et al, 1995; McArdle et al, 1995; Satterfield & Schell, 1997).

I.C.2-Aetiology of co-morbidity: true co-morbidity

Co-morbidity may arise because different disorders share the same risk factors (Kazdin, 1990; Taylor et al, 1991; Beardslee et al, 1998; Rutter, 1999). Environmental factors such as marital discord or parental stress have been associated with both CD/ODD (Schachar & Wachsmuth, 1990;
Garmezy & Masten, 1995; Weich & Glyn, 1998) and mood disorders (Earls, 1995; Eaves et al, 1997; Hollis, 1996; Beardslee et al, 1998). Additionally, certain characteristics of psychiatric disorders such as hyperactivity, have been shown to increase the risk of development of disorders such as CD (McArdle et al, 1995; Satterfield & Schell, 1997).

Research has found that specific psychiatric disorders could act as a risk factor for the development of a different psychiatric disorder (Taylor et al, 1991; McArdle et al, 1995; Satterfield & Schell, 1997). Some of the risk factors shared between different disorders are summarised in table 6.3.

Table 6.3: Risk factors for the development of specific Psychiatric Disorders in Children and Adolescents

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>CD/ODD</th>
<th>ADHD/HD</th>
<th>Depression</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (1) (3)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Intelligence (2)</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Environmental factors (3)</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Marital discord/Parental Stress (4)</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Family history of alcohol abuse (5)</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Family history of depression (6)</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Family history of antisocial behaviour (3)</td>
<td>+</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>ODD/CD (7)</td>
<td>N/A</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Hyperactivity (7)</td>
<td>+</td>
<td>N/A</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Depression (8)</td>
<td>+</td>
<td>-</td>
<td>N/A</td>
<td>+</td>
</tr>
<tr>
<td>Anxiety (8)</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>N/A</td>
</tr>
</tbody>
</table>

? Lack of evidence  + Risk factor  N/A not applicable

I.C.3-The meaning of co-morbidity in clinical terms

In clinical terms, whether the child is diagnosed as suffering from two disorders (Oppositional Defiant and Attention Deficit-Hyperactivity Disorder) or one (Hyperkinetic Conduct Disorder) may not be important as long as the symptoms of hyperactivity in a child with behavioural problems are recognised. This is essential as symptoms of ADHD or Emotional Disorders in a child with ODD can predict outcome, response to treatment and utilisation of mental health and other services. The presence of CD in children with ADHD has been found to be significantly correlated with aggressive behaviour or delinquency in adolescence, and with higher rates of anti-social personality in adult life (Reeves et al, 1987; Kuhne et al, 1997; Pliszka, 1998). The presence of hyperkinetic or emotional symptoms in children with ODD may imply the need for a different clinical intervention (Milberger et al, 1995; Birmaher et al, 1996; Goodyer et al, 1997; Harrington & Clark, 1998; Pliszka, 1998; Jensen et al, 2001).

II- IMPLICATIONS OF THE FINDINGS

II.A- IMPLICATIONS FOR CLINICAL PRACTICE

One of the main objectives of the PMHWs is to work with children with behavioural and mild mental health problems in order to prevent the development of antisocial behaviour and/or severe psychiatric disorders in the context of broader national policies (Department for Education and
To enable PMHWs to fulfil this role, primary care professionals such as GPs, social workers and teachers need to identify and refer appropriately to this new service. The next section discusses the role of primary care professionals in the identification of children at risk and the clinical interventions offered by PMHWs in the context of the findings.

II.A.1- Identification of children at risk by primary care professionals

Primary care services in the UK are generally provided by general practitioners, health visitors and paediatricians, as well as professionals from other agencies, such as educational psychologists, social workers and education welfare officers. This study found that, despite the PMHS being open to referrals from all primary care agencies, children were primarily referred to the service by general practitioners (GPs). The number of referrals from education or social services was surprisingly low. It may be that appropriate referrals were not detected, and therefore referred, by teachers or social workers or that such professionals were unaware of the existence of this new service. As few studies have investigated the mental health needs of children attending tier one services, except for children attending GP clinics (Garralda & Bailey, 1986; Eminson et al, 1996; Taylor et al, 1996), the study is unable to reach clear conclusions about the lack of referrals from other primary care services.

Although the study found that primary care professionals referred appropriately to this service, there may be a substantial number of children whose mental health problems were not detected by their GPs and
subsequently were not referred to the PMHS. This would not be surprising as previous research has found that many children and adolescents perceive general practitioners to be more concerned with physical than emotional illness and they rarely report distress to them. As children may express their distress through physical symptoms such as headaches or fatigue (Kramer & Garralda, 1998a; Garralda et al, 1999) the recognition of mental health problems requires a comprehensive and sometimes lengthy assessment. Unfortunately, due to the shortage of GPs in the UK and the demands on their caseload, they may be unable to offer the necessary time for this assessment, despite the fact that 25% of their work concerns children (Peter, 1993). General practitioners may also lack the clinical skills to assess children and adolescents with symptoms of mental health problems (Walker & Townsend, 1998; Jacobson et al, 2002).

The study's findings indicate that support to primary care professionals, easy access to consultation, and training in the identification of children at risk are essential components of a PMHS within a comprehensive CAMHS. This is especially so given the reliance of the PMHS on referrals from primary care staff and the distinct lack of referrals from non-health primary care services.

II.A.1.a- Training by PMHWs to primary care professionals

Training for primary care staff is an important role of PMHWs. Although the training needs of primary care professionals are dependent on the
individual professional's background (health, education or social services),
common training objectives should include:

1. mental health awareness;
2. an understanding of child development, including family functioning,
   attachment and psychodynamic theories;
3. promotion of mental health and enhancement of resilience in children
   and families;
4. the development of the ability to recognise mental health problems, e.g.
   emotional and/or hyperactive problems, among children with
   behavioural problems;
5. a basic knowledge of presentation, causes, outcome and interventions
   for mental health problems;
6. an understanding of children in special circumstances, such as looked
   after by local authorities and refugee children; and
7. an awareness of cultural diversity.

II.A.2- Interventions for children at risk of developing mental health
problems

Interventions for children at risk of developing severe mental health
problems and antisocial behaviour could be divided into two groups:
1- Primary preventative interventions which are designed to prevent the
   occurrence of a disorder or problem by targeting at risk individuals or
   groups, e.g. children of parents with mental illness.
2- Secondary preventative interventions which are designed to reduce the prevalence of mental health problems by targeting children with early symptoms.

Although both interventions are closely related, they will be discussed separately in the context of the PMHW role.

II.A.2.a- Primary preventative interventions

This study confirms previous findings suggesting that mental health problems in children are associated with parental mental illness, attachment difficulties and parental stress. Although high levels of parental stress have already been described in similar groups of children, the stress levels found in this study appeared to be higher than previously reported Table 6.4 shows that the results of parental stress scores in the population studied were similar to the results of Kazdin's (1990) study and significantly higher than the results gathered from the population of children attending paediatric clinics and developmental centres.
### Table 6.4: Mean PSI scores: Child Domain (CD); Parental Domain (PD); Total Stress (TS) from previous research and this study

<table>
<thead>
<tr>
<th>Study</th>
<th>Age</th>
<th>N</th>
<th>Type of population</th>
<th>Means for PSI scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazdin 1990</td>
<td>7-12</td>
<td>81</td>
<td>Children with antisocial behaviour attending a CAMHS</td>
<td>136.10 (CD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>139.10 (PD)</td>
</tr>
<tr>
<td>Bithoney et al 1995</td>
<td>5-12 y</td>
<td>48</td>
<td>Children with growth deficient disorders from paediatric clinics</td>
<td>106 (CD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>105.6 (PD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>211.0 (TS)</td>
</tr>
<tr>
<td>Paradise et al 1999</td>
<td>5-12 y</td>
<td>48</td>
<td>Children attending primary care service because of hearing difficulties</td>
<td>97 (CD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>108.0 (PD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>205.3 (TS)</td>
</tr>
<tr>
<td>Arcelus* 6-12 y</td>
<td>73</td>
<td></td>
<td>Children attending PMHS</td>
<td>146.5 (CD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160.7 (PD)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>309.1 (TS)</td>
</tr>
</tbody>
</table>

*Present study

CD: Child Domain; PD: Parental Domain; TS: Total Stress

Parental stress was not only associated with the child's characteristics such as hyperactivity but also with certain parental characteristics such as sense of isolation, diminished sense of competence and attachment difficulties. Several recommendations for primary prevention can be made in relation to these findings.

II.A.2.a.1- Preventative programmes for parents with high level of stress

Programmes offering support for parents with high level of stress have been shown to improve child behaviour and the quality of the mother/child
relationship. Examples include the High/Scope Preschool programme (Schweinhart & Weikart, 1992), the Perry Preschool programme (Berrueta-Clement et al, 1984; Zoritch et al, 2000) and Home Start or Sure Start (Haase et al, 1968). Most of those programmes combined day care and parent training with practical help and support to families with pre-school children. They used trained volunteers and were found to be effective in improving parental self-esteem, reducing depression, reducing demand for health visitor support, improving child/parent relationships and increasing use of community services (DfEE, 1999). Although the role of the PMHWs in such programmes may be limited, they can be indirectly involved through consultation and training (Rivara & Farrington, 1995).

II.A.2.a.2- Preventative programmes enhancing the quality of parent-child relationships

This study found that a substantial proportion of parents described attachment difficulties, which replicates the established association between attachment difficulties and child behavioural problems (Widom, 1989). This suggests that programmes aimed at the prevention of attachment difficulties could also be successful in reducing behavioural problems in children.

As attachment between parent and child occurs early in life, it is important that such programmes are put in place during the pregnancy and postnatal period for mothers who are targeted as high risk. Research, predominantly in the US, has found that treatment during pregnancy and infancy by
pre/postnatal home visits was associated with a decrease in recorded child physical abuse and neglect during the first two years of life, especially by poor unmarried teenage mothers (Olds et al, 1986). Those studies also showed that home visit programmes for first time mothers, beginning in pregnancy and continuing for two years, and systematic counseling to depressed mothers greatly improved children's physical and mental health and reduced subsequent behavioural problems (Cooper & Murray, 1997).

Interestingly, research has also demonstrated that trained volunteers, with good supervision, were as effective as specialists in delivering these types of programmes (Fonagy & Higgitt, 2000; Hodnett & Roberts, 2000). PMHWs could, therefore, be involved in the training of volunteers who could then deliver the preventative programmes. PMHWs could also offer consultation to volunteers to facilitate the early recognition of mental health problems in young children.

II.A.2.a.3- Preventative programmes for parents with mental health problems

The study found that nearly three-quarters of children attending this service had a family history of mental illness, particularly maternal depression. This finding is consistent with studies, conducted in both community and clinical populations, that reported an increased risk for psychiatric difficulties in children of mentally ill parents (Weissman et al, 1997).
The findings highlight the importance of the role of liaison of the Primary Mental Health Service with the Adult Mental Health Services. Joint protocols between child and adult services would result in the earlier recognition of child psychiatric disorders by adult mental health workers involved in the parent's care and appropriate referrals to child mental health services. Joint assessments between the two services would facilitate training for both child and adult mental health professionals. Such new joint structures and training packages for health professionals, aimed at an early identification of children at risk, are being put in place following the recommendations of national reports, e.g. the Victoria Climbie Inquiry (DoH, 2003; Lord Laming, 2003).

II.A.2.b- Secondary preventative interventions

PMHWs have an important role in secondary prevention, as they work with children with mild mental health problems (including ADHD and ODD) who are at risk of developing psychiatric disorders and anti-social behaviour. Interventions for these children should include parent training which has established positive outcomes on child behaviour (Scott, 1998; Webster-Stratton & Hammond, 1999; Gross et al, 2003). Parent training includes behavioural techniques, family support, non-directive counselling, guidance, parent education and counselling, group work and child education. It has also been found to be a successful intervention in improving parental confidence and attachment between parent and child (Patterson 1982; Kazdin, 1997; Scott, 1998; Webster-Stratton 1998; Graham, 2000; Sanders et al, 2000).
A number of reviews have examined the evidence concerning the effectiveness of parental training (Harrington & Clark, 1998; Scott, 1998; Sanders et al, 2000; Scott, 2002; Gross et al, 2003). There are concerns that results from specialist settings will not generalize to patients in primary care, given the difference in the type and severity of problems presented in different settings and the nature of the intervention (such as the skills and experience of staff). Despite these concerns, behavioural programmes are implemented at primary care level by a number of professionals such as Family Social Workers (FSWs) in the context of their agency (Phillips, 1995; Scott, 1998; Window et al, 2004). It is unclear why some families can benefit from services that use voluntary agencies in isolation from CAMHS while others require experienced professionals with close supervision.

In order to improve training, supervision and communication between agencies working with children with behavioural problems it is suggested that all professionals working directly with children with behavioural problems (FSWs, PMHWs, voluntary sector) could be part of the umbrella of the PMHS. Different levels of seniority and skills (clinical and non-clinical) could be developed within the structure of this service. Senior PMHWs could deliver training and supervision for lower-grade PMHWs whilst working with the most complex cases. It would be the role of the PMHWs to implement parental training programmes in addition to offering interventions directly to children with early onset conduct problems such as social skills and problem solving training. Early interventions of this nature have been shown to be effective in the reduction of behavioural problems
PMHWs should also be able to offer brief interventions of the type found to be useful for the management of mild emotional disorders, such as Solution Focused Brief Therapy and Cognitive-Behavioural Therapy for mild anxiety (including Separation Anxiety Disorder) and depression, behavioural interventions for school refusal, and family therapy in some complex cases jointly with tier 3 professionals (Graham, 2000). Only when the family or child requires a more specialised, lengthy and intensive treatment, such as Systemic Family Therapy, Specialised Cognitive-Behavioural Therapy (interpersonal therapy or dialectic behavioural therapy), Psychoanalytical/psychodynamic Psychotherapy or medication, will they require specialist (tier 3/4) input.

The question for future services is how better to link specialist services with PMHS, with continuity of care, and arrangement for supervision, training and consultation between the two.

II.A.2.b.1-Specialist PMHW posts in inter-agency settings

Since this study took place, a new model of inter-agency service provision has been developed through specialist primary mental health workers whose role is to cover the interface between Young Offending Teams (YOTs) (tier 1), social services for looked after children (tier 1) and specialist CAMHS. These PMHWs provide a direct service to young people with mild mental health difficulties and fulfil a consultation and liaison service to YOT and Social Services staff (Callaghan et al, 2003a; Callaghan et al, 2003b; Callaghan et al, 2004). The aim of the PMHWs working in
these settings is to offer an accessible mental health service for young offenders and children looked after in order to prevent further re-offending or the development of severe mental health problems (Bailey, 1999; Home Office 2000). Although the generic PMHS and the PMHS for young offenders and looked after children target different populations of young people, both services apply the same principles of consultation, direct work and training (Callaghan et al, 2004).

II.B- IMPLICATIONS OF THE FINDINGS FOR SERVICE DELIVERY

This study shows that the main attendees of the PMHS were children and families with complex psycho-social and mental health needs. Research has shown that families with children with mild mental health and behavioural problems are more likely to disengage from services and terminate treatment prematurely (Garralda & Bailey, 1988; Kazdin et al, 1990). For this reason, services provided for these families should be based on principles of accessibility, flexibility and multi-agency working (Richardson & Williams, 1996).

1- Accessibility:

Primary mental health services should be well publicised through schools, health promotion and/or youth/community services. They should be locally based and possibly attached to non-statutory agencies such as schools, youth services and family centres, as these are often perceived to be more accessible, less stigmatising and better at engaging young people (Smith & Leon, 2001). As adolescents were
rarely attended the PMHS, drop-in or walk-in clinics in central locations should also be considered in order to facilitate access to this age-group.

2- Flexibility
PMHWs should be able to offer a service when it is needed, including during and out of school hours (Kurtz, 1996). Ensuring adequate resources for manageable population sizes is vital in avoiding waiting lists and in ensuring a rapid response through professional networks and regular liaison meetings with tier 1 professionals, telephone referrals and consultation.

3- Multi-agency working
The high levels of psycho-social needs of the families attending this service highlight the need for mental health professionals to work in close collaboration with other agencies. Recent national policies have highlighted the need to support parents and carers through inter-agency partnerships (Save the Children, 1999; DoH, 2001a; DfES, 2003). Children with mild mental health and behavioural problems should receive services at the onset of their difficulties, and professionals working as a first point of contact should be able to provide triage assessments of educational, health and social needs. Such a triage model has been positively received by families and CAMHS practitioners, as an effective way of directing children and families to the appropriate agency (Parkin et al, 2003).
PMHWs could take the role of lead professionals or case co-ordinators for every child with identified mental health problems within their locality, as they have already developed links with primary care professionals such as GPs, Health Visitors, School Nurses, Educational Psychologists, Special Education Needs Co-ordinators (SENCOs), Social Workers and the voluntary sector. This would ensure the planning and implementation of a coherent care plan (DfES, 2003).

However, in order for PMHWs to undertake all those roles, they will require training and support from specialist CAMHS.

II.C- TRAINING IMPLICATIONS FOR PMHWs

Although beyond the narrow remit of this study, there are several implications for PMHWs' training.

The roles of PMHWs may differ according to their seniority. The majority of PMHWs should predominantly have clinical duties (through therapeutic work or consultation), while senior PMHWs need also to maintain a managerial role.

II.C.1- Clinical training for PMHWs

As PMHWs may come from a range of professional backgrounds, it is important to acknowledge that it is unlikely that any one person will have all the required skills and experiences without further career development
Professional training to become a PMHW will include core skills and knowledge base to deliver the clinical and non-clinical aspects of the role (Richardson, 2002).

Based on the findings of this study, the following suggestions can be made for clinical training of PMHWs. PMHWs should receive training:

1. in mental health assessment of children with behavioural problems, including interviewing, assessment and information gathering skills, in order to detect possible co-morbid psychiatric disorders (ADHD or Emotional Disorders) and to identify children whose difficulties require the involvement of tier 3 professionals;

2. in the delivery of clinically effective interventions such as problem solving, behavioural therapy, cognitive-behavioural therapy, family therapy, and parent training, in the context of their role. PMHWs also need to be aware of the interventions that can be integrated with educational initiatives and how to support onward referral, where appropriate (DoH, 2001b);

3. for the development of skills for consultation and training to tier 1 professionals; and

4. in the recognition of mental health problems in parents, such as depression, as they often precipitate or maintain child’s problems. This is particularly important for those parents not in contact with adult
mental health services. This could be achieved by brief attachments of PMHWs to adult mental health teams, as well as by regular training, consultation, case discussions and joint assessments with adult mental health staff.

The PMHWs also need to be aware of the limitations of the SDQ, which is currently used in this service, for the identification of children with hyperkinetic and emotional disorders. This instrument should not be used as a diagnostic tool.

II.C.2- Non-clinical training for PMHWs

Senior PMHWs operate at an advanced level and need to be competent in offering support, clinical supervision and line management within their discipline (Gale et al, 2003). To enable them to effectively deliver the role at this level, they require non-clinical training to develop different skills such as:

1. Networking and liaison skills with a wide range of professionals and agencies. This requires knowledge of national and local policies and of statutory roles.

2. Skills in leadership and management of inter-professional teams.

3. Skills in audit and research. Senior PMHWs should be able to lead and contribute to local audit and clinical governance. It is important that PMHWs’ therapeutic work is closely audited by using multiple quantitative and qualitative measures to incorporate perceptions of children, families and tier 1 professionals as well as service outcomes.

II.D- OVERVIEW OF THE IMPLICATIONS OF THE STUDY: A CAMHS MODEL

In view of the psycho-social complexities of children attending this service, PMHWs should act as case co-ordinators for all children with identified mental health problems, ensuring that each child has a coherent care package. Triage assessments with social workers and education professionals would offer a cost-effective model. PMHWs should be able to offer clinical interventions in the form of parental training, problem solving or family work, and be able to identify children requiring specialist interventions. The service should be flexible and accessible to parents in order to avoid disengagement.

At a strategic level, senior PMHWs (who should be highly skilled specialist mental health practitioners) should contribute to joint strategic planning and implementation, to avoid overlaps and gaps in service provision. It is vital that the PMHS does not become a new autonomous tier between primary and secondary care but is rather part of a comprehensive service.

However, in view of the multiple needs of the families and children attending this service, it is important that multi-agency and liaison work is closely monitored by the PMHWs to ensure good communication between agencies and prevent duplication of agency involvement. It is clear that
children with behavioural problems are not the responsibility of one specific agency, but they are everybody’s responsibility.

Behavioural problems in children span a wide spectrum. At one end, children may behave ‘normally’ but adults may have inappropriate or unclear expectations. At the other end, young people may present with severe conduct disturbance and delinquency. Between these two spectral points there is a wide variety of problems and circumstances.

It has been long evident that problem behaviour is a severe challenge for all children’s services. It is often difficult for education, social and health services to secure adequate resources for these children. As a result of a lack of collaboration between agencies, inappropriate assumptions about the roles of others and gaps in communication, it is not unusual for single agencies to define a child’s problem as lying within the responsibility of another agency (Williams & Salmon, 2002). The same young person might be viewed by different agencies as requiring an educational support service (e.g. education in a special unit), a child protection or social welfare intervention (e.g. case work, parenting advice or counselling) or as mentally disordered and requiring mental health care (e.g. cognitive-behavioural therapy or attendance at a day hospital).

It is therefore important that agencies recognise that children with behavioural problems are ‘everybody’s responsibility’. The mixture of difficulties experienced by these children indicates that the task of
improving children's mental health cannot be that of specialist CAMHS alone. Instead, the CAMHS concept (National Assembly for Wales, 2001) includes services provided by all sectors that impinge on the psychological well-being and mental health of children and adolescents. Services involved in primary prevention of mental health problems should be supported through the process of consultation and training by the PMHS, and primary and community services involved in secondary prevention, such as FSWs, educationalists, PMHWs and/or voluntary agencies working with families and children with mental health and behavioural problems, should be part of the umbrella of PMHS, operating within a comprehensive CAMHS. This will allow better co-ordination of services and enable specialists to work with children and families with complex and severe needs (Mcdonald & Bower, 2000).

The role of the PMHS for children with mild mental health and behavioural problems within a CAMHS model is presented in the following chart (Chart 6.1).
Chart 6.1. Organisation of a comprehensive service for children with mental health problems

Specialist and highly trained professionals: Psychiatrists, Specialist Nurses, Psychologists Therapists, Adult Mental Health Workers, Educational Psychologist, Social Workers

Supervision Training Consultation Referrals

Senior PMHW
Supervision Management

PMHW, FSWs, Vol. Workers

Consultation Training Co-ordination of service

Social Services Education Health

Assessment and Intervention

to

Children and adolescents with mild mental health and/or behavioural problems
Table 6.5: Summary of the key findings

- The majority of children attending this service were boys.
- Adolescents rarely attended this service.
- The majority of mothers whose children attended this service were single and unemployed.
- The levels of parental stress were high.
- A large number of children had a family history of mental illness.
- Oppositional Defiant Disorder was the most common diagnosis.
- A large number of children suffered from more than one psychiatric disorder.
- A quarter of the children who fulfilled diagnostic criteria for Oppositional Defiant Disorders also presented with co-morbid ADHD.
- A similar proportion presented with co-morbid Emotional Disorders (Depressive and Anxiety Disorders).
- Children with Oppositional Defiant Disorders with and without co-morbidity differed in relation to gender, family history of mental illness and severity of the behaviour.
- Children with ADHD co-morbid to ODD presented with more severe behavioural problems than any other diagnostic category.
## Interventions

- Involvement in the development of primary preventative programmes through training and consultation. These programmes include:
  - Preventative programmes during the prenatal and postnatal period
  - Early identification of children at risk by close collaboration with adult mental health and primary care services
- School-based programmes

- Involvement in the development of secondary preventative programmes, through training, consultation, supervision and direct therapeutic work. These programmes include:
  - Parent training to enhance strategies in managing child behavioural difficulties
  - Co-ordination and support of school programmes aimed at reducing behavioural problems
  - Close collaboration with Youth Offending and Social (looked after) Services
- Direct therapeutic work in the form of
  - Cognitive Behavioural Therapy
  - Solution Focused Brief Therapy
  - Family Therapy

This should be adapted to the context of the PMHW role
Table 6.7: Implications of the findings for service development

<table>
<thead>
<tr>
<th>Service development</th>
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<tbody>
<tr>
<td>➢ Provision of an accessible, flexible and responsive service</td>
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<tr>
<td>➢ PMHWs should develop and co-ordinate multi-agency assessments</td>
</tr>
<tr>
<td>➢ PMHWs should be part of a comprehensive service for children with mental health problems, i.e. they should also be part of tier 2/3 outpatient multi-disciplinary teams</td>
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<table>
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<tr>
<th>PMHW Training</th>
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<tr>
<td>➢ Identification of co-morbid disorders such as Emotional Disorders (Depressive and Anxiety Disorder) and ADHD among children with behavioural problems</td>
</tr>
<tr>
<td>➢ Recognition of mental health problems in parents</td>
</tr>
<tr>
<td>➢ Broad skills in the main therapeutic modalities</td>
</tr>
<tr>
<td>➢ Audit and clinical governance</td>
</tr>
<tr>
<td>➢ Skills for service evaluation utilising appropriate methodologies and outcome measures</td>
</tr>
</tbody>
</table>
III-LIMITATIONS OF THE STUDY

The study has several limitations which need to be taken into consideration.

III.A-SAMPLING FRAMEWORK

The number of patients who refused to participate was small. Only 20 families did not agree to participate in the study. Non-participating children were slightly younger than children studied. There was no indication that this may have affected the key findings of the study, i.e. the nature, frequency and severity of psychiatric disorders.

Only children referred for direct work participated in this study. This population possibly differs significantly from those children referred for consultation only who may have a different diagnostic pattern. As the decision to accept a referral for consultation or for direct work relies on service criteria and their interpretation by the PMHWs and the referrer, this may have introduced a selection bias. The findings may therefore not be generalisable across all Primary Mental Health Services.

This study took place during the first phase of the PMHS. Since then, and because of an increased awareness of the service, the distribution of referring agencies may have changed, with more referrals arising from schools and social services. This could imply that children currently attending the service may differ from the population studied as different types of agencies may deal with different types of children and families.
Also, since the period of the study, primary mental health services have expanded considerably across the UK. The clinical sample of this study may not necessarily be representative of other services, some of which may have more preventative objectives (hence less severe cases), while others may be closely attached to tier 3 CAMHS, who may prioritise more severe cases. These service objectives often reflect available resources.

III.B-PARENTAL MENTAL ILLNESS

Although the study indicates that a large number of children attending this service had a family history of mental illness, this was based on parental self-reports and was not corroborated with their health records. The high rate of depressive symptoms, at the time of the assessment, was based on the Parental Stress Index, rather than an adult psychiatric interview or rating scale.

III.C-PARENTAL STRESS

The study concludes that a substantial number of parents attending this service presented with high levels of stress. However, the PSI is a subjective rather than an observational measure of parenting capacity. As the PSI has only been validated for children below the age of 12 years, the number of families assessed was limited. Therefore, we can only conclude
that the mothers of children younger than 12 years had high levels of parental stress.

III.D-CHILD PSYCHIATRIC DISORDERS

Psychiatric assessment by the research instrument (K-SADS) did not include pervasive developmental (autism spectrum), learning disability or specific developmental disorders, which would have provided useful information on the potential overlap with Community Paediatrics and specialist CAMHS. Parents and children were involved in the independent assessment, but there was no corroborative information from teachers and clinicians.

The K-SADS semi-structured interview includes enquiry about the use and abuse of any substances. However, I found that young people always denied the use of tobacco, alcohol or any illicit drug. There are a number of reasons why the children and adolescents may have found it difficult to answer questions regarding the use and abuse of illicit substances:

1- The child or adolescent was aware that I also interviewed the parent(s).

2- The child or adolescent was aware that if any discrepancy was found between parent and child reports, I needed to see both together to clarify these differences.

This is a limitation of this particular instrument.
IV-FURTHER RESEARCH

As this study focused on the more ‘clinical’ section of the PMHWs’ caseload, future research would need to ask similar questions for the whole range of referrals to their service, including those requiring advice and consultation, at the time of referral from primary care (tier 1) professionals. It would also be interesting to investigate further whether there are substantial diagnostic differences and referral pathways between different tier 1 services. A follow-up of the cohort of this study could further increase our understanding of the outcome of children with Oppositional Defiant Disorders with and without psychiatric co-morbidity.

Future studies could also investigate treatment pathways with tier 3 and other services (i.e. after PMHWs’ involvement), as well as evaluating the effectiveness of specific PMHWs’ interventions (e.g. CBT or solution-focused therapy). Randomised controlled trials of interventions for specific disorders are crucial but, as the aetiology of most child mental health problems is multi-factorial, trials may be very difficult to implement and alternative designs should also be considered (Barnes et al, 1999). In some services, it may be possible to randomise referrals to PMHS and non-PMHS (only tier 3 service) but this would not be possible in most areas and a pragmatic cluster design may be preferable (comparing matched referrals between one area with a PMHS and one area without a PMHS where referrals are directed to tier 3 CAMHS). However, the problem even with this design is that referrals can not usually be really matched between
clinical settings, as these often reflect service provision rather than level of real need in the general population, i.e. referrers are less likely to refer if there is not a PMHS in the control area. As a result of such methodological constraints the effectiveness of this service should also be evaluated on a number of outcomes, including cost (e.g. whether they reduce other agency costs), impact of consultation and impact of training on tier 1 staff (Harrington et al, 1998).

Cost saving can be evaluated by measuring reduction of inappropriate referrals to specialist CAMHS. It would be expected that tier 3 services will be staffed with a higher cost group of professionals than PMHWs and therefore that redistribution of caseload between those tiers will be cost-effective and will enable professionals such as psychiatrists to work with more severe cases that require intensive input. The impact of training should be evaluated on confidence and competencies of tier 1 staff and PMHWs. This will be reflected by an improved quality in their referrals and clinical outcome. It is clear that auditing service at tier 1 and tier 3, before and after the development of the PMHS, is useful in establishing the cost-effectiveness of this new service. Improvement of the quality of the PMHW workforce, consistency in competencies among PMHWs from different professional backgrounds (predominantly nursing and social work) and user satisfaction also needs to be regularly assessed.
In countries like the UK, which heavily rely on public funding for services, there has been an increasing emphasis on performance assessment, clinical monitoring (governance) and value for money auditing (Knapp & Henderson, 1999). Services constantly evolve in response to central government policies (e.g. National Service Framework) and organisational changes (e.g. Children's Trusts). This study established the socio-demographic characteristics and psychiatric disorders of children and families attending a new Primary Mental Health Service. This service was developed to provide input to children and families presenting with problems that could not be managed at tier 1 level but whose needs were not severe enough to require specialist CAMHS.

The study assessed 97 children and families who were consecutively accepted for direct therapeutic work by this service during one year. High rates of psychiatric disorders, psychiatric co-morbidity and parental stress were found among children and their parents. The findings confirmed that, on the whole, referrals accepted by this service fulfilled their core service criteria, i.e. they were predominantly Oppositional Defiant, Mild Depressive and Anxiety Disorders. As expected, there were no children or adolescents with Eating, Bipolar Mood or Schizophrenic Disorders who would have been directly referred to specialist CAMHS.

The findings indicate that Primary Mental Health Workers bridge an important gap between primary care and specialist services and provide
service input to children and families with complex needs. Training for tier 1 professionals and PMHWs, particularly in relation to more complex presentations of child and adolescent mental health, is essential in order to tailor services and interventions to children's and families' needs.
APPENDIX I

DIAGNOSTIC CRITERIA

FOR

THE MOST COMMON CHILD AND

ADOLESCENT PSYCHIATRIC DISORDERS
APPENDIX 1.A

DIAGNOSTIC CRITERIA
FOR
OPPOSITIONAL DEFIANT DISORDERS
AND
CONDUCT DISORDERS

ICD-10 AND DSM-IV
APPENDIX 1.a

DIAGNOSTIC CRITERIA
FOR OPPOSITIONAL DEFIANT DISORDER (F 91.3)

DSM-IV

A. Pattern of negativistic, hostile, and defiant behaviour lasting at least 6 months, during which four (or more) of the following are present:

(1) Often loses temper
(2) Often argues with adults
(3) Often actively defies or refuses to comply with adults' request or rules
(4) Often deliberately annoys people
(5) Often blames others for his or her mistakes or misbehaviours
(6) Is often touchy or easily annoyed by others
(7) Is often angry and resentful
(8) Is often spiteful or vindictive

B. The disturbance in behaviour causes clinically significant impairment in social, academic, or occupational functioning.

C. The behaviours do not occur exclusively during the course of a psychotic or mood disorder.
D. Criteria are not met for conduct disorder, and if the individual is age 18 years or older, criteria are not met for antisocial personality disorder.
A. A repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate society norms or rules are violated, as manifested by the presence of three (or more) of the following criteria in the past 12 months, which at least one criterion present in the past 6 months:

**Aggression to people or animals**

1. Often bullies, threatens, or intimidates others
2. Often initiates physical fights
3. Has used a weapon that can cause serious physical harm to others (e.g. a bat, brick, broken bottle, knife, gun)
4. Has been physically cruel to people
5. Has been physically cruel to animals
6. Has stolen while confronting a victim (e.g. mugging, purse snatching, extortion, armed robbery)
7. Has forced someone into sexual activity
Destruction of property
(8) Has deliberately engaged in fire setting with the intention of causing serious damage
(9) Has deliberately destroyed others' property (other than by fire setting)

Deceitfulness or theft
(10) Has broken into someone else's house, building, or car
(11) Often lies to obtain goods or favours to avoid obligations (i.e. "cons" others)
(12) Has stolen items of non-trivial value without confronting a victim (e.g. shoplifting, but without breaking and entering; forgery)

Serious violations of rules
(13) Often stays out at night despite parental prohibitions, beginning age 13 years
(14) Has run away from home overnight at least twice while living in parental surrogate home (or once without returning for a lengthy period)
(15) Often truant from school, beginning before age 13 years

B. The disturbance in behaviour causes clinically significant impairment in social, academic, or occupational functioning

C. If the individual is age 18 years or older, criteria are not met for antisocial personality disorder
APPENDIX 1.a (cont.)

DIAGNOSTIC CRITERIA
FOR CONDUCT DISORDERS (F 91)

ICD-10

There is a repetitive and persistent pattern of behaviour in which either the basic rights of others or major age-appropriate societal norms or rules are violated, lasting at least 6 months, which some of the following symptoms are present. The symptoms 11, 13, 15, 16, 20, 21 and 23 need only have occurred once for the criterion to be fulfilled.

The individual:

(1) Has unusually frequent or severe temper tantrums for his or her developmental level.

(2) Often argues with adults

(3) Often actively refuses adults' requests or defies rules

(4) Often, apparently deliberately, does things that annoy other people

(5) Often blames others for his or her own mistakes or misbehaviours

(6) Is often 'touchy' or easily annoyed by others

(7) Is often angry or resentful

(8) Is often spiteful or vindictive

(9) Often lies or breaks promises to obtain goods or favours or to avoid obligations

(10) Frequently initiates physical fights (this does not include fights with siblings)
(11) Has used a weapon that can cause serious physical harm to others (e.g. bat, brick, broken bottle, knife, gun)

(12) Despite parental prohibition, often stays out after dark (beginning before 13 years of age)

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

(14) Exhibits physical cruelty to animals

(15) Deliberately destroys the property of others (other than by fire setting)

(16) Deliberately sets fire with a risk or intention of causing serious damage

(17) Steals objects of non-trivial value without confronting the victim either within the home or outside (e.g. shoplifting, burglary, forgery)

(18) Is frequently truant from school, beginning before 13 years of age

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

(20) Commits a crime involving confrontation with the victim (including purse snatching, extortion, mugging)

(21) Forces another person into sexual activity

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

(23) Breaks into someone else's house, building or car
These diagnostic criteria is divided into six groups:

**F 91.0- Conduct Disorders confined to the family context:** In order to reach this diagnosis there should not be any significant conduct disturbance outside the family setting and the child’s social relationships outside the family should be within the normal range.

**F 91.1- Unsocialised Conduct Disorders:** The child fulfils the diagnostic criteria of Conduct Disorder but there is a significant pervasive abnormality in the individual’s relationship with other children.

**F 91.2- Socialised Conduct Disorders:** The child fulfils the diagnostic criteria of Conduct Disorder. These children are generally well integrated into their peer group.

**F 91.3- Oppositional Defiant Disorders**

A. The general criteria for Conduct Disorders must be met

B. Four or more of the symptoms listed for Conduct Disorder criteria must be present, but with no more than two symptoms form items (9)-(23).

C. The symptoms in criteria B must be maladaptive and inconsistent with the developmental level

D. At least four of the symptoms must have been present for at least 6 months

**F 91.8- Other Conduct Disorder**

**F 91.9- Conduct Disorder, Unspecific**
APPENDIX 1.B

DIAGNOSTIC CRITERIA
FOR
ATTENTION DEFICIT-HYPERACTIVITY DISORDERS
AND
HYPERKINETIC DISORDERS

ICD-10 AND DSM-IV
APPENDIX 1.b

DIAGNOSTIC CRITERIA
FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDERS
(F 90)
DSM-IV

A. Either (1) or (2):

(1) Six or more of the following symptoms of inattention that have persisted for at least six 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 school work, work, or other activities

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

(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 behaviour or failure to understand instructions)

(e) Often has difficulty organising 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 six 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 questions have been completed
(h) Often has difficulty awaiting turn
(i) Often interrupts or intrudes on others (e.g. butts into conversations or games)
APPENDIX 1.b (cont.)

DIAGNOSTIC CRITERIA
FOR HYPERKINETIC DISORDERS (F 90)

ICD-10

INATTENTION

At least six of the following symptoms of inattention have persisted for at least six months, to a degree that is maladaptive and inconsistent with the developmental level of the child:

(1) Often fails to give close attention to details or makes careless errors in school work, work, or other activities;

(2) Often fails to sustain attention in tasks or play activities;

(3) Often appears not to listen to what is being said to him or her;

(4) Often fails to follow through on instructions or to finish homework, chores, or duties in the workplace (not because of oppositional behaviour or failure to understand instructions);

(5) Is often impaired in organising tasks and activities;

(6) Often avoids tasks, like housework, that require sustained mental effort;

(7) Often loses things necessary for certain tasks or activities, such as school assignments, pencils, books, toys, or tools;

(8) Is often easily distracted by external stimuli;

(9) Is often forgetful in the course of daily activities.
HYPERACTIVITY
At least three of the following symptoms of hyperactivity have persisted for at least 6 months, to a degree that is maladaptive and inconsistent with the developmental level of the child:
(1) Often fidgets with hands or feet or squirms on seat;
(2) Leaves seat in classroom or in other situations in which remaining seated is expected;
(3) Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, only feelings of restlessness may be present);
(4) Is often unduly noisy in playing, or has difficulty in engaging quietly in leisure activities;
(5) Exhibits a persistent pattern of excessive motor activity that is not substantially modified by social context or demands.

IMPULSIVITY
At least one of the following symptoms of impulsivity has persisted for at least 6 months, to a degree that is maladaptive and inconsistent with the developmental level of the child:
(1) Often blurts out answers before the questions have been completed;
(2) Often fails to wait in lines or await turns in games or group situations;
(3) Often interrupts or intrudes on others (e.g. butts into others' conversations or games);
(4) Often talks excessively without appropriate response to social restraints.
APPENDIX 1.C

DIAGNOSTIC CRITERIA

FOR

MOOD DISORDERS

ICD-10 AND DSM-IV
Mood Disorders are divided into further categories:

I- MOOD EPISODES

These are divided into:

1- Major Depressive Episode

A. Five or more of the following symptoms have been present during the same 2 week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest of pleasure.

(1) Depressed mood most of the day

(2) Markedly diminish interest or pleasure in all or almost all activities

(3) Significant weight loss when not dieting or weight gain

(4) Insomnia or hypersomnia nearly every day

(5) Psychomotor agitation or retardation nearly every day

(6) Fatigue

(7) Worthlessness

(8) Diminish ability to think or concentrate

(9) Recurrent thoughts of death

B. The symptoms do not meet the criteria for mixed episode
C. The symptoms cause clinically significant distress or impairments in social, occupational, or other important areas of functioning,
D. The symptoms are not due to the direct physiological effect of a substance
E. The symptoms are not better accounted for by bereavement

2- Manic Episode
A distinct period during which there is an abnormally and persistently elevated, expansive or irritable mood. The period of abnormal mood must be at least one week.

3- Mixed Episode
Criteria are fulfilled for both a Manic and a Major Depressive Episode nearly every day, for at least one week.

4- Hypomanic Episode
This is characterised by abnormally and persistently elevated, expansive, or irritable mood that lasts for at least four days.

II- DEPRESSIVE DISORDERS
1- Major Depressive Disorders (F 296)
   A. Presence of two or more Major Depressive Episodes
   B. Not better accounted by schizoaffective disorder
   C. There has never been a manic episode or mixed episode or hypomanic episode.
2- Dysthymic Disorders (F 300.4)

A. Depressed mood for most of the day, for more days than not as indicated by subjective account or observations by others for at least 2 years (1 year in children and adolescents).

B. Presence while depressed of two (or more) of the following:
   (1) Poor appetite or overeating
   (2) Insomnia or hypersomnia
   (3) Low self-esteem
   (4) Poor concentration or difficulties in making decisions
   (5) Feeling of hopelessness

C. The person has never been without the symptom during the 2 year period (1 for children and adolescent)

D. No major depressive episode

E. No manic, mixed, or hypomanic episode

F. The symptoms cause clinically significant distress or impairments in social, occupational, or other important areas of functioning,

G. The symptoms are not due to the direct physiological effect of a substance

F. The symptoms are not better accounted for by bereavement

III- BIPOLAR DISORDERS:

1- Bipolar I Disorders (F 296)

2- Bipolar II Disorders (F 296.89)

3- Cyclothymic Disorders (F 301.13)

4- Bipolar Disorders not otherwise specified (F 296.80)
IV- OTHER MOOD DISORDERS

1- Mood Disorders due to general medical conditions (F 293.83)

2- Substance-Induced Mood Disorders (F 29x.xx)

3- Mood Disorders not otherwise specified (F 296.90)
DIAGNOSTIC CRITERIA
FOR DEPRESSIVE EPISODE
ICD-10

The individual usually suffers from depressed mood, loss of interest and enjoyment and reduce energy leading to increase fatigability and diminish activity. Other common symptoms are:

(a) Reduced concentration and attention
(b) Reduce self-esteem and self-confident
(c) Ideas of guilt and unworthiness
(d) Bleak and pessimistic views of the future
(e) Ideas or acts of self-harm or suicide
(f) Disturbed sleep
(g) Diminish appetite

F 32- DEPRESSIVE EPISODES
Three varieties are described:

F 32.0- Mild Depressive Episode
At least two of the most typical symptoms: Depressed mood, loss of interest and enjoyment and increased fatigability. Plus two of the symptoms described above (a-g). None of the symptoms should be present to an intense degree. Minimum duration of the whole episode is about 2 weeks.
F 32.1- Moderate Depressive Episode
At least two of the most typical symptoms: Depressed mood, loss of interest and enjoyment and increased fatigability. Plus three (and preferably four) of the symptoms described above (a-g). None of the symptoms should be present to an intense degree. Minimum duration of the whole episode is about 2 weeks.

F 32.2- Severe Depressive Episode
All three typical symptoms: Depressed mood, loss of interest and enjoyment and increased fatigability. Plus four of the symptoms described above (a-g). Some of these should be of severe intensity. Minimum duration of the whole episode is about 2 weeks. There are two types: with and without psychotic symptoms.

F 33- RECURRENT DEPRESSIVE DISORDERS
The disorder is characterized by repeated episodes of depression as specified in depressive episode without any history of independent episodes of mood elevation and over-activity that fulfil the criteria of mania.

F 34- PERSISTENT MOOD DISORDERS
F 34.0- Cyclothymia
The essential feature is a persistent instability of mood involving numerous periods of mild depression and mild elation, none of which has been sufficiently severe or prolonged to fulfil the criteria for bipolar affective disorder or recurrent depressive disorder.
F 34.1- Dysthymia

A very long standing depression of mood, which is never or only very rarely, severe enough to fulfil the criteria for recurrent depressive disorder, mild or moderate severity.
APPENDIX 1.D

DIAGNOSTIC CRITERIA
FOR
ANXIETY DISORDERS

ICD-10 AND DSM-IV
DIAGNOSTIC CRITERIA
FOR ANXIETY DISORDERS
DSM-IV

F 41.0-PANIC DISORDER WITHOUT AGORAPHOBIA
A discrete period of intense fear or discomfort in which four or more of the following symptoms developed abruptly and reached a peak within 10 minutes:

(1) Palpitations
(2) Sweating
(3) Trembling or shaking
(4) Sensation of shortness of breath
(5) Feeling of choking
(6) Chest pain
(7) Nausea or abdominal distress
(8) Feeling dizzy
(9) Derealisation (feeling of unreality) or depersonalisation (being detached from oneself)
(10) Fear of losing control
(11) Fear of dying
(12) Paresthesia
(13) Chills or hot flushes
F 41.1- PANIC DISORDER WITH AGORAPHOBIA

As above plus agoraphobia

Agoraphobia

A. Anxiety about being in places or situations from which escape might be
difficult (or embarrassing) or in which help may not be available in the
event of having a panic attack

B. The situations are avoided

C. The anxiety or phobic avoidance is not better accounted by another
mental disorder

F 40.2- SPECIFIC PHOBIA

A. Marked and persistent fear that is excessive or unreasonable, cued by
the presence or anticipation of a specific object or situation

B. Exposure to phobic stimulus provokes an immediate anxiety response

C. The person recognised that the fear is excessive or unreasonable

D. The phobic situation is avoided or else is endured with intense anxiety or
distress

E. The fear interferes significantly with the person's normal routine,
occupational functioning or social activities or relationships
F 40.1- SOCIAL PHOBIA
A. Marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others
B. Exposure to the fear social situation provokes an immediate anxiety response
C. The person recognised that the fear is excessive or unreasonable
D. The phobic situation is avoided or else is endured with intense anxiety or distress
E. The fear interferes significantly with the person's normal routine, occupational functioning or social activities or relationships
F. In individuals under age 18 years, the duration is at least 6 months

F 42.8- OBSESSIVE-COMPULSIVE DISORDERS
Either obsessions or compulsions:
Obsessions as defined by (1), (2), (3) and (4):
(1) Recurrent and persistent thoughts impulses or images that are experienced at some time during the disturbance as intrusive and inappropriate and that caused marker anxiety or distress
(2) The thoughts, impulses or images are not simply excessive worries about real-life problems
(3) The persons attempts to ignore or suppress thoughts, impulses or images
(4) The person recognised that they are a product of his or her own mind
Compulsions as defined by (1) and (2):

(1) Repetitive behaviours or mental acts that the person feels driven to perform in response to an obsession or according to rules that must be applied rigidly

(2) The behaviour or mental act is aimed at preventing or reducing distress or preventing some dreaded event or situation

B. The person recognised that the obsession or compulsion are excessive or unreasonable

C. The obsessions or compulsions caused marked distress

F 43.1- POSTTRAUMATIC STRESS DISORDER

a. The persons has been exposed to a traumatic event

b. The traumatic event is persistently re-experienced

c. Persistent avoidance of stimuli associated with the trauma and numbness of general responsiveness occurs

d. Persistent symptoms of increased arousal

e. Duration of the disturbance is more than one month

f. The disturbance cause clinically significant distress in social, occupational or other important areas of functioning

F 43.0- ACUTE STRESS DISORDER

A. The person has been exposed to a traumatic event

B. Following this exposure, the individual has three or more of the following dissociative symptoms:
a- A subjective sense of numbing, detachment or absence of emotional responsiveness
b- A reduction in awareness of his or her surroundings
c- Derealisation
d- Depersonalisation
e- Dissociative amnesia

C. The traumatic event is re-experienced
D. Marked avoidance of stimuli that arouse recollection of the trauma
E. Marked symptoms of anxiety
F. Clinically significant distress or impairment in social, occupational, or other important areas of functioning
G. The disturbance lasts for a minimum of 2 days and a maximum of 4 weeks and occurs within 4 weeks of the traumatic event

F 41.1- GENERALIZED ANXIETY DISORDERS
A. Excessive anxiety and worry occurring more days than not for at least 6 months
B. The person finds it difficult to control the worry
C. Are associated with three or more of the following six symptoms, with at least some symptoms present for more days than not for the past 6 months:
   a- Restlessness or feeling on edge
   b- Easily fatigued
   c- Difficult concentrating
   d- Irritability
e- Muscle tension

f- Sleep disturbance

D. The focus of the anxiety and worry is not confined to features of an AXIS I disorder

E. Clinically significant distress or impairment in social, occupational, or other important areas of functioning
A. Developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached, as evidenced by three (or more) of the following:

(1) Recurrent excessive distress when separating from home or major attachment figures occurs or is anticipated

(2) Persistent and excessive worry about losing or about possible harm befalling, major attachment figures

(3) Persistent and excessive worry that an untoward event will lead to separation from a major attachment figure

(4) Persistent reluctance or refusal to go to school or elsewhere because of fears of separation

(5) Persistently and excessively fearful or reluctance to be alone or without major attachment figures at home or without significant adults in other settings

(6) Persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home

(7) Repeated nightmares involving the theme of separation
(8) Repeated complaints of physical symptoms (such as headaches, stomachs, nausea, or vomiting) when separation from major attachment figures occurs or is anticipated

B. The duration of the disturbance is at least 4 weeks
C. The onset is before age 18 years
D. The disturbance causes clinically significant distress or impairment in social, academic (occupational), or other important areas of functioning
E. The disturbance does not occur exclusively during the course of a Pervasive developmental disorder, schizophrenia, or other psychotic disorder and, in adolescents and adults, is not better accounted for by Panic Disorder with Agoraphobia
DIAGNOSTIC CRITERIA
FOR NEUROTIC, STRESS-RELATED AND SOMATOFORM
DISORDERS (F40-48)

ICD-10

F 40- PHOBIC ANXIETY DISORDERS
F 40.0- Agoraphobia
F 40.1- Social phobia
F 40.2- Specific phobia
F 40.8- Other phobic anxiety disorders
F 40.9- Phobic anxiety disorders

F 41- OTHER ANXIETY DISORDERS
F 41.0- Panic disorders
F 41.1- Generalized anxiety disorders
F 41.2- Mixed anxiety and depressive disorders
F 41.3- Other mixed anxiety disorders
F 41.8- Other specific anxiety disorders
F 41.9- Anxiety disorders, unspecified

F 42- OBSESSIVE-COMPULSIVE DISORDERS
F 42.0- Predominantly obsessional thought or ruminations
F 42.1- Predominately compulsive acts
F 42.2- Mixed obsessional thoughts and acts
F 42.8- Other obsessive compulsive disorders
F 42.9- Obsessive-compulsive disorders, unspecified

F 43- REACTION TO SEVERE STRESS AND ADJUSTMENT DISORDERS

F 43.0- Acute stress reactions
F 43.1- Post-traumatic stress disorders
F 43.2- Adjustment disorders
  . 20- Brief depressive reaction
  .21- Prolonged depressive reaction
  .22- Mixed anxiety and depressive reaction
  .23- With predominant disturbance of other emotions
  .24- With predominant disturbance of conduct
  .25- With mixed disturbance of emotions and conduct
  .28- With other specified predominant symptoms
F 43.8- Other reactions to severe stress
F 43.9- Reactions to severe stress, unspecified

F 44- DISSOCIATIVE DISORDERS

F 44.0- Dissociative amnesia
F 44.1- Dissociative fugue
F 44.2- Dissociative stupor
F 44.3- Trance and possession disorders
F 44.4- Dissociative motor disorders
F 44.5- Dissociative convulsions
F 44.6- Dissociative anaesthesia and sensory loss
F 44.7- Mixed dissociative disorders
F 44.8- Other dissociative disorders
F 44.9- Dissociative disorder unspecified

F 45- SOMATOFORM DISORDERS
F 45.0- Somatization disorders
F 45.1- Undifferentiated somatoform disorders
F 45.2- Hypochondriacal disorders
F 45.3- Somatoform autonomic dysfunction
F 45.4- Persistent somatoform pain disorders
F 45.8- Other somatoform disorders
F 45.9- Somatoform disorders, unspecified

F 48- OTHER NEUROTIC DISORDERS
F 48.0- Neurasthenia
F 48.1- Depersonalisation-derealisation syndrome
F 48.8- Other neurotic disorders
F 48.9- Neurotic disorders, unspecified
APPENDIX II

CO-MORBIDITY STUDIES
1- The Isle of Wight study (Rutter & Graham, 1966)

This study used a specific 'Mixed Disorders' category to define children presenting with symptoms of both Conduct and Emotional Disorders. This study found that Mixed Disorders was the third most common diagnosis in children aged 10 to 11 years and also when they were re-interviewed at 14-15 years (Graham & Rutter, 1973). This category was 14 times more frequent than would be expected from the prevalence of the separate disorders at 10-11 years, and 8 times more frequent at 14-15 years.

2- Anderson et al, 1987

This study found that more than three quarters of the children they identified as suffering from Depressive Disorders also fulfilled diagnostic criteria for CD/ODD. 15% of the children with CD/ODD were diagnosed as having co-morbid Depressive Disorders and 26.4% as having co-morbid Anxiety Disorders. This study also found that more than a quarter of the children with Anxiety Disorders also fulfilled diagnostic criteria for CD/ODD. This study examines the prevalence of psychiatric disorders over a period of one year.

3- Costello et al, 1997

This study examines the prevalence of psychiatric disorders and psychiatric co-morbidity in the general population a three-month period, and found similar results than Anderson et al, 1987.
4- Kovacs et al, 1988
This study found a rate of co-morbidity between ODD and Emotional disorders of 16%.

5- Biederman et al, 1995
This study differentiated CD from ODD. The authors of this research found higher rates of co-morbidity between ODD and Depressive Disorders than between CD and Depressive Disorders.

6- Essau et al, 2000
This study investigated the co-morbidity between a specific Anxiety Disorder (phobia) and Depressive Disorder. The authors of the study found that one third of the 12-17 year-olds with specific phobias also had Depressive Disorders.

This study assessed 4-16 year-old children living in Puerto Rico using the Child Behavioural Check List. They found that, among children with ADHD, 93% had co-morbid CD/ODD. The authors of the study also found that co-morbidity between ADHD and internalising disorders was relatively high, ranging from 26.8% for Depressive Disorders to 50.8% for Anxiety Disorders.
8- Cohen et al, 1993
This study differentiated CD from ODD, and found that 56% of the children with ADHD had co-morbid CD and 54% had co-morbid ODD. The authors of this study used the DISC interview and found that, among children with ADD, 23% were Overanxious, 24% had Separation Anxiety and 13% had Major Depressive Disorder.

9- Offord et al, 1987
This study found that, among children with ADD, 17.3% had Somatization Disorders and 19.3% Emotional Disorders.

10- Anderson et al, 1987
The study reported that 26.4% of 11-year-old children with ADD had a co-morbid Anxiety Disorder and 15.1% had a co-morbid Depressive Disorder.

Those authors reviewed 11 studies on co-occurrence between ADHD and Anxiety Disorders and yielded a co-morbidity rate of Anxiety Disorders in children with ADHD of approximately 25%.
APPENDIX III

INSTRUMENTS USED IN THE STUDY
APPENDIX 3.A

CHECK-LIST

OF

SOCIO-DEMOGRAPHIC CHARACTERISTICS
<table>
<thead>
<tr>
<th>DEMOGRAPHIC DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
</tr>
<tr>
<td><strong>Telephone number:</strong></td>
</tr>
<tr>
<td><strong>Address</strong></td>
</tr>
<tr>
<td><strong>City</strong></td>
</tr>
<tr>
<td><strong>Postcode</strong></td>
</tr>
<tr>
<td><strong>Age</strong></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td><strong>Ethnic</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Type of school</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Name of the school</strong></td>
</tr>
<tr>
<td><strong>Referred by</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Name of GP</strong></td>
</tr>
<tr>
<td><strong>Family characteristics</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Living with</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Number of siblings</strong></td>
</tr>
<tr>
<td><strong>Father's employment</strong></td>
</tr>
<tr>
<td><strong>Mother's employment</strong></td>
</tr>
<tr>
<td><strong>Mental illness in the family</strong></td>
</tr>
</tbody>
</table>
APPENDIX 3.B

PARENTAL STRESS INDEX
Instructions:

Please mark all your responses on the question sheets.

This questionnaire contains 120 statements. Read each statement carefully. For each statement, please tick the response which best represents your opinion, from the following options:

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

For example, if you sometimes enjoy going to the cinema, you would agree in response to the following statement:

I enjoy going to the cinema.

While you may not find a response that exactly states your feelings, please tick the response that comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER

Tick only one response for each statement, and respond to all statements. If you need to change an answer, make an “X” through the incorrect answer and tick the correct response, like this:

I enjoy going to the cinema.

There is space at the end of the questionnaire for any extra comments that you might like to make.

Thank you.

Today’s Date..........................
1. When my child wants something, my child usually keeps trying to get it | □ | □ | □ | □ | □ | □ |
2. My child is so active that it exhausts me | □ | □ | □ | □ | □ |
3. My child appears disorganised and is easily distracted | □ | □ | □ | □ | □ |
4. Compared to most, my child has more difficulty concentrating and paying attention | □ | □ | □ | □ | □ |
5. My child will often stay occupied with a toy for more than 10 minutes | □ | □ | □ | □ | □ |
6. My child wanders away much more than I expected | □ | □ | □ | □ | □ |
7. My child is much more active than I expected | □ | □ | □ | □ | □ |
8. My child squirms and kicks a great deal when being dressed or bathed | □ | □ | □ | □ | □ |
9. My child can easily be distracted from wanting something | □ | □ | □ | □ | □ |
10. My child rarely does things for me that makes me feel good | □ | □ | □ | □ | □ |
11. Most times I feel that my child likes me and wants to be close to me | □ | □ | □ | □ | □ |
12. Sometimes I feel that my child doesn’t like me and doesn’t want to be close to me | □ | □ | □ | □ | □ |
13. My child smiles at me much less than I expected | □ | □ | □ | □ | □ |
14. When I do things for my child, I get the feeling that my efforts are not appreciated so much | □ | □ | □ | □ | □ |
15. For statement 15, choose a response from choices 1 to 4 below:
   Which statement best describes your child?
   1. almost always likes to play with me | □ |
   2. sometimes likes to play with me | □ |
   3. usually doesn’t like to play with me | □ |
   4. almost never likes to play with me | □ |
29. Being a parent is harder than I thought it would be

30. I feel capable and on top of things when I am caring for my child

31. Compared to the average child, my child has a great deal of difficulty in getting used to changes in routine or changes around the house

32. My child reacts very strongly when something happens that my child doesn’t like

33. Leaving my child with a baby-sitter is usually a problem

34. My child gets easily upset over the smallest thing

35. My child easily notices and overreacts to loud sounds and bright lights

36. My child’s sleeping or eating routine was much harder to establish than I expected

37. My child usually avoids a new toy for a while before beginning to play with it

38. It takes a long time and it is very hard for my child to get used to new things

39. My child doesn’t seem comfortable when meeting strangers
44. There are some things that my child does that really bother me a lot

45. My child has had more health problems than I expected

46. As my child has grown older and become more independent, I find myself more worried that my child will get hurt or in trouble

47. My child turned out to be more of a problem than I expected

48. My child seems much harder to care for than most

49. My child is always hanging on me

50. My child makes more demands on me than most children

51. I can't make decisions without help

52. I have had many more problems raising children than I expected

53. I enjoy being a parent

54. I feel that I am successful most of the time when I try to get my child to do or not to do something

55. Since my last child was born, I find that I am not able to take care of this child as well as I thought I could. I need help

56. I often have the feeling that I cannot handle things well
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>62.</td>
<td>It takes a long time for parents to develop close, warm feelings for their children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63.</td>
<td>I expected to have closer and warmer feelings for my child than I do and this bothers me</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64.</td>
<td>Sometimes my child does things that bother me just to be mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65.</td>
<td>When I was young, I never felt comfortable holding or taking care of children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66.</td>
<td>My child knows I am his or her parent and wants me more than other people</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67.</td>
<td>The number of children that I have now is too many</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68.</td>
<td>Most of my life is spent doing things for my child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69.</td>
<td>I find myself giving up more of my life to meet my children's needs than I ever expected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70.</td>
<td>I feel trapped by my responsibilities as a parent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71.</td>
<td>I often feel that my child's needs control my life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72.</td>
<td>Since having this child, I have been unable to do new and different things</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73.</td>
<td>Since having a child, I feel that I am almost never able to do things that I like to do</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74.</td>
<td>It is hard to find a place in our home where I can go to be by myself</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75.</td>
<td>When I think about the kind of parent I am, I often feel guilty or bad about myself</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76.</td>
<td>I am unhappy with the last purchase of clothing I made for myself</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77.</td>
<td>When my child misbehaves or fusses too much, I feel responsible, as if I didn't do something right</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 3.C

EYBERG CHILD BEHAVIOURAL INVENTORY
Below are statements that describe children's behaviour. Please

(1) circle the number describing how often the behaviour currently occurs with your child, and
(2) circle 'YES' or 'NO' to indicate whether the behaviour is currently a problem for you.

HOW OFTEN DOES THIS OCCUR WITH YOUR CHILD? IS THIS A PROBLEM FOR YOU?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
<th>YES/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dawdles in getting dressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Dawdles or lingers at mealtimes</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Has poor table manners</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Refuses to eat food presented</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Refuses to help around the house when asked.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Slow in getting ready for bed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Refuses to go to bed on time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Does not obey the house rules on his or her own</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Refuses to obey until threatened with punishment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Acts defiant when told to do something</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>Argues with parents about rules</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>Gets angry when doesn’t get his or her own way</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>Has temper tantrums</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>Cheeky to adults</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Whines</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>Cries easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17</td>
<td>Shouts or screams</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18</td>
<td>Hits parents</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19</td>
<td>Destroys toys and other objects</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td>Is careless with toys and other objects</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21</td>
<td>Steals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22</td>
<td>Lies</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23</td>
<td>Teases or provokes other children</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24</td>
<td>Argues with friends his or her own age</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25</td>
<td>Argues with brothers and sisters</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please turn over............
91. I feel alone and without friends

92. When I go to a party, I usually expect that I will not enjoy myself

93. I am not as interested in people as I used to be.

94. I often have the feeling that other people my own age do not particularly like my company

95. When I run into a problem taking care of my children, I have a lot of people who I can talk to and get help and advice from

96. Since having my children, I have much fewer chances to see my friends and to make new friends

97. During the past 6 months, I have been sicker than usual or have had more aches and pains than I normally do

98. Physically, I feel good most of the time

99. Having a child has caused changes in the way I sleep

100. I do not enjoy things like I used to

101. For statement 101 choose from choices 1 to 4 below:

   Since I’ve had my child:
   1. I have been ill a great deal
   2. I haven’t felt as well as I did before
   3. I haven’t noticed any change in my health
   4. I have been healthier

Please tick 1. □  2. □  3. □  4. □
APPENDIX 3.D

STRENGTHS AND DIFFICULTIES

QUESTIONNAIRE
For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all of them as best you can even if you are not absolutely certain or if the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

<table>
<thead>
<tr>
<th>Child's Name</th>
<th>Male/Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Birth</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Not True</th>
<th>Somewhat True</th>
<th>Certainly True</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considerate of other people's feelings</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Restless, overactive, cannot stay still for long</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Often complains of headaches, stomach-aches or sickness</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Shares readily with other children (treats, toys, pencils etc.)</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Often has temper tantrums or hot tempers</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Rather solitary, tends to play alone</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Generally obedient, usually does what adults request</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Many worries, often seems worried</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Helpful if someone is hurt, upset or feeling ill</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Constantly fidgeting or squirming</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Has at least one good friend</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Often fights with other children or bullies them</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Often unhappy, down-hearted or tearful</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Generally liked by other children</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Easily distracted, concentration wanders</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Nervous or clingy in new situations, easily loses confidence</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Kind to younger children</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Often lies or cheats</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Picked on or bullied by other children</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Often volunteers to help others (parents, teachers, other children)</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Thinks things out before acting</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Steals from home, school or elsewhere</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Gets on better with adults than with other children</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Many fears, easily scared</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Sees tasks through to the end, good attention span</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Signature ____________________________ Date ____________________________

Parent/Teacher/Other (please specify)

Thank you very much for your help.
26. Fights with friends his or her own age 1 2 3 4 5 6 7 Yes/No
27. Fights with sisters and brothers 1 2 3 4 5 6 7 Yes/No
28. Constantly seeks attention 1 2 3 4 5 6 7 Yes/No
29. Interrupts 1 2 3 4 5 6 7 Yes/No
30. Is easily distracted 1 2 3 4 5 6 7 Yes/No
31. Has short attention span 1 2 3 4 5 6 7 Yes/No
32. Fails to finish tasks or projects 1 2 3 4 5 6 7 Yes/No
33. Has difficulty entertaining himself or herself alone 1 2 3 4 5 6 7 Yes/No
34. Has difficulty concentrating on one thing 1 2 3 4 5 6 7 Yes/No
35. Is over active or restless 1 2 3 4 5 6 7 Yes/No
36. Wets the bed. 1 2 3 4 5 6 7 Yes/No

Thank you very much for filling in this form.

The SPOKES Team.
APPENDIX 3.E

Letter from Dr. Ambrosini regarding the Schedule for Affective Disorders and Schizophrenia for School-age children. Present state (K-SADS-P IVR)
Dear Jon,

Attached are PDF file copies of the updated version of the K-SADS IIIR, which is the K-SADS IVR. These files can be opened and subsequently printed through Adobe Reader (www.adobe.com), which can be freely downloaded from the Internet. This K-SADS version, which I have edited with J. Faye Dixon, is now currently DSM IV and IIIR compatible. As you will see, included with the question booklet are several score sheets. These include the K-SADS-P (present state exam), and three smaller score sheets which are the A-SADS for reviewing anxiety disorder symptoms, the B-SADS for reviewing behavior disorder symptoms, and the M-SADS for reviewing mood symptoms. A K-SADS-L (Lifetime) score sheet is under final development. These current PDF score sheets have been designed for optical scanning into an SPSS database.

The second feature of these score sheets is that several pertinent symptoms are highlighted on all of them. What this implies is that if one is interested in streamlining administration of the K-SADS for just diagnostic purposes, one only needs to ask these highlighted questions to verify presence or absence of major diagnoses. In this fashion, the K-SADS IVR administration time for all domains can be significantly reduced. However, it should be clear that use of streamlined administration does not allow one to gather other pertinent information that might be helpful for assessing comorbid symptoms or looking at symptom severity in non-diagnosed conditions.

The administration of the K-SADS IVR is analogous to its previous edition and little has changed except some new diagnoses were added. These include PTSD and GAD. A full description of the change in this edition is explained in the updated introduction to the question booklet.
It is our belief that the K-SADS IVR has become much more flexible and user friendly with this updated edition. It also has much more flexibility regarding diagnosing and assessing severity of psychopathology than an alternate version, the K-SADS P/L. If you have any questions regarding this edition, please feel free to contact me directly at 215-842-4402 or e-mail at Paul.Ambrosini@Drexel.edu.

Sincerely,

Paul J. Ambrosini, M.D.
APPENDIX IV

APPROVAL FROM
THE LOCAL RESEARCH ETHICS
COMMITTEE & PATIENTS
INFORMATION SHEET

*Please note that title of the project has been changed since approval was granted
APPENDIX IV A

LOCAL RESEARCH ETHICS COMMITTEE APPROVAL
Dear Dr Arcelus

Re: Changes in empathy following a behavioural intervention in a clinical population of children with behavioural problems - our ref no 5579

Thank you for your letter dated 24 August enclosing a revised information sheet and a child information sheet in relation to the above study.

On behalf of the Leicestershire Research Ethics Committee I have reviewed and approved these documents to enable the study to proceed.

Please note this received approval by Chairman’s action on 1 September 1999.

Yours sincerely

R F Bing
Chairman
Leicestershire Ethics Committee
(Signed under delegated authority)

(NB All communications relating to Leicestershire Ethics Committee must be sent to Leicestershire Health)
APPENDIX IV B

PATIENT INFORMATION LEAFLET
AND
CONSENT FORM
INFORMATION LEAFLET

PSYCHIATRIC DIAGNOSIS IN CHILDREN ATTENDING A PRIMARY MENTAL HEALTH SERVICE

Principle investigator: Dr Jon Arcelus

1. What is the purpose of the study?

Primary Mental Health Workers will work primarily with children with difficult behaviour. As with any new service, it is very important to evaluate it, so we can find what helps and what does not help those children. This study will try to find out which children attend this service and what problems they present.

2. What will be involved if I take part in the study?

   a- Before you and your child are seen by the Primary Mental Health Worker, I will like to invite you to take part in this study. If you agree, I will ask you to complete some questionnaires about your child and his/her behaviour. I will also ask you some questions about yourself and your child. Everything should not take more than 60 minutes to complete.

   b- If you agree to take part in this study. You need to sign the attached consent form and sent it to me in the envelope attached with this letter. Once I receive the consent form I will contact you by phone (if possible) to make an appointment suitable to you. The interview could take place in your house or at Westcotes house.
3. Will information obtained in the study be confidential?

All information will be coded so that no parent or child can be identified. As with all health records your information will be confidential and your name and address will not be included in any report. Once the study is completed and only with your consent, this information can be passed to your doctor or to the Mental Health Worker. Your child's GP will also be informed of the study.

4. What if I am harmed by the study?

Medical research is covered for mishaps in the same way as for patients undergoing treatment in the NHS, i.e. compensation is only available if negligence occurs.

5. What happens if I do not wish to participate in this study or wish to withdraw from the study?

If you do not wish to participate in this study or if you wish to withdraw from the study you may do so without justifying your decision and your future treatment will not be affected.

6. What will happen to the results of the study?

The results will, hopefully, be published in a relevant professional journal. Please ask if you want to receive a copy of the findings of the study.
7. Who is responsible for the study?
The study has been devised by the staff from Leicester University (Division of Child Psychiatry) in close collaboration with the staff from the Primary mental Health Service.

The principal investigator is: Dr Jon Arcelus

If you want to contact him, his address is:
Greenwood Institute of Child Health
Westcotes House
Westcotes Drive
Leicester LE3 0QU
Tel: 0116 2252880

Please do not hesitate to contact the above person about any matter

THANK YOU FOR TAKING THE TIME TO READ THIS INFORMATION
PATIENTS CONSENT FORM

PSYCHIATRIC DIAGNOSIS IN CHILDREN ATTENDING A PRIMARY MENTAL HEALTH SERVICE

Principle investigator: Dr Jon Arcelus

This form should be read in conjunction with the Patient Information Leaflet

I agree to take part in the above study as described in the Patients Information Sheet.

I understand that I may withdraw from the study at any time without justifying my decision and without affecting my normal care and medical management.

All information will be treated as confidential.

I have read the patient information leaflet on the above study and have had the opportunity to discuss the details with Dr Jon Arcelus and ask any questions. The nature and the purpose of the tests to be undertaken have been explained to me and I understand what will be required if I take part in the study.

Signature of parent ...............................................................Date ..............................

(Name in BLOCK LETTERS) ........................................................................................

I confirm I have explained the nature of the Trial, as detail in the Patients Information Sheet, in terms which in my judgment are suited to the understating of the patients.

Signature of Investigator ..........................................................Date ..........................

(Name in BLOCK LETTERS) ........................................................................................
APPENDIX V

PUBLISHED ARTICLES RELATED TO THIS THESIS
Introduction to the 15th Newsletter

Hans-Christoph Steinhausen

With the relative shortage of child and Adolescent psychiatrists per capita in most European countries and the relatively high costs of specialised services, even the wealthier societies must be interested in the provision of Primary Mental Health Services (PMHS). These services should provide easy access to the population, rest on collaborating disciplines rather than child and adolescent psychiatry, operate at a low cost level, and be effective. The planning of PMHS is certainly facilitated in societies with a strong central administration and health services planning. Thus, it is not surprising that in the U.K., with its National Health Service, the issue of PMHS had been put on the agenda in the nineties. It has been postulated that some effort should be made to close the gap between PMHS and specialised child and adolescent psychiatry services. The present newsletter reflects these efforts by reporting the characteristics of children and parents attending such a British PMHS. The authors document that various disruptive and emotional disorders including their comorbidities have been identified via the PMHS. In addition, the parents had been experiencing high levels of stress. From their study the authors delineate various recommendations in order to maximise the efficiency of the PMHS. Certainly, this British report is of great interest to the rest of Europe in order to provide better PMHS across our various countries.

In addition to this report, the present newsletter contains a brief summarising report from the Second ESCAP Research Meeting on Individual Psychotherapy that took place in Oslo in May 2000. Further meetings of this kind are to be expected.

Characteristics of children and parents attending a British Primary Mental Health Service

J. Arcelus, F. Gale, P. Vostanis

Accepted: 18 December 2000

Introduction

In 1995, the British Health Advisory Service (HAS) published a national review of Child and Adolescent Mental Health Services (CAMHS). The report highlighted a concerning picture in which the needs of children and their families were largely unmet, that primary care professionals were unsupported in dealing with mental health problems in children, and that statutory agencies did not give priority to providing such services. The central message from the report was the pressing need for agencies to work together more closely, both in providing a more coordinated service and in jointly commissioning such services. The report also provided a four-tier strategic framework for examining the provision of services, which has received widespread interest:

Tier 1 Non-mental health professionals with whom children and adolescents with mental health problems first come into contact.
Tier 2 Specialist child and adolescent mental health professionals working individually.
Tier 3 Mental health professionals in specialist multi-disciplinary teams established to assess and treat problems.
Tier 4 Highly specialised services such as in-patient units.

Following the recommendations of the NHS Health Advisory Service (HAS, 1995) in the UK, a number of CAMHS have established designated posts to close the gap between tier 1 and tier 2/3 services: primary mental health workers (PMHW). Their objective is to enhance service provision at tier 1 through a combination of...
support, consultation, training, liaison and joint work with tier 1 professionals.

PMHWs may come from a variety of professional backgrounds, e.g. nursing, psychology, social work or medicine, which is contrary to other models of consultation-liaison undertaken in adult mental health where the majority of the work is carried out by nurses or psychiatrists (9). The main roles of primary mental health workers as outlined by the HAS Report (7) are to:

1. consolidate the skills of primary care staff, helping them to develop new skills and enhance their confidence and ability to manage child mental health problems;
2. provide training to primary care staff on the recognition and treatment of child mental health problems and appropriate utilisation of other services;
3. improve links between primary and specialist services (tiers);
4. be pro-active in the filtering of all referrals to appropriate CAMHS tiers;
5. assess and treat some children and families who are considered appropriate for management at tier 1.

The aim of this study was to establish the characteristics of children and families attending a new Primary Mental Health Service.

Methods

Setting

The subjects were selected from consecutive referrals to the Leicester, Leicestershire and Rutland Primary Mental Health Service for direct work over a six-month period. This service was developed in 1999 after a successful bid for CAMHS waiting list moneys. The team currently consists of seven primary mental health workers, three of them provide service to Leicester City and four to county areas of Leicestershire and Rutland. Not all areas of the city and the county are covered by this service. Each locality consists of 50,000 general population, or 10,000 under 16 years. The localities where this service is available represent targeted deprived inner-city, as well as semi-urban and rural areas. They were identified as presenting with the highest rates of child mental health needs.

Referrals were accepted from different agencies such as social services, general practitioners, schools or CAMHS. If the family agreed to participate in the study, the researcher (JA) visited them at home for an independent assessment during the week of the referral. The main carer for the referred child completed the research measures. This was usually the mother, with only one exception where the father completed the measures.

Measures

The Strengths and Difficulties Questionnaire (SDQ (6)) measures the severity of children’s behavioural, emotional and relationship problems. This rating scale is applicable to children and young people ranging from 4 to 16 years. It includes equal numbers of items (5) on each of five relevant dimensions, namely conduct, emotional symptoms, hyperactivity, peer relationships and prosocial behaviour. The SDQ score is divided into Normal, Borderline and Abnormal. The results of this study were dichotomised into children within the non-clinical range and cases within the clinical range. Borderline cases were classified within the non-clinical group.

The Parenting Stress Index (PSI (1)) is a 120-item questionnaire that measures the degree of stress associated with parenting. The instrument yields a global stress score and has been validated to use on clinical and non-clinical sample of parents ranging in age from 1 month to 12 years (1). The PSI total score is divided into two different domains: the child and the parental domain. The child domain (47 items) relates to the child as a source of stress and assesses the extent to which child characteristics are perceived as posing difficulties for parents. The child domain includes six subscales: Distractibility/Hyperactivity (DI), Adaptability (AD), Reinforces parent (RE), Demandingness (DE), Mood (MO), Acceptability (AC). The parent domain (54 items) relates to the parents’ views of their own functioning and includes seven subscales that are known to be of particular salience in families coping with children: Competence (CO), Isolation (IS), Attachment (AT), Health (HE), Depression (DP), Spouse (SP). The sum of the child domain score and parent domain subscale score form the “total stress”. For this study, the results of PSI were categorised in three different groups: scores below the 50th percentile, above the 50th percentile and above the 99th percentile.

Demographic data were also collected on the family structure, socio-economic status and family history of established mental illness.

Results

Demographic characteristics

During the six-month period of the study, 61 children were accepted for direct work by the Primary Mental Health Service. Nine families refused to participate in the study, i.e. the response rate was 86.8%. Out of the 53 cases that took part in this study, 32 (60.4%) lived in rural/semi-urban areas and 21 (39.6%) lived in inner-city areas. The mean age of the studied children was 9.9 years, with a range between 6 and 15 years. The
majority of children seen by the PMHW were boys (40, or 75.5%) and 13 (24.5%) were girls.

In spite of Leicestershire being a multi-racial area, the vast majority of the children studied were white (N = 49, or 92.5%), three (5.7%) were of Asian origin and one (1.9%) was Afro-Caribbean. There were equal numbers of children living with nuclear family and single mother families (N = 20, or 37.7%). Thirteen (24.5%) children lived with a stepfamily. About a quarter of the fathers of the children attending this service were unemployed (N = 14, or 26.4%). In 11 (20.7%) cases the father had no contact with the child and the mother did not know his work situation. However, all of them had been unemployed before the contact had stopped. Out of the 53 families studied, 33 (62.3%) mothers were unemployed and ten of them (18.9%) worked in unskilled jobs. The number of children with a family history of mental illness in the immediate family was high (N = 37, 69.8%). The main psychiatric illness in the family was maternal depression (N = 31, 58.5%), in two cases (3.8%) the father was known to have a history of depression, in two cases (3.8%) there was history of depression in the grandmother, and one case (1.9%) had a history of psychosis in the father.

Mental health problems in children attending PMHS

Referrals to this service came from different agencies. However, GPs were the main referrers (N = 44, 83%). Three cases (5.7%) were referred by the local specialist CAMHS, two (3.8%) were referred by an Educational Psychologist, two (3.8%) by a Health Visitor, one (1.9%) by a teacher and one (1.9%) by a paediatrician.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>N (%) of children with clinically significant scores for the Strengths and Difficulties Questionnaire (N = 53)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional problems</td>
<td>Conduct problems</td>
</tr>
<tr>
<td>N</td>
<td>35</td>
</tr>
<tr>
<td>%</td>
<td>28.3</td>
</tr>
</tbody>
</table>

Twenty children (37.7%) had total SDQ scores below the clinical cut-off score, and 33 (62.3%) scored above the cut-off. The results of the clinically significant scores of the SDQ are presented in Table 1. They showed that children with conduct problems were predominantly referred to this service. Other frequent referrals were children with peer relationship problems and hyperactivity. Emotional problems were less frequently seen.

Out of the 15 children with emotional disorders, six (40%) also had conduct disorders and three (20%) also had hyperactivity scores that were clinically significant. About half of the children with clinically significant conduct problems had co-morbid clinically significant hyperactivity scores (N = 21, 51.2%). In contrast, 95.5% (N = 21) of the hyperactive children had co-morbid conduct disorders. There were no statistically significant differences between children living in rural/semi-urban areas and children living in inner-city areas for any scores.

Parental stress in children attending PMHS

As the PSI has only been validated for children younger than 12 years old, those children above this age were not included in the analysis of the data of the PSI. Out of the 53 children studied, 45 of them were younger than 12 years. All questionnaires were completed by the mother of the referred child as she was the main carer. The results of the Parenting Stress Index showed that the majority of the assessed mothers had a high score of parental stress, particularly in the child domain subscales. The results of the Parenting Stress Index are shown in Table 2.

Mothers of children living in rural/semi-urban areas had higher parental domain scores than mothers living in inner-city areas, and this difference was statistically significant ($\chi^2 = 7.14; p = 0.028$). However, there were no statistically significant differences for child domain or total PSI score ($p > 0.05$). The parental stress percentile scores were significantly higher in mothers with an unemployed partner than the rest ($\chi^2 = 4.45, p = 0.03$).
There was a significant association between parental stress and scores of hyperactivity (Spearman rank correlation coefficient: \( r = 0.61, p < 0.001 \)), and conduct scores (\( r = 0.51, p < 0.001 \)). There was also significant correlation between hyperactivity scores and parental stress (\( r = 0.41, p = 0.002 \)) and conduct scores (\( r = 0.36, p < 0.001 \)), as well as between scores and parental stress (\( r = 0.51, p < 0.001 \)).

**Discussion**

Garralda et al. (4) surveyed children referred to child psychiatric services and found that a majority of referred children's problems were not 'serious' enough to be seen by CAMHS. They suggested that an additional team could act as filter to the mental health service, so that they could determine when a problem could be managed within the primary setting, or when a referral needed a specialist psychiatric or psychological assessment and treatment (3). For the last year the primary mental health team has been fulfilling this role which has become an integral part of a comprehensive Child and Adolescent Mental Health Service model.

This study shows that the majority of children seen by the Primary Mental Health Service had conduct problems and nearly half of them had clinically significant hyperactivity. The high hyperactivity scores may suggest the presence of Attention Deficit Hyperactivity Disorder (ADHD). The results also indicated a high number of children with emotional problems. The majority of children with hyperactivity and emotional scores also had co-morbid conduct problems. Primary mental health workers need to be able to recognise disorders as prevalent as ADHD, anxiety or depression. Training in the recognition of these disorders, particularly among children presenting with a broad range of behavioural problems, is essential in order to filter appropriate children to specialist CAMHS.

It was also interesting to find out that more than a quarter of the children had reported SDQ scores under the clinical cut-off. The fact that PMHS receive referral of children without specific mental health problems may indicate that the referral criteria to this service are not often clear to tier 1 referrers.

In this study, particular attention was given to the assessment of stress in parents. Parents of children referred to the Primary Mental Health Service had high levels of parental stress. However, the stress within those families was not only related to the child's characteristics. The high scores in the parental domain of the PSI suggest that the sources of stress and potential dysfunction of the parent-child system may also be related to dimensions of the parent's function. The parents in this study appear to identify themselves as well as their children as the source of stress. This indicates that interventions need to be focused on the parents as well as the child. The existence of excessive stress in parents is a major contributing factor to the development of mental health problems in their children, particularly behavioural disturbances (5). Factors that produce stress in the family may also be directly or indirectly linked with child psychopathology.

Primary mental health workers also need to address environmental factors by working with other agencies, as a significant proportion of children attending this service came from single-parent, unemployed and socio-economically deprived families. These factors have all been identified as risk factors for the development of mental health and related problems in children (8). The high degree of depression in these families was striking. Parental psychopathology has been demonstrated to have a strong influence in child behavioural adjustment and in the development of childhood mental health problems (2). This suggests that Primary Mental Health Services need to train in the recognition of adult mental health problems and have strong links with adult mental health services.

In order to maximise the efficiency of the Primary Mental Health Service, several recommendations can be made from the results of this study:

a) training for primary mental health workers to suspect or recognise co-morbidity in children presenting with behavioural problems;
b) good links with tier 3 multidisciplinary teams, and rapid response by specialist CAMHS;
c) development of clear referral criteria to a Primary Mental Health Service;
d) training to tier 1 staff, to enhance their skills and knowledge base in dealing with appropriate mental health problems, and referring more severe and complex cases to PMHS and/or specialist CAMHS;
e) training in the recognition of adult mental health problems;
f) better networking between children and adult mental health services.

The findings of this study should be treated with some caution, particularly in the absence of diagnostic interviews with the children. Future research should also address the interface between Primary Mental Health Service and specialist CAMHS, and the evaluation of PMHS interventions.
References


ESCAP Second European Research Meeting on Individual Psychotherapy Oslo, Norway, 26–27 May 2000

The Second European Research Meeting on individual psychotherapy for child and adolescent disorders took place in Oslo, Norway on 26 and 27 May 2000. It was organised by the University Hospital Centre for Child and Adolescent Psychiatry and the Regional Centre for Child and Adolescent Psychiatry (East and South Region). Philip Graham, Sonja Heyerdahl and Ingrid Spurkland were the members of the Organising Committee. The meeting was attended by 31 people involved in psychotherapy research with children and adolescents, coming from nine European countries and from the U.S.A.

Presentations can be grouped under three main themes: (1) data on ongoing clinical research, (2) issues of special interest and problems in psychodynamically oriented research, and (3) overviews of outcome of therapies.

1. Ongoing clinical research
Some preliminary results were presented from (a) an ongoing cross-national research on psychotherapy for childhood depression (England, Greece and Finland), (b) a randomised clinical trial for the comparison of behaviour vs. psychodynamic/family therapy for school-age boys with conduct disorder (The Netherlands), and (c) research on the therapeutic process with disruptive boys using supportive expressive therapy (Sweden). A component model of treatment (individual psychotherapy, functional therapies, family therapy, medication) as applied in a Department of Child and Adolescent Psychiatry was also presented (Germany).

The discussion was focused on operational and therapy issues, as well as on issues of measurement of effectiveness and the relation between professionals and social demand.

2. Psychodynamically oriented research
Several issues specially relevant to psychodynamically oriented research were presented and discussed, i.e., factors affecting the therapy process (administrative, therapy distortions, supervision, etc.), the difficulties encountered in introducing research to clinicians and to clinical settings, postgraduate training in psychotherapy, and the child-therapist interaction.

3. Overviews of outcome of therapies
A critical review of the literature on research of the effectiveness of different models of therapy was presented by Stephen Shirk and Peter Fonagy. There was a large discussion on issues of methodology, diagnostic groupings, effectiveness of treatment, predictors of outcome, relational processes during therapy, treatment alliance, etc. Finally, the discussion was extended to include issues such as the emerging theoretical model in child and adolescent mental health interventions and the existing controversy on empirically-supported treatments vs. clinic-based psychotherapy.

It was decided that the next meeting will take place in London, in approximately two years' time.
SUMMARY
The aim of this study was to establish the range of psychiatric disorders and psychiatric comorbidity among children and adolescents attending a primary mental health service (PMHS). The main psychiatric diagnostic categories were: oppositional defiant disorders (ODDs) (75.3%), anxiety disorders (36.1%), mood disorders (35.1%), and attention deficit hyperactivity disorders (ADHDs) (28.9%). The study found high rates (61.8%) of psychiatric comorbidity. It concludes that training in the recognition of likely psychiatric comorbidity in this population is essential for professionals working in the interface between primary and specialist services.

Keywords: primary mental health services; child and adolescent mental health services; mental health problems; child psychiatric disorders.

Introduction
MENTAL health problems and disorders are commonly reported among children and adolescents attending primary care services, such as general practices or community paediatric clinics. Because of this, and following the recommendations of the National Health Service (NHS) Health Advisory Service, a number of child and adolescent mental health services have established posts for primary mental health workers (PMHWs). The role of the PMHW is undertaken by a senior professional from a mental health background, i.e. nursing, social work, psychology, occupational therapy, or medicine. Their objective is to span the interface between primary care, including paediatric clinics and specialist services. In addition to direct clinical work with children and families, PMHWs offer specialist consultations, training, supervision, and support, to primary care professionals.

As the primary mental health service is newly developed, little is known about the nature of psychiatric disorders among attending children and adolescents. The aim of this study was to establish the range of psychiatric disorders and psychiatric comorbidity among the population of children and adolescents attending this new service.

Method
Sample
The patients selected for the study were consecutive referrals to the Leicestershire primary mental health service for direct work over a one-year period. This service was developed in 1999 after a successful bid for child and adolescent mental health services (CAMHS) waiting-list funding. It consists of seven PMHWs, each serving a locality with a population of 50000. Three of them had specialist social worker backgrounds, three had nursing backgrounds, and one of them had a specialist health visiting background. With the exception of the health visiting background, this is the usual breakdown nationally.

Primary mental health workers have been developing links within their target localities. These comprise a meeting with primary care professionals, such as general practitioners (GPs), health visitors, school nurses, educational psychologists, and special education needs co-ordinators (SENCOs), social workers, and the voluntary sector. It has been agreed that when it becomes apparent that a child's difficulties are not responding to methods and interventions tried by the primary care worker, they can be referred to the primary mental health service and when it is established, through contact with the PMHW, that the child's mental health needs cannot be supported through the consultation process only, they will be accepted for direct work by the PMHWs. Patients selected for this approach have usually proved to be resistant to interventions at a primary care level, but are not
considered appropriate for a more specialist intervention from CAMHS. Direct work is tailored to meet the needs of the child and family, i.e. parenting training, cognitive behavioural therapy, solution-focused brief therapy, and anger management. Primary mental health workers can advise both professionals and families on simple behavioural techniques for problems, such as temper tantrums, other oppositional behaviour, sleep problems, or bed wetting; while this is often the remit of the primary care professional, such problems can be commonly found to defy intervention. They can also offer intervention for families dealing with stress, which may include maternal depression and/or loss of confidence in the ability to parent, or advice on concerns regarding school.

As funding was not adequate to cover the whole health district, targeted localities were initially prioritised according to deprivation in inner city, semi-urban, and rural areas, as an indicator of higher child mental health needs. The primary mental health service is, however, currently expanding to the remaining localities, in consultation with primary care trusts.

**Instruments**

The Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS), is a semi-structured diagnostic interview designed to assess current psychopathology in children and adolescents, according to the DSM-IV classification system. The diagnostic categories are grouped into five major sections: affective disorders, emotional disorders, behavioural disorders, psychoses, and other disorders. The reliability and validity of the instrument is well established in clinical and community populations.

The children and the parents were assessed using this interview technique, which took up to two hours to complete.

**Results**

Out of 117 children and families who fulfilled the research inclusion criteria over a 12-month period, 12 (10.2%) refused to participate, and 8 (6.8%) could not be contacted, with the remaining 97 children and parents taking part (a response rate of 82.9%). There were more boys (n = 60, 61.9%) than girls (n = 37, 38.1%) attending this service, and the mean age of the children was 10.1 years (range = 6 to 16). General practitioners were the main referrers to this new service (n = 81, 83.5%).

**Table 1. Psychiatric diagnoses of the children and adolescents studied (n = 97).**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODD/CD</td>
<td>22 (22.7)</td>
</tr>
<tr>
<td>ADHD and ODD</td>
<td>15 (15.5)</td>
</tr>
<tr>
<td>More than three diagnoses</td>
<td>13 (13.4)</td>
</tr>
<tr>
<td>Depressive disorder and ODD</td>
<td>10 (10.3)</td>
</tr>
<tr>
<td>Anxiety disorder and ODD/CD</td>
<td>9 (9.3)</td>
</tr>
<tr>
<td>Depression disorder and anxiety disorder</td>
<td>9 (9.3)</td>
</tr>
<tr>
<td>Depressive disorder</td>
<td>5 (5.1)</td>
</tr>
<tr>
<td>Anxiety disorder and ODD and ADHD</td>
<td>4 (4.1)</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>4 (4.1)</td>
</tr>
<tr>
<td>ADHD</td>
<td>3 (3.1)</td>
</tr>
<tr>
<td>No psychiatric disorder</td>
<td>3 (3.1)</td>
</tr>
<tr>
<td>Total</td>
<td>97 (100)</td>
</tr>
</tbody>
</table>

**Brief reports**

**Schedule of Affective Disorders and Schizophrenia for School-Age Children — (K-SADS)**

Oppositional defiant disorder/conduct disorder (ODD/CD) was the most frequent diagnostic category, with about three-quarters (n = 73, 75.3%) of the children fulfilling diagnostic criteria. There were high rates of psychiatric comorbidity. Out of the 97 children, three (3.1%) did not have any psychiatric disorder and 34 (35.1%) had one diagnosis. The remaining children (n = 60; 61.8%) fulfilled diagnostic criteria for more than one diagnosis. The most prevalent psychiatric comorbidities were ODDs and anxiety disorders.

**Discussion**

The development of the primary mental health service has addressed the gap between primary and specialist services for children and adolescents with mental health disorders. However, this may not be the only way to deliver services for this population. A recent paper has proposed the creation of an intermediate level of specialist (a GP with a special interest), who would increase access at a location close to the patient while giving support to the wider primary health community. The primary mental health service aims to work with children with mild to moderate problems, particularly oppositional disorders, to enable specialist CAMHS staff to manage the more severe psychiatric disorders. In this respect, the findings confirmed that, on the whole, referred patients accepted for direct work by PMHWs fulfilled their core service criteria, i.e. they were suffering predominantly from ODDs, mild depressive disorders, and anxiety disorders. As expected, there were no children or adolescents with eating, bipolar mood, or schizophrenic disorders, who would have been referred directly to a specialist CAMHS. The nature of these less complex disorders could be identified by GPs, although their time-consuming management and concurrent educational or social needs would often require professionals operating on the interface between primary and specialist services.

The key finding, however, was the rate of comorbid psychiatric disorders. In particular, a large number of children described by parents as having ODDs also fulfilled diagnostic criteria for another psychiatric disorder. Such disorders were: attention deficit hyperactivity disorder (ADHD), mood disorder, and a range of anxiety disorders. More than a quarter of the children and adolescents suffered from mood disorders, particularly minor depression and separation anx-
J Arcelus and P Vostanis

The need for recognition of possible disorders and identification of the most appropriate service for each child and family, indicates the importance of ongoing training for PMHWs, particularly in relation to more complex child and adolescent mental health problems. As this study was not intended to evaluate the PMHW service, this should be the aim of future research.

References

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