A review of the child and adolescent mental healthcare services at Rahima Moosa Hospital

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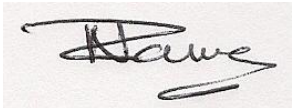
A research report submitted to the Faculty of Health Sciences, University of Witwatersrand, in partial fulfilment of the requirements for the degree of Masters of Science in Medicine in Psychiatry

DECLARATION

I, Natali Raman declare that this thesis is my own work. It is being submitted for the degree of Masters of Medicine (Psychiatry) in the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.



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27 October 2010

DEDICATION

This is dedicated to my husband, Pradeep,
my children, Shay and Teyah,
my parents and my family

ABSTRACT

Introduction: National and international child and adolescent mental healthcare policy and action advocate that the health and well-being of children in South Africa should be increasingly given greater attention. Child and adolescent services have recently been established at Rahima Moosa Hospital. The purpose of this study was to describe the scope, capacity and diagnostic profile of existing child and adolescent mental health and psychiatric services at Rahima Moosa Hospital within the context of the available infrastructure and service rendering and to describe the demographic and clinical profile of the users.

Method: A descriptive, retrospective clinical audit study of the data from users' clinical files was performed. The study population comprised all users treated at the Rahima Moosa Hospital over a one-year period from January to December 2007. Descriptive statistical analyses of demographic and socio-economic variables were made and these variables were compared with the presenting clinical problems. P-values of less than 0.05 were regarded as significant. Odds ratios were also calculated for variables that showed a statistically significant association.

Results: During this period a total of 303 users attended this clinic. Their age, gender, race and catchment area was reviewed. Socio-economic variables that were described included caregiver of user, placement, parents' well being and marital status, educational level of caregiver and household income. Most common disorders were Attention Deficit Hyperactivity Disorder (ADHD), Mood, Anxiety, Elimination, Attachment, Disruptive behaviour disorders and V-code diagnoses. Although not regarded as psychiatric diagnoses, V-codes are problems that are the focus of clinical attention. These include

sexual abuse, academic problems and parent-child relationship difficulties. Statistical comparisons between demographic data and disorders revealed that being male increased the likelihood of presenting with AHDH and disruptive behaviour disorders; being female increased the likelihood of being sexually abused. Race showed a significant association with parent-child relationship difficulties. Regarding socio-economic variables, the identity of the caregiver of the child influenced the risk of disruptive behaviour disorders, sexual abuse, neglect and academic problems. Placement was a risk factor for disruptive behaviour disorders, sexual abuse, neglect and academic problems. Whether the mother of a user was alive or deceased was related to ADHD and disruptive behaviour and whether the father of a user was alive or deceased was related to sexual abuse and academic problems. The education level of the caregiver showed a significant association with sexual abuse, neglect and academic problems; the marital status of the parents showed a significant association with bereavement. Household income was associated with sexual abuse, neglect and academic problems. Type of housing showed an association with the risk of sexual abuse.

Discussion:

This study clearly demonstrates the huge impact that socio-economic circumstances have on the prevalence of childhood disorders; hence the urgent need for government and social welfare departments to improve on the socio-economic status of communities. Job creation and employment will lead to better outcomes and help lower the incidences of childhood illnesses. The focus should be on preventative measures, that is, improving the social well-being of both children and their parents, which will result in lower prevalence of disease. Moreover, interventions in schools and children's homes should be

implemented. The provision of psycho-education for the group in the catchment with regard to identification of mental health problems can contribute to the early detection of mental illness and early intervention leading to a reduction in disease.

Conclusion: In spite of government's initiative to prioritise child and adolescent mental health services in South Africa, further endeavours are required to improve psychiatric services among this section of the population, including more clinics and child psychiatry training posts and extended social work services. Socio-economic factors influence the prevalence of childhood disorders. Hence, modifying the environment to which these children are exposed is an integral part of the holistic treatment approach.

ACKNOWLEDGEMENTS

Dr Janse Bernard Van Rensburg

Professor P Bekker

Dr U Subramoney

Professor Y Jeenah

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CHAPTER 1 Introduction

National and international child and adolescent mental healthcare policy and action advocate that the health and well-being of children in South Africa should be increasingly given greater attention. Evidence for this are the following decisions and initiatives: South Africa's signing of the United Nations Convention on the Rights of the Child; the provision of free healthcare to pregnant woman and children under the age of six; the establishment of a National Commission on Special Needs in Education and Training; and the establishment of an Office for Youth under the auspices of the Vice President and an interministerial Committee on Youth at Risk. (1)

Section 28(1) of the Constitution of the Republic of South Africa (Act no. 108 of 1996) provides that all children in South Africa are entitled to: family or parental care or appropriate alternate care if removed from the family, basic nutrition, shelter, basic healthcare services and basic social services and protection from maltreatment, neglect, abuse and exploitation including exploitation for their labour. (2) Section 28(2) of the Constitution of South Africa (Act no. 108 of 1996) provides *"that a child's best interest is of paramount importance in every matter concerning the child".* The constitutional right of the child to healthcare services is the basis for service provision by the Department of Health. The policy that pregnant woman and children under six years must receive free healthcare at state institutions is the partial implementation of this principle. (2)

Despite this emphasis on child services, however, there is a gross lack of child psychiatric facilities available. The area of child and adolescent health should be a priority for government. According to the Report to the Committee of the Enquiry into Child Mental Health Services (Potgieter, 1988), a serious shortage of trained mental health workers was reported at that time. [(3)] Provision of services was regarded as inadequate, particularly for black and other underprivileged children, with no coordination and planning of services at regional and national level. There was little inter-sectoral liaison, while schools and children's homes made increasing use of the therapeutic interventions, thus adding to the demand. [(3)]

Dawes A, Duncan N, Ensink K, Jackson A, Reynolds P, Pillay A, Richter L & Robertson B., (1997) made the following recommendations with regard to child and adolescent mental health: *"The national directorate must ensure that, there are co-ordinators for children, youth and the family in each province. It is necessary for the service planners to send a clear message that mental health of children and adolescence is profoundly influenced by the environment in which they live. Those concerned with welfare of children must continue to challenge the economic and political conditions which breed poverty and violence."*[(4)] According to the authors, any service designed must contain preventative, promotive, curative and rehabilitative elements. In this context they advised the following: (1) Primary level services should operate at district level and provide preventative (education of the community and screening for children at risk); promotive (family planning, youth education and basic parenting skills, life skills); and curative elements (psycho social interventions and ongoing maintenance management of chronic

disorders). These should be provided by lay workers, non-governmental organisations (NGOs) and primary healthcare workers. (2) Secondary level services should be provided at regional level. These should include multidisciplinary specialist in mental health operating from a regional hospital or community healthcare centre. The main services to be provided in this instance are diagnosis and management of a range of child and adolescent mental health problems. Patients who are referred from primary healthcare are seen here. These specialists would also provide supervision and training of primary healthcare workers. Referral of diagnostic problems to the tertiary level would take place through this level and not directly from the primary level. (3) Tertiary level services would be provided at a provincial level or national level. These would be specialist units operating from academic health complexes, providing inpatient and outpatient services. Some services might be contracted by the state from NGOs (Non Governmental Organisations) and private facilities. Services include diagnosis and treatment, supervision and training and consultation to all levels. Rehabilitative services include special institutions, such as, schools for autistic children and facilities for adolescents with psychotic disorders.

Access to child and adolescent services: Psychiatric and handicapping abnormalities of emotions, behaviours or relationships are present in substantial proportions (10-20%) of children and adolescence in the general population. However, the majority of children are not under the care of psychiatric services. Those referred to psychiatric services are the more severely affected children in families with multiple psychosocial and family stresses (e.g. unemployment, low socio-economic status, marital status and mental health

problems in parents, poor extended family support). The evaluation of the demographic data of both child and parent should consider the complex interactions of patient and family and medical, educational and social factors that contribute to the reason for referral of the patient. According to the Potgieter report (1988), a sound family and community life is essential to child mental health and preventative services were overall inadequate in the health facilities. [3] This report was done in the era of the Nationalist government and despite a change to a democratic regime where more resources are being channelled towards previously disadvantaged communities, health facilities for child psychiatry has lagged behind.

Common child and adolescent mental health problems: Epidemiological studies profile disease and help identify the need for services. Epidemiological studies conducted locally as well as internationally indicated that a great unmet need for services for children and adolescents and a gross lack of resources for this vulnerable group. [5] Despite the fact that child and adolescent mental health is considered a priority area on the mental health agenda, few research projects on the child and adolescent mental health services have been conducted. According to Waddell C & Shepherd CA, (2002) good quality epidemiological information is essential for developing sound public policies to improve children's mental health. [6] In an epidemiological survey in Khayelitsha in Cape Town, Ensink K, Richardson KA. & Robertson BA, (1996) showed that mental illness in the community was near the top of their list of pressing health problems - particularly child and adolescent psychological problems – while a lack of psychiatric services existed in the area. [7] The study's preliminary survey showed that 64% of children and

adolescents between 6 and 16 years presented with one or more symptoms frequently associated with psychiatric disorders. Reviews of the limited evidence on the prevalence of mental health problems among children and adolescents in South Africa suggest that, although severe child mental disorders are rare, at least 10-20% of children and adolescents are likely to require mental health services at some time. [8, 9, 10] Of this group between 3-10% are likely to develop serious mental disturbance such as depression, attention problems, psychosis or obsessive-compulsive disorder. [11, 12, 13]

(1) Intellectual impairment: The prevalence of mental retardation at any one time is estimated to be about 1% of the population. [14] Waddell et al., (2002) estimated a prevalence of 3% for mild mental retardation (Intelligence Quotient 50 to 70), and approximately 0,3% for severe mental handicap (IQ less than 50). [6] South African rates are comparable to these figures. For example, in a report on psychiatric disorders in two psychiatric units in Gauteng and KwaZulu-Natal by Schoeman JB, Robertson B, Lasisch AJ, Botha E & Westaway J., (1989) found mental retardation (severe to borderline) as the most frequently occurring disorders at two of the units surveyed (Chris Hani Baragwanath Hospital 36.1% and King Edward VIII Hospital 50%). [15] International opinion is that between one-third and two-thirds of people with mental handicap or learning problems in the community samples experience psychiatric co morbidity. [16]

(2) Behaviour and child abuse: Behaviour problems among children were reported on by Moodley and Pillay (1993), who found that one-third of children admitted to a Natal inpatient mental health unit were diagnosed as having a disruptive behaviour disorder, including conduct disorder, attention hyperactivity deficit

disorder and oppositional defiant disorder.[17] Child abuse statistics reported by Holford and Smith in their Mofolo study found approximately 57% of children were excessively punished, many to the point of physical abuse. They are of the opinion that this punitive, harsh and cruel discipline is not inherently cultural. According to them, the history of the apartheid period led to the demeaning of the value of human dignity and respect.[18] Statistics provided by the South African Police Services' Child Protection Unit for Soweto and Johannesburg for the period 1993 to 1995 reflect an increasing trend in crimes against children, including rape, sodomy, incest, indecent assault, sexual offences, attempted murder, assault with grievous bodily harm, common assault and abduction.[19]

(3) Depression: The prevalence of depression for all school going children is estimated at 2 %.[20] Depression is more prevalent in adolescent girls. An Australian study found one in three girls as compared to one in six boys aged 14 to 15 years reported depressive symptoms.[21] The link between depressive symptoms in young people and suicide is of particular concern especially given the apparent increase in adolescent suicides worldwide.[20] Research on suicidal behaviour of students at the Cape Peninsula High School by Flisher AJ, Ziervogel CF, Charlton DO, Leger PH & Robertson B., (1993) found that almost one-fifth of the students surveyed had experienced suicidal thoughts in the 12-month period prior to the survey. In this group, nearly 13% had informed someone of their intention and 7.8% had actually attempted suicide.[22]

(4) Psychosis: Psychosis is most likely to have an organic basis in pre-pubertal children. In older adolescents, psychotic disorders are reported to include toxic

psychoses, schizophrenia, brief reactive psychosis, mania and psychotic depression.[23] The prevalence of schizophrenia in adolescents is probably 1-2% per 1000.[14] In a clinic-based South African study, Schoeman, JB, Robertson, B, Lasisch, AJ, Botha, E & Westaway, J found a low rate of psychosis in children and adolescent (about 1%).[15]

(5) Enuresis: Statistics in research conducted by Rutter and colleagues cited by Street E and Broughton I (1990) indicated approximately 13-14% of children wet their beds at least once a week, and by age of 10 years, 2.9% of boys and 2% of girls wet their beds.[24] Schoeman et al., (1989) found enuresis constituted 4.5%-12% of cases seen at four psychiatric units in South Africa.[15]

Child and adolescent services at Rahima Moosa Hospital: In 1998, Helen Joseph Hospital and Coronation Hospital were officially announced as one complex, Coronation Hospital serving as the mother and child facility and Helen Joseph serving as the adult facility. On the 28 February, 2008 the name of Coronation Hospital was changed to the Rahima Moosa Mother and Child Hospital (RMMCH). This change in services meant that the psychology department was required to serve the mother and child population group. The psychology department at RMMCH is a small but well integrated unit, which was officially accredited as a training department in 1998. It is situated in the nursing college building at the RMMCH. Children and adolescents under the age of 15 years are assessed at the facility; adolescents older than 15 years are seen at Helen Joseph Hospital due to the pharmacy at Rahima Moosa Hospital not being able to dispense to children over 15 years of age. The Department of Psychology at RMMCH initially served only the

paediatric department, but from January 1999 they accepted referrals from all other hospitals in the area at the Rahima Moosa Child and Adolescent Mental Health Service (CAMHS).

The process of introduction of psychiatric services began in 2005, when a registrar from adult psychiatry initially offered a weekly outpatient service, which was gradually increased to a twice-weekly service from April 2005. The establishment of a registrar post was motivated by the adult psychiatric unit at Helen Joseph Hospital (HJH) and hence is a 'borrowed' post. In their study on the development of child mental health services in Gauteng, Vogel W., (1996) had already indicated that no posts were allocated specifically to child services and that all such posts were 'borrowed' from the adult services. [25] It was envisaged that the Rahima Moosa CAMHS would eventually have psychiatric services including a full-time child psychiatrist training post as part of an operational unit with a full multidisciplinary complement providing a full range of services. However, this would be achieved in a step-by-step process.

There was initially no full-time supervision for the registrar who commuted from HJH to attend to emergency assessments and reviews. With the growth of the clinic and the increased demand on services, the way was paved for a more structured clinic and a full-time registrar placement. In March 2006 the time spent by the registrar at the clinic was increased to three days a week. The psychiatric clinic became more structured and supervision for the registrar was provided by consultants at the The Memorial Institute (TMI), which is now called the Child Adolescent, and Family Unit (CAFU) Charlotte

Maxeke Johannesburg Academic Hospital. An assessment clinic and an outpatient follow-up clinic were offered from March 2006 to December 2006. More recent developments since January 2007 facilitated for the registrar to spend four days a week at the clinic. Psychiatric services offered include new patient assessments for children up to the age of 15 years, and follow-up clinics for common childhood psychiatric disorders. The psychiatric liaison inpatient service was only started in January 2007. This was, however, only a limited service offering a 30-minute service per day due to time constraints. Adolescents older than 15 years were seen on a Thursday afternoon at HJH by the Rahima Moosa registrar. From March 2007 final year medical students attended the clinic twice a week as part of their psychiatry rotation. The registrar was involved in teaching the students and conducting tutorials.

At the time of the study, child and adolescent psychiatric services in Gauteng were divided into district services (ambulatory specialist) and "quaternary" services. The district services included West Rand clinics (Krugersdorp, Randfontein, and Kagiso), Sedibeng clinics (Johan Heynes, Kopanong, Ipilsweni and Zone 12) and Ekurhuleni (Germistan and Nigel). The secondary or tertiary services were located in the central Johannesburg Metro area and were covered by CAFU Charlotte Maxeke Johannesburg Academic Hospital; the north was covered by Tara Hospital and Alexandra clinic, the south by Chris Hani Baragwanath Hospital and RMMCH covered the south-west. The catchment area covered by RMMCH during the study period extended from Auckland Park to as far north as Honeydew and as far south as Eldorado Park. The areas covered by the clinic included Everton, Auckland Park, Blackheath, Blairgowrie, Bosman, Brixton,

Coronation, Craighall Park, Emmarentia, Fontainnebleau, Jukskei Park, Longdale, Langlaagte, Linden, Martindale, Meredale, Newclare, Newlands, Parkhurst, Randburg, Randpark, Riverlea, Triomf, Westdene and Windsor.

According to the proposed model of services by Dawes et al., (1997), it is unclear whether mental healthcare services at the Rahima Moosa Hospital (at the time) should be regarded as secondary or tertiary. [4] There is an obvious still unmet need for child and adolescent mental health services in South Africa generally and, through past experience, it also seems to be the case in the area served by Rahima Moosa CAMHS. Child and adolescent services should furthermore be a priority, yet following the statement of policy and principles, there is a delay in the establishment of access to a full range of child mental healthcare services for this urban population in the southern Johannesburg area. This raises the question as to the reasons for not executing the policy about the provision of services for children and adolescents.

Study purpose and objectives: In order to improve the understanding of the process, outcome and possible factors influencing the rendering of current services at this child and adolescent mental health clinic, the purpose of this study was to describe the scope, capacity and diagnostic profile of existing child and adolescent mental health and psychiatric services at Rahima Moosa CAMHS, within the context of the available infrastructure and service rendering and to describe the demographic and clinical profile of the users of the Rahima Moosa CAMHS. The objectives of the study were: 1) To describe the demographic profile of service users and the socio-economic profile of their

caregivers at the child and adolescent mental health clinic at Rahima Moosa Child and Adolescent Mental Health Service (CAMHS); 2) To describe the clinical profile of the childhood mental conditions of users seen in this clinic, including the investigations of and interventions for these problems; 3) To describe the services offered at Rahima Moosa CAMHS and the efficiency of the services, and to formulate recommendations on how the process and outcome of services at Rahima Moosa CAMHS can be improved from the results of the study; 4) To compare the demographic profile of users and the socio-economic profile of their caregivers with the presenting clinical problems.

CHAPTER 2 Materials and methods

A descriptive, retrospective clinical audit study of the data from user's clinical files was performed. The study population was all users seen at the Rahima Moosa CAMHS over a one-year period from January to December 2007. For the purposes of the study, an adolescent user was regarded as a person aged 12 to 18 years and a child as one younger than 12 years of age.

2.1 Data sources

Data was collected from all files which contained a completed consent form and a record sheet with demographic/socio-economic, clinical and service variables completed for each user and entered into the database (Table 2.1, 2.2 and 2.3) [See Appendix A. Data Collection Sheet].

Table 2.1 Demographic and socio-economic variables

Clinic user	Age
	Gender
	Race
	Catchment area
Caregivers	Main Caregiver
	Placement of the child
	Parents' status (alive or deceased)
	Level of education of caregiver
	Parents' marital status
Household	Income
	Type of housing
	Number of co-inhabitants

Table 2.2 Clinical variables

Axis I (Psychiatric diagnosis)
V-code on Axis I (Focus of clinical attention)
Axis II (Intellectual impairment)
Axis III (Co-morbid medical diagnosis)
Axis IV (Psycho-social stressors)
Special investigations
Medication
Therapeutic Intervention

Table 2.3 Service variables

Referral source
Waiting time
Number of visits
Team member consulted
Services provided
Referrals to other professionals

2.2 Data analysis

The statistical software programme STATA 10.1 was used for the analysis of the data. Quantitative analyses were made according to the three categories of demographic and socio-economic, clinical and service data. Variables were described using frequencies, percentages and cross tabulations, e.g. outcome variables (clinical diagnosis) versus demographic and socio-economic background variables. Patients who attended the clinic were initially screened and thereafter referred to a psychiatric clinic, individual psychotherapy, family therapy, couple's therapy, parent training groups, parent-infant groups, IQ assessment, emotional assessment or HIV (Human Immunodeficiency Virus) support groups for further management. Hence a child could be referred to multiple services within the department.

Clinical and background variables were compared with the presenting clinical problem (Axis I diagnosis and V-codes) using the Fischer's exact test. Probability with p-values of

less than 0.05 was regarded as significant. The five main clinical outcomes (diagnoses) were identified, which included: attention deficit hyperactivity disorder, mood disorders, anxiety disorders, disruptive behaviour disorders and V-codes. While not constituting psychiatric diagnoses, V-codes as the "focus of clinical attention" that were evaluated included: abuse, neglect of a child, parent-child relationship problems, sibling relational problems, bereavement, academic problems and antisocial behaviours.

In addition, crude odds ratios (OR) were also determined for individual demographic and socio-economic variables to assess whether they were independent risk factors for the respective outcome variables (diagnoses). User variables included sex and race. Variables included in the caregiver category were: level of education, placement of the child, parent well-being (alive or deceased) and parents' marital status. Variables in the household category included: income/employment and type of housing. Odds ratios are measures of the strength of a statistically significant association between two variables established by a chi-square or Fischer's exact test. The chance of a particular outcome (odds ratio) is determined, by dividing the odds of that outcome for the exposed subjects in the sample, with the odds of that outcome for the non-exposed subjects in the sample. If the odds ratio is larger than 1, it indicates that the odds of that outcome for the exposed subjects is positively associated with that outcome. A ratio of less than 1 indicates that the exposure is protective for that outcome.

2.3 Ethics

Permission to conduct the study was sought from the Rahima Moosa Hospital. Consent for the use of clinical data was routinely obtained from all users attending the clinic by the signing of a standard consent form. An exclusion criterion for the study was a user whose file did not contain a signed consent form. Information from such files was not included in this review. Ethical clearance was obtained from the Human Research Ethics Committee of the University of Witwatersrand Ethics (Protocol number M070363) [See Appendices B and C for Routine Consent Form and Ethics Clearance Certificate].

CHAPTER 3 Results

A total of 303 users were seen at the Rahima Moosa CAMHS clinic during the period 1 January to 31 December 2007. These users attended the clinic once, or multiple times during this period, resulting in a total number of 1 454 consultations documented for children and adolescents over this period.

3.1 Demographic variables

The following demographic variables were described: age, gender, race and catchment area.

3.1.1 Age

The age range of users was from one to sixteen years, and the mean age of children seen at the clinic was 9.8 years. Fourteen children were younger than five years. There were 126 children between five and ten years old. There were 132 children who were between 10 and 15 years old, while 31 children were between 15 and 18 years old. Adolescents that were seen at Helen Joseph Hospital were included in the study as they were only seen at Helen Joseph Hospital due to logistical issues with the pharmacy at Rahima Moosa Hospital. The adolescents were seen by the Rahima Moosa CAMHS team.

3.1.2 Gender

Among the children and adolescent users consulted were 192 males (63.37 %) and 111 females (36.63%), a ratio of 1.7:1.

3.1.3 Race

The racial distribution of the children and adolescents is presented in Figure 1.

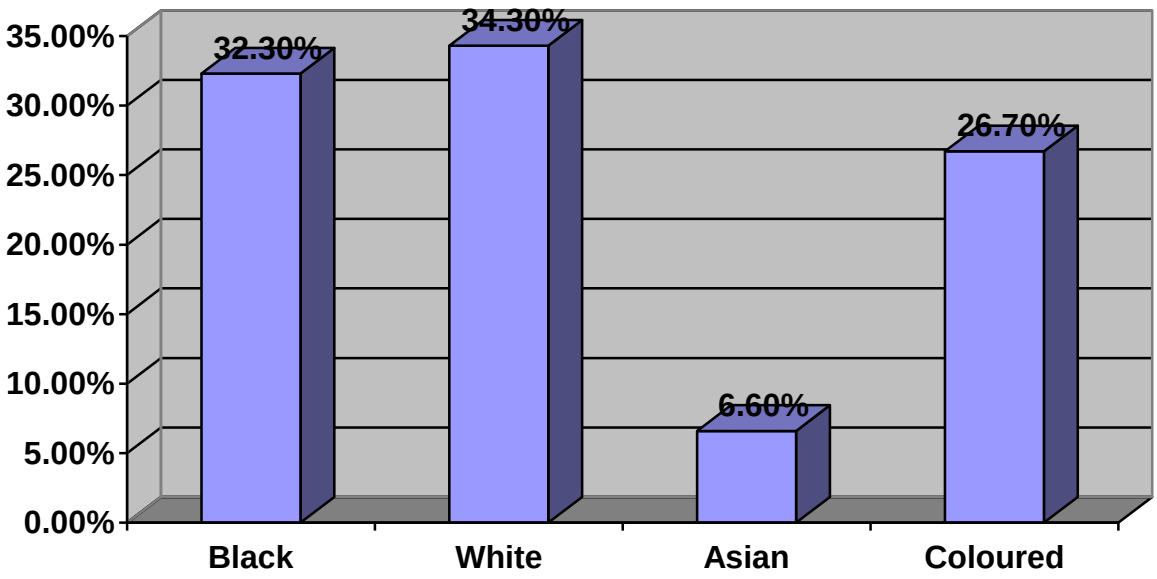


Figure 1 **Racial distribution of children and adolescents attending Rahima Moosa CAMHS from Jan to Dec 2007**

3.1.4 Catchment area

Patients seen came from all areas. In 5, 95% of the children, information on the area in which they resided, was not available from the files. One child came from an area outside the groupings, that is, Klerksdorp (Figure 2), [See Appendix D. Map of catchment area]. Referrals from CAFU Charlotte Maxeke Johannesburg Academic Hospital are almost always due to the patient being in the catchment area of Rahima Moosa and have either not been seen at the referring hospital, or have been referred for follow up as Rahima Moosa Hospital is closer to where the patient lives.

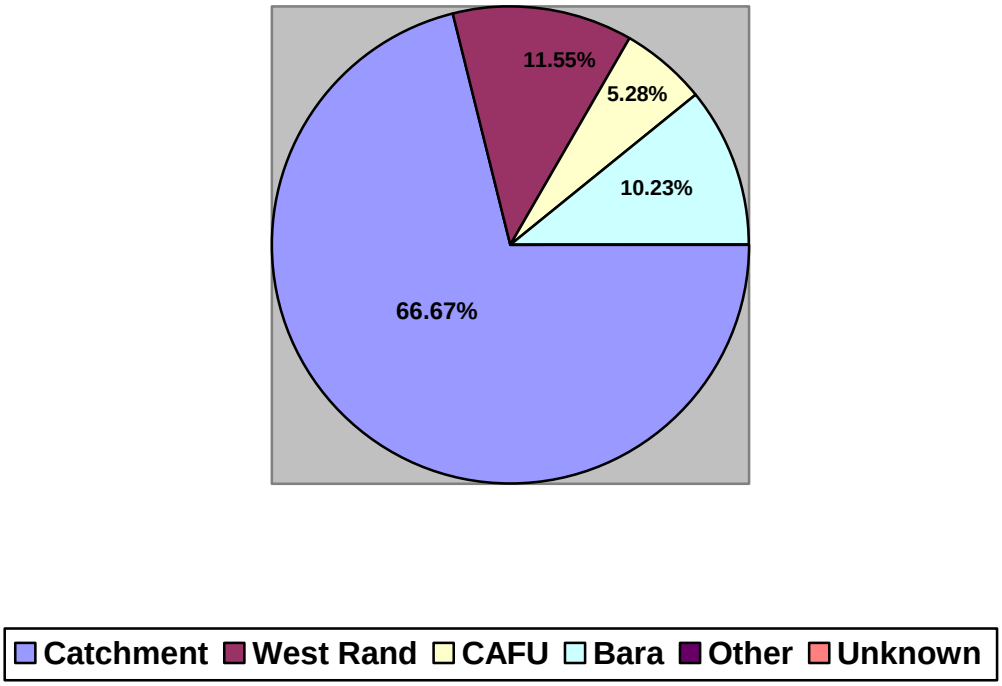


Figure 2 Area of origin of children and adolescents attending Rahima Moosa CAMHS from Jan to Dec 2007

3.2 Socio-economic variables

Socio-economic variables included: caregiver, placement status and number of co-inhabitants.

3.2.1 Caregiver

The different caregivers of the users over this period are presented in Figure 3.

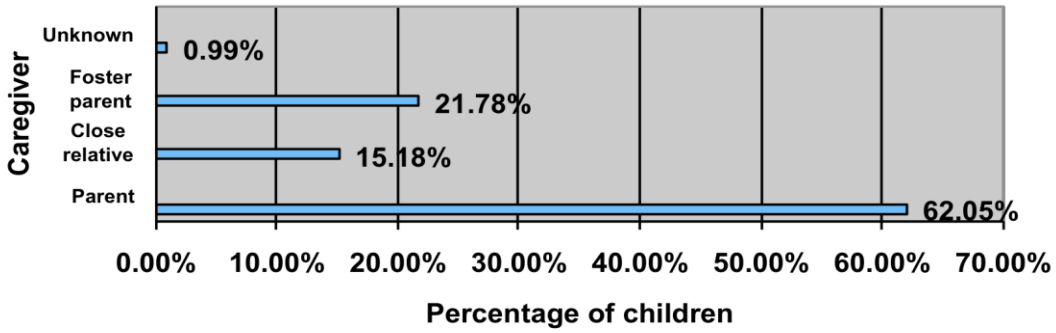


Figure 3 Relationship to caregiver of children and adolescents attending the Rahima Moosa CAMHS from Jan to Dec 2007

3.2.2 Placement of the child

Placement of a child refers to children who did not live with either parent. There was 35.6% of the study sample in placement. Of these 35.6% children living in placements, 63.89% were formally placed, that is, the placement of the child was arranged by child welfare services and social services, whereby the child was legally removed from their parents' care and placed into alternative care (Figure 4). An informal placement refers to children who lived with other family members; however, this was not a legal arrangement. Some of the formal placements were at Abraham Kriel Kinderhuis, St Joseph's Home, St Nicholas Home, foster care and those placed with relatives by social welfare.

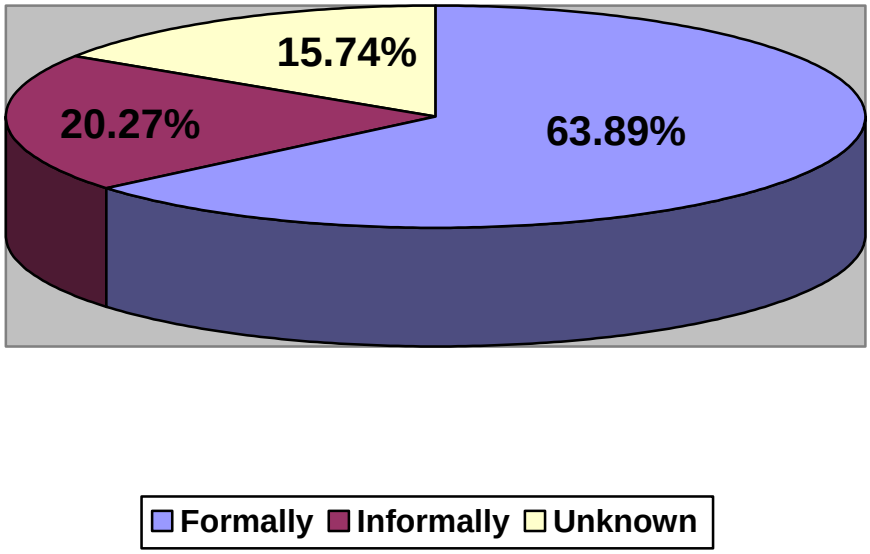


Figure 4 Placement statuses of children and adolescents attending Rahima Moosa CAMHS from Jan to Dec 2007

3.2.3 Parents' well-being and marital status

Results of parents' well-being (living or deceased) and marital status are summarised in Table 3.1.

Table 3.1 Demographic and socio-economic characteristics of the parents: well-being and marital status

Mother's Status	**n = (%)**
Deceased	35 (11.55)
Alive	251 (82.84)
Unknown	17 (5.61)
Father's Status	
Deceased	39 (12.87)
Alive	214 (70.63)
Unknown	50 (16.50)
Parents' marital relationship	
Married/ living together	89 (29.37)
Divorced/ Separated/ Single	136 (44.88)
Widowed	11 (3.63)
Unknown	67 (22.11)

3.2.4 Educational level of caregiver

The level of education of the caregivers was unknown in a majority of the cases (n=165). Of the caregivers, 0.66% had not obtained any form of education; 4.29% of caregivers had an education level less than grade 7 and 35% of caregivers had a secondary education (grade 7 to 12). Only 5.28% of caregivers had tertiary education.

3.2.5 Household income

The mothers who were in full time employment comprised 29.8%, while 2.31% were in part-time employment and 28.48% were unemployed. For 28.15% of mothers, the employment status was unknown, 0.99% was disabled and 10.26% was deceased (Table 3.2). At a later stage in the study when comparative data analysis was done, income was analysed as present or absent irrespective of the individual employment status of each parent due to difficulties in obtaining statistically significant comparisons.

Table 3.2 Demographic and socio-economic characteristics of the parents: Income

Employment: Mother	**n = (%)**
Full time	90 (29.80)
Part time	7 (2.31)
Unemployment	86 (28.48)
Unknown	85 (28.15)
Disability	3 (0.99)
Deceased	31 (10.26)
Employment: Father	
Full time	100 (33.00)
Part time	10 (3.30)
Unemployment	38 (12.54)
Unknown	121 (39.94)
Disability	1 (0.33)
Deceased	33 (10.89)

3.2.6 Type of housing

The type of housing inhabited by the children was analysed. Forty-five children (14.85%) lived in a flat; 51 children (16.83%) lived in a children's home; 143 children (47.2%) lived in houses; 22 children (7.26%) lived in another form of dwelling and 42 (13.86%) of the children's dwellings were unknown.

3.2.7 Number of co-inhabitants

The number of people living in the accommodation ranged from 2 to 16. The number of co-habitants refers to the number of individuals living in the household at a given time, that is, during the study period.

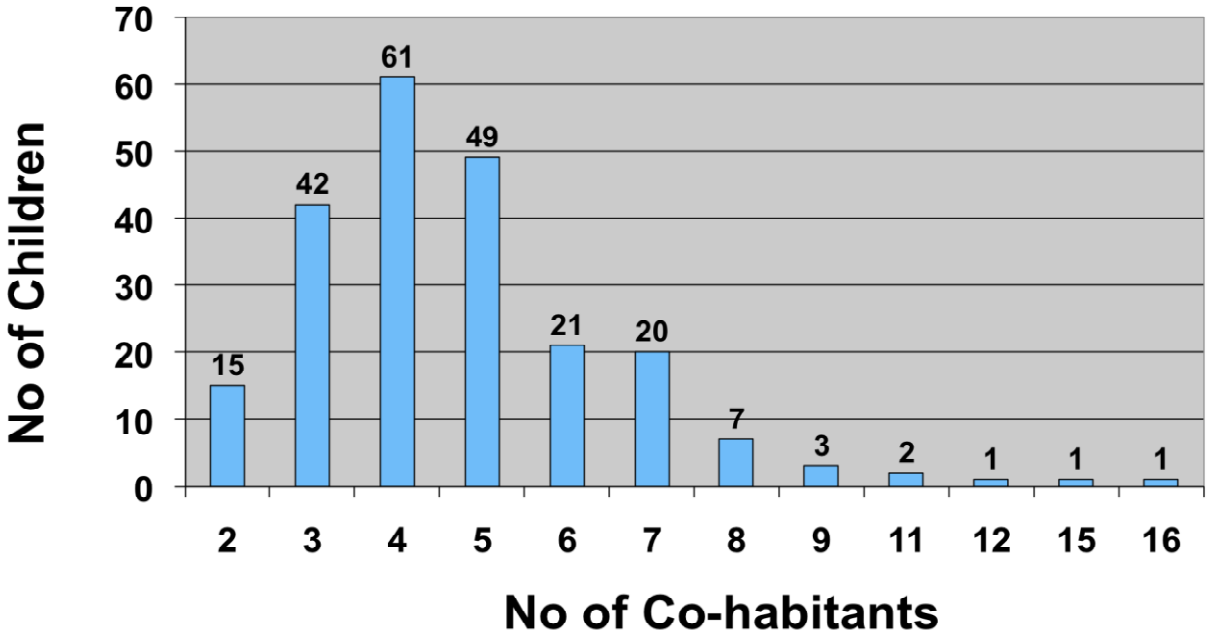


Figure 15 Number of co-habitants who live with the users attending the Rahima Moosa CAMHS from Jan to Dec 2007

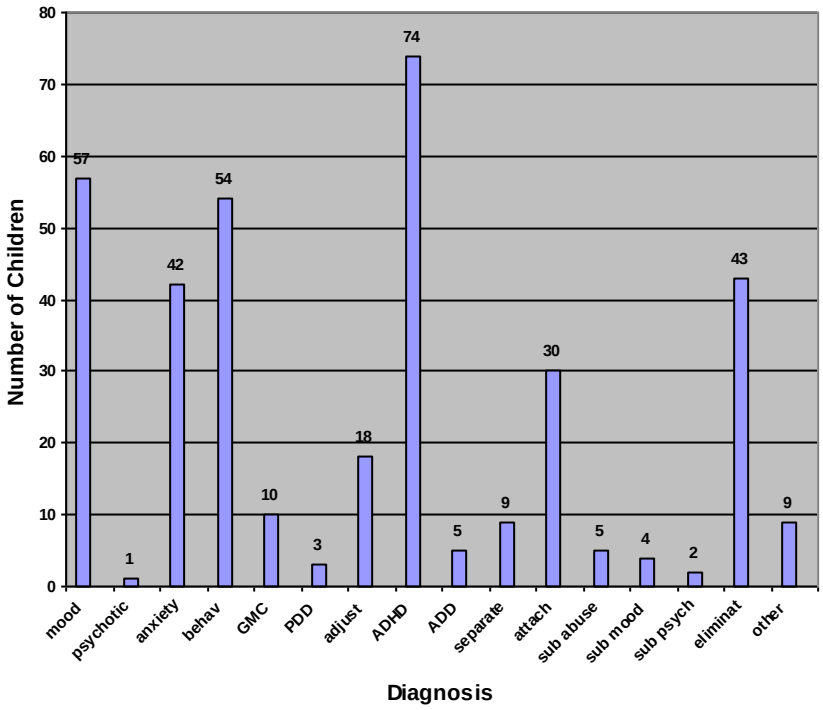
3.3 Clinical variables

Clinical variables were analysed according to the DSM-IV TR classification of psychiatric disorders [(14)]. Axis I refers to primary psychiatric disorders, while V-codes (also notated on Axis I) refer to problems that are encountered by the patient, that is, the focus of clinical attention. Axis II refers to intellectual impairment. Personality disorders were not analysed because the patients were less than 18 years. Axis III refers to the presence of a co-morbid general medical condition, while Axis IV refers to psycho-social stressors that the patient is experiencing.

3.3.1 Axis I (psychiatric) diagnosis

The most common psychiatric diagnoses allocated during the study period were ADHD, mood disorders, behaviour disorders, anxiety disorders and elimination disorders (Figure 6). Mood disorders were documented for 57 users with depression, and three children with bipolar mood disorder. Only one child suffered from schizophrenia and two children suffered from a psychotic disorder secondary to temporal lobe epilepsy. Oppositional defiant behaviour was seen more commonly than conduct disorder in users for this period. In the pervasive developmental group of disorders, there was one child with Asperger's disorder and two children with autism. Disorders secondary to a general medical condition included personality changes secondary to a head injury, mood disorder secondary to a head injury, anxiety disorder secondary to head injury and mood disorder secondary to epilepsy. With regard to elimination disorders, enuresis was seen more commonly (34 users) with only nine children having encopresis. Anxiety disorders that were seen included 12 children with post traumatic stress disorder and five children

with panic disorder. The remainder of the children suffered from generalised anxiety disorder. Learning disorders were diagnosed in 14 children. This included receptive and expressive learning disorder in one child, mathematics learning disorder in another and a global learning disorder in another. In the 'other' category, the diagnoses included one child with malingering, one with anorexia, two with selective mutism, one sexual identity disorder, two children with school refusal, one child with borderline personality traits and one child with a delirium. Especially in child and adolescent psychiatry, most children have more than one diagnosis hence the figures below represent the number of times a diagnosis was made.



Key: mood = mood disorder; psychotic = psychotic disorder; anxiety = anxiety disorder; behave = disruptive behaviour disorder; GMC = psychiatric disorder due to a general medical disorder; PDD = pervasive developmental disorder; separate = separation anxiety disorder; attach = attachment disorder; sub abuse = substance abuse; substance mood = substance induced mood disorder; sub psych = substance induced psychotic disorder; eliminate = elimination disorders; other = a disorder not specified above

Figure 6 Diagnoses of the users attending the Rahima Moosa CAMHS from Jan to Dec 2007

3.3.2 V- Codes (focus of clinical attention)

The category "other" V-codes referred to poor interpersonal relationship problems in two children (Figure 7).

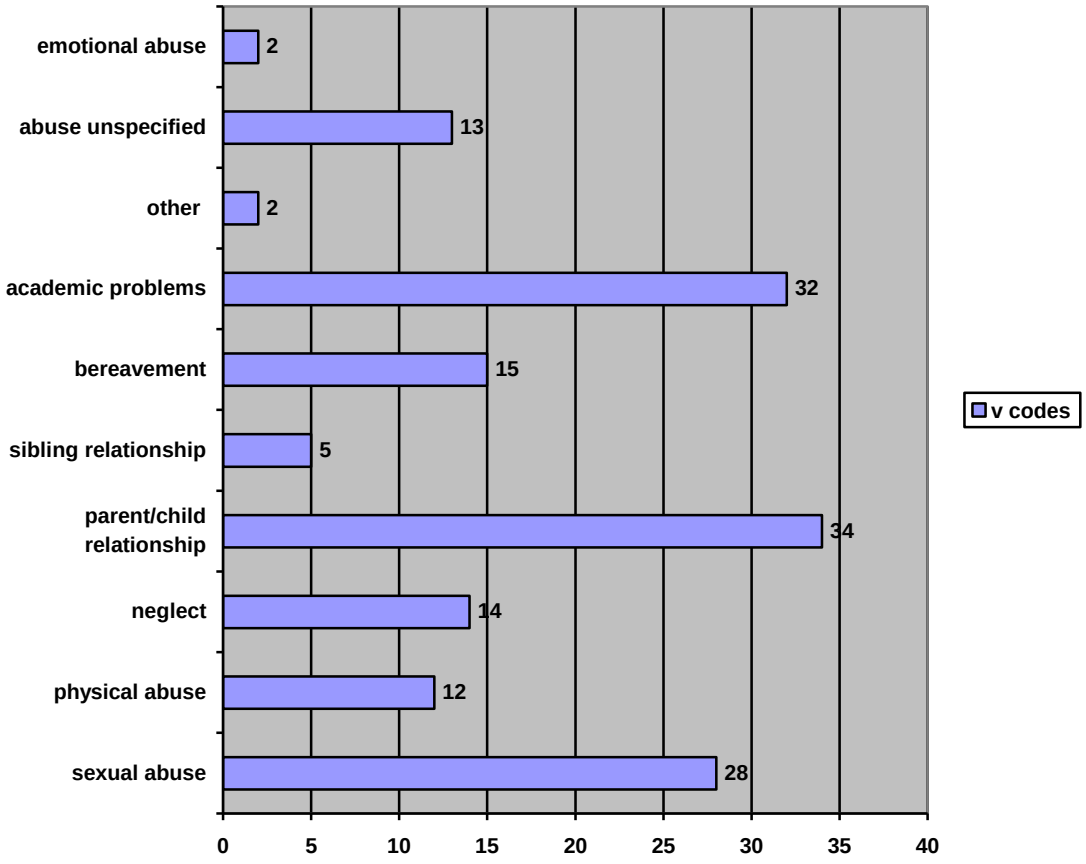


Figure 7 V-codes of the users attending the Rahima Moosa CAMHS from Jan to Dec 2007

3.3.3 Axis II diagnosis (Intellectual impairment)

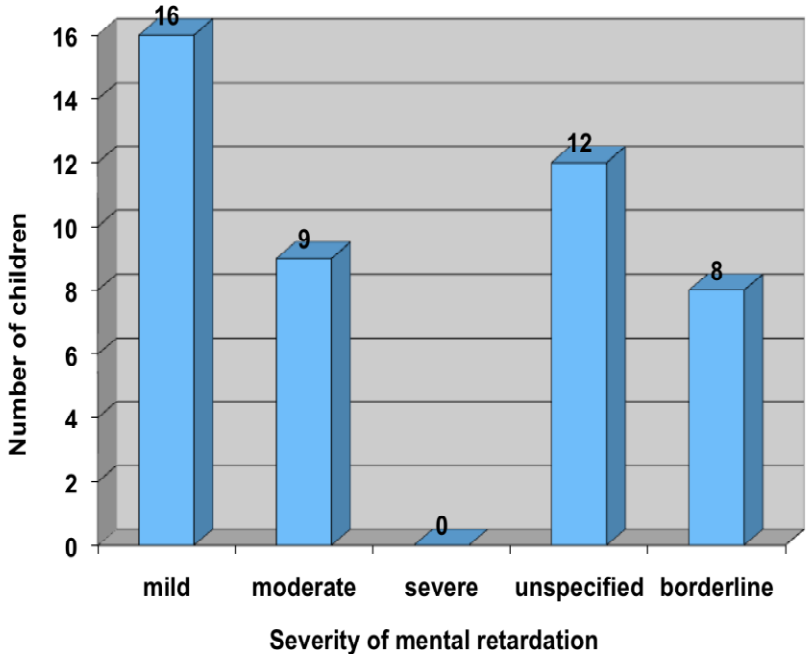


Figure 8 Distribution of intellectual impairment of the users attending the Rahima Moosa CAMHS from Jan to Dec 2007

Mental retardation was present in 45 children who attended the clinic. 'Unspecified' refers to children who were not tested or where no result was available in the file. Mild mental retardation refers to children whose IQ level was from 50 to 55 to approximately 70, moderate refers to an IQ level from 35 to 40 to 50 to 55, and severe refers to an IQ level from 20 to 25 to 35 to 40. Borderline mental retardation refers to an IQ in the range of 71 to 84.

3.3.4 Axis III (co-morbid medical) diagnosis

Some of the common general medical conditions that were documented included: epilepsy, head injury, and HIV. A total of 13 children suffered from epilepsy, while four children had a head injury and six children had HIV. Six children had other medical disorders, which included progressive encephalopathy, deafness, ectodermal dysplasia, and developmental delay. These disorders were listed in the files and no further information was available.

3.3.5 Axis IV (psycho-social stressors)

Stressors that were identified as adding to the psychological burden of the children were financial deprivation, accommodation issues, losses, abuse and parental discord. In 15 children financial deprivation was identified; accommodation issues were prevalent in six children. A total of 28 children had experienced significant losses of family and friends; 21 children had experienced some abuse and 15 children presented with parent-child relationship problems. Three children had other stressors, which included parental illness, neglect and being bullied at school. Due to the poor quality of history taking it was difficult to establish Axis IV diagnosis.

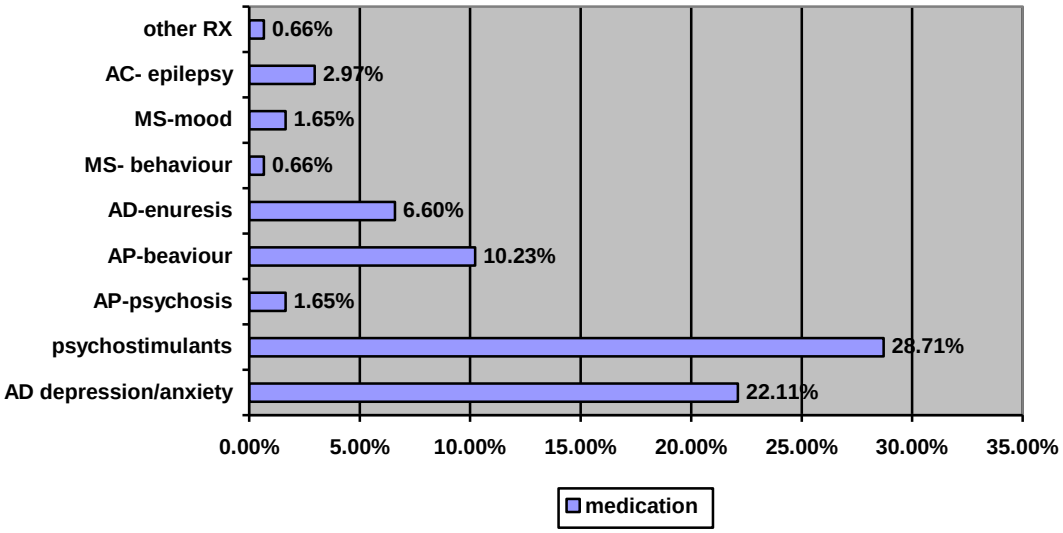
3.3.6 Special investigations

Investigations were done as part of the child's workup at the clinic. Some of the investigations included EEG (Electrocephalography), CT (Computed Tomography) scan and bloods. In 23 children an EEG was done and ten children had a CT scan of the brain

done at RMMCH. Blood investigations were done in 15 children. Two children had other special investigations, such as abdominal X-rays.

3.3.7 Medication

The most commonly used antidepressants used were Citalopram and Imipramine. Risperidone was the most widely used antipsychotic. Methylphenidate preparations used were Ritalin and Ritalin LA. Other medication prescribed included Orphenadrine, Lithium and Propanolol and in one child, a depot injection (Figure 9).



Key: AD refers to antidepressants; AP refers antipsychotic; MS refers to mood stabilisers; AC refers to anticonvulsants; Other Rx refers to a class of drugs outside of the above groups.

Figure 9 Medication prescribed for users attending the Rahima Moosa CAMH from Jan to Dec 2007

3.3.8 Therapeutic intervention

Every child referred to the clinic was screened by a team member. Thereafter, the patient's management plan was decided at the multidisciplinary team meeting. The child

was then referred to services within the clinic. The following services were offered: child psychiatric clinic, adult psychiatric clinic, individual therapy, family therapy, parent training group, parent infant training, couples therapy, IQ assessments, emotional assessments, and the HIV support group (Table 3.3).

Table 3.3 Number of users referred to Rahima Moosa CAMHS from Jan to Dec 2007

Referrals within the department	**n = (%)**
Child psychiatric clinic	149 (49.17)
Adult psychiatric clinic	2 (0.66)
Individual therapy	113 (37.29)
Family therapy	16 (5.28)
Parent training group	47 (15.51)
Parent infant training	1 (0.33)
Couples therapy	8 (2.64)
IQ assessments/ Emotional assessments	81 (26.73)
HIV support groups	1 (0.33)

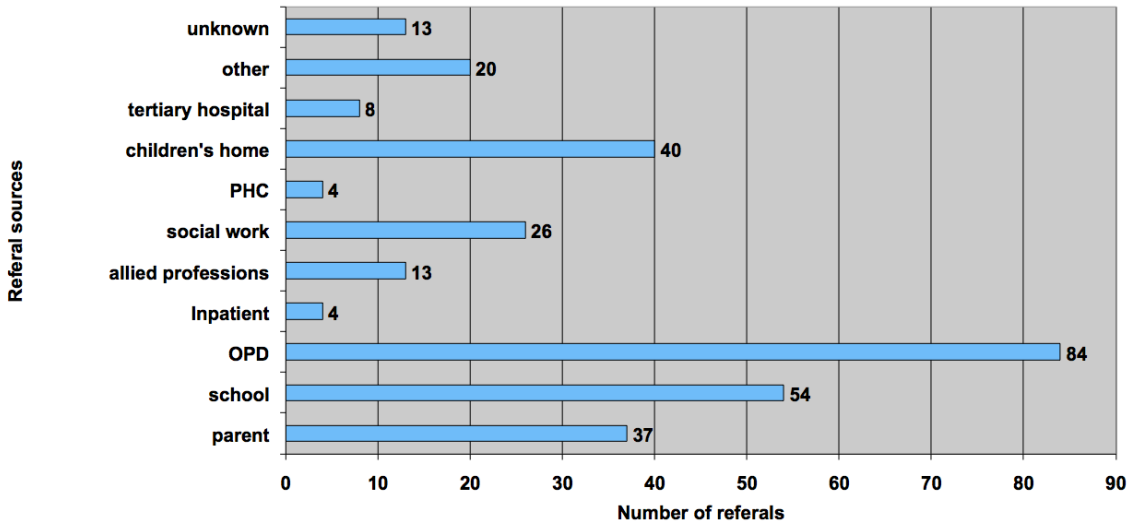
3.4 Service variables

The mental health clinic during the study period of January to December 2007 consisted of two permanent psychologists, three sessional psychologists (one specifically for the HIV clinic), one community service psychologist, two intern psychologists, one departmental clerk and a registrar. The Rahima Moosa CAMHS rendered an outpatient service only. The psychology department was also involved in the Developmental Clinic and the Rainbow Clinic (a clinic for abused children) on a weekly basis and the HIV clinic three days a week. The therapy services available were individual therapy for children under 15 years and women, couples and family therapy, parent counselling and limited group therapy. Assessments offered were emotional and cognitive assessments

for children older than seven years. The psychologists offered liaison services to the RMMCH as well and this included para suicides, emotional problems, grief counselling, trauma debriefing, family problems and parenting skills. Child psychiatric services usually consisted of a multidisciplinary team with child psychiatrists, psychologists, social workers, play therapist and specialist nurses.[12] The clinic did not have a social worker dedicated to child psychology; however, referrals were made to the Rahima Moosa Hospital pool of social workers, which consists of a team of four social workers. The social workers were unable to do home visits and hence refer patients to the relevant department i.e. child welfare or social services if home visits were required. The clinic used the occupational therapist from the hospital. Referrals to the clinic from outside the hospital were generally in accordance with the finding that a significant proportion of adolescents enter the healthcare system through schools, psychiatric units, psychologists, social agencies, family and general practitioners. [16] Child psychiatry inpatient facilities were very scarce. Patients requiring admission have to be referred to Weskoppies Hospital, Tara, the H Moross Centre or Chris Hani Baragwanath Hospital depending on bed availability.

3.4.1 Referral source

'Other' sources of referral were from Childline, the Hearing clinic and Psychology and Psychiatry (Figure 10).



PHC: Primary Healthcare; OPD: RMMCH Outpatient Department; Inpatient - RMMCH Inpatients; Tertiary Hospital – Chis Hani Baragwanath, Tara, the H Moross Centre, Transvaal Memorial Institute.

Figure 10 Source of referrals of users attending the Rahima Moosa CAMH from Jan to Dec 2007

3.4.2 Waiting time

Referrals were made to the child clinic from different sources. The date when the referral was received and the date when the appointment was made for the screening were documented. The waiting times of patients were calculated from the date when the referral was made to the department until the date when the patient was assessed at the department. The waiting times ranged from 0 days to a maximum of 413 days. The mean waiting time period was 49 days.

3.4.3 Number of visits

The definition of a visit refers to every time a user attended a service at the clinic. The total number of visits attended by patients ranged from one to 30 visits per user over this

12-month period. The ‘number of visits’ refers to the number of visits that a patient made to the clinic, seen by any one of the professionals in the clinical team. As a result, the total number of consultations was 1454 for the total number of 303 users. Many children were seen on more than one occasion; hence the number of consultations was greater than the number of children (Figure 11).

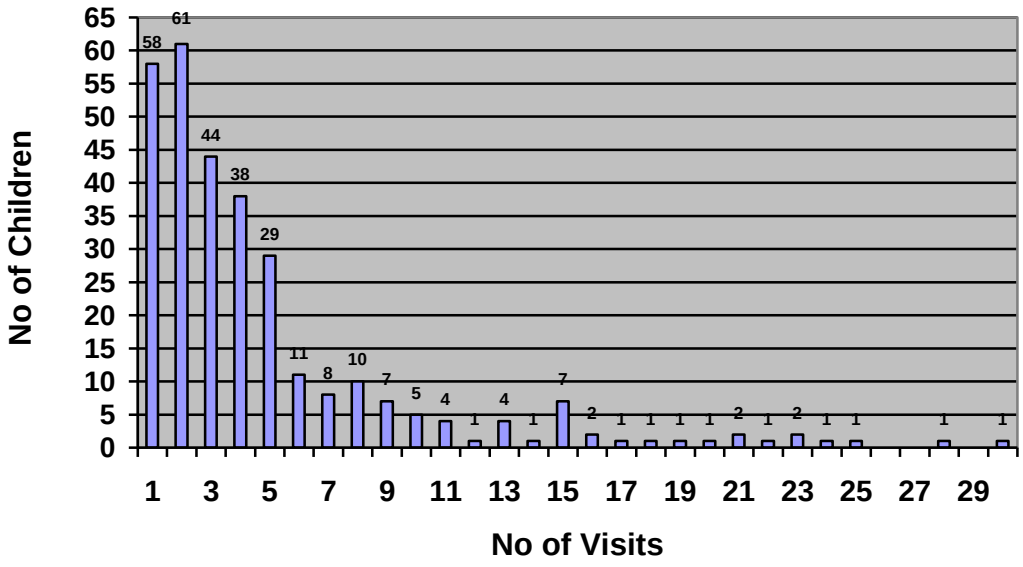


Figure 11 Number of visits versus the number of users attending the Rahima Moosa CAMH from Jan to Dec 2007

3.4.4 Team member consulted

The team consisted of intern psychologists, sessional psychologists, full time psychologists and the registrar. The graph illustrates the distribution of the workload at the clinic amongst the clinical staff (Figure 12).

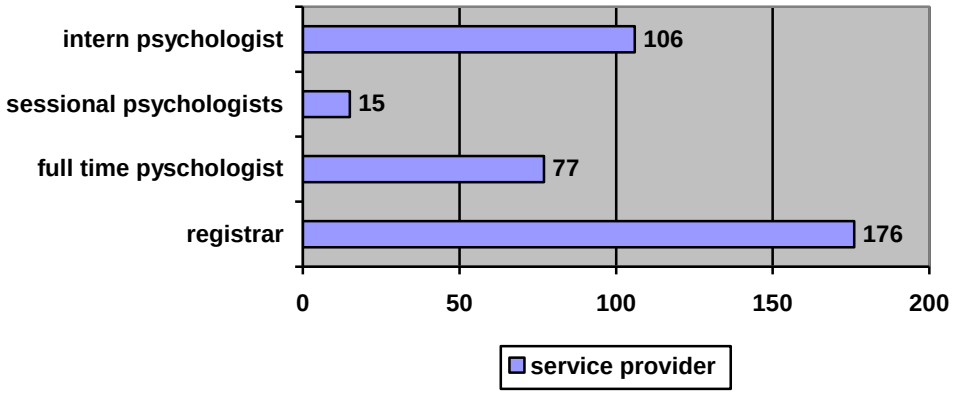


Figure 12 Number of children seen by different service providers at Rahima Moosa CAMHS from Jan to Dec 2007

3.4.5 Services provided

Many users were referred to services within the department; however, they did not always attend their appointments. The variable 'services provided' refers to the actual services that were rendered at the clinic when children attended (Figure 13).

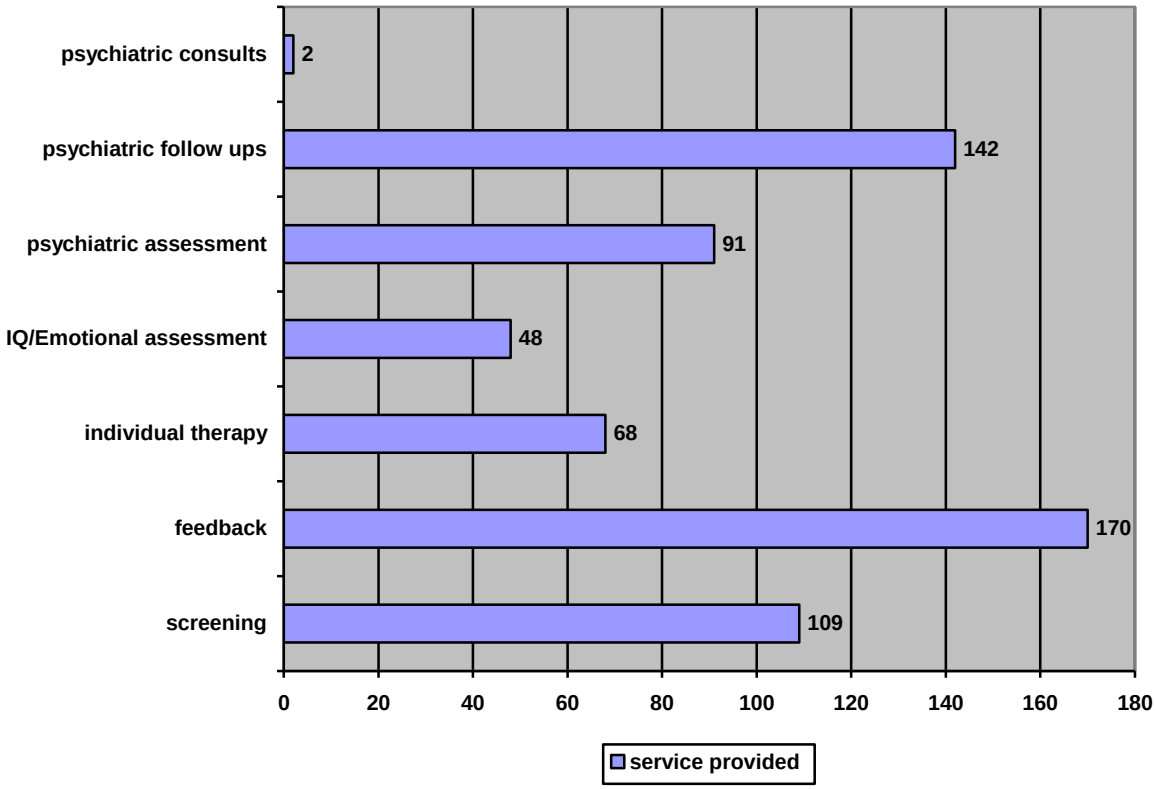


Figure 13 Number of users seen for different services offered at Rahima Moosa CAMHS from Jan to Dec 2007

A total of 47 appointments were not attended by the patients. The possible reason that the number of feedback sessions exceeded the screening sessions could be that some of the feedback sessions referred to the previous year or that the patients required more than one feedback session. The psychiatric registrar was involved in the screening of new patients, feedback sessions, the psychiatric assessments and the psychiatric follow-ups. Psychologists were involved in the screening, feedback, therapy, liaison work and IQ and emotional assessments. The data demonstrate that most screenings were referred for psychiatric assessments (83%).

3.4.6 Referral to other professionals

After patients are assessed at the clinic, it is sometimes necessary to refer the children to agencies that are not part of the clinic establishment. Some examples of such agencies include social workers, education department, allied professionals, Rahima Moosa inpatient or outpatient hospital services and the tertiary psychiatric hospital (Figure 14). Four children were referred to the optometrist.

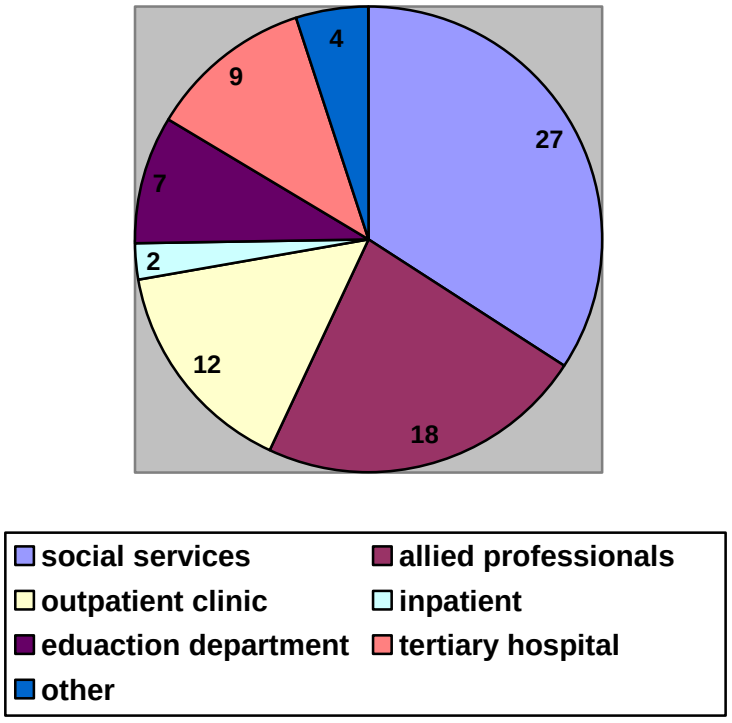


Figure 14 Number of users referred by Rahima Moosa CAMHS from Jan to Dec 2007

3.5 Comparison of demographic and socio-economic variables with presenting clinical problem

Demographic data was compared with the five most common presenting clinical problems (diagnoses): ADHD, mood disorders, anxiety disorders, disruptive behaviour disorders and V-codes.

3.5.1 Gender versus the presenting clinical problem

At a probability level where a p-value smaller than 0.005 was regarded as statistically significant, significantly more males than females had ADHD (p = 0.001; 37.5% versus 19.82%) and displayed disruptive behaviour (p = 0.042; 21.35% versus 11.71%), while significantly more females were sexually abused (p = 0.007; 15.32% versus 5.7%), (Table 3.4).

Table 3.4 Gender and the presenting clinical problem

Axis I diagnosis	**Gender (Fisher's exact)**
ADHD	**0.001**
Mood	0.362
Anxiety	0.864
Disruptive behaviour disorders	**0.042**
V-code: Sexual abuse	**0.007**
Physical abuse	0.222
Neglect	1.000
Parent-child relationship	0.350
Sibling relationship	1.000
Bereavement	0.421
Academic problem	0.845
Abuse unspecified	0.386
Other	1.000

3.5.2 Race versus presenting clinical problem

The association of the presenting clinical problem and race was statistically significantly in children who had parent-child relationship problems ($p < 0.003$). In particular Asian and Coloured races had significantly higher proportions of children with poor relationships: 7.14% for Blacks, 5.77% for Whites, 20% for Asians and 20.99% for Coloureds (Table 3.5).

Table 3.5 Race and the presenting clinical problem

Axis I diagnosis	**Race (Fisher's exact)**
ADHD	0.096
Mood	0.392
Anxiety	0.803
Disruptive behaviour disorders	0.263
V-code: Sexual abuse	0.783
Physical abuse	0.734
Neglect	0.127
Parent-child relationship	**0.003**
Sibling relationship	0.176
Bereavement	0.391
Academic problem	0.228
Abuse unspecified	0.321
Other	1.000

3.5.3 Caregiver versus presenting clinical problem

The association of the presenting clinical problem and caregiver relationship was statistically significantly in children who had disruptive behaviour disorders ($p = 0.041$) with 13.30% living with their parent(s), 26.09% with a close relative and 25.76% living with a foster parent, as well as in sexual abuse ($p = 0.004$) with 6.91% living with a parent(s), 2.17% with close relative and 21.21% living with a foster parent (Table 3.6). The association was also significant in children who were neglected ($p = 0.022$), with

2.66% living with a parent(s), 2.17% with a close relative and 12.12% with a foster parent and for children who had academic problems (p = 0.021): 13.83% living with a parent, 8.80% with close relative, and 1.52% with foster parent.

Table 3.6 Caregiver and the presenting clinical problem

Axis I diagnosis	Caregiver (Fisher's exact)
ADHD	0.155
Mood	0.767
Anxiety	0.274
Disruptive behaviour disorders	**0.041**
V-code: Sexual abuse	**0.004**
Physical abuse	0.580
Neglect	**0.022**
Parent-child relationship	0.468
Sibling relationship	0.452
Bereavement	0.252
Academic problem	**0.021**
Abuse unspecified	0.749
Other	1.000

3.5.4 Placement versus the presenting clinical problem

There was a statistically significant association between the placement of a child and disruptive behaviour disorders (p =.0.018): 13.33% living with parents, 30.43% formally placed and 18.18% informally placed and in children who were sexual abused (p = 0.028): 6.67% living with parents, 18.84% formally placed and 4.55% informally placed (Table 3.7). There was also an association shown between placement and children who were neglected (p = 0.023): 2.56% living with parents, 11.59% formally placed and 4.55% informally placed and in children with academic problems (p = 0.014): 13.33% living with parents, 1.45% formally placed and 13.64% informally placed.

Table 3.7 Placement and the presenting clinical problem

Axis I diagnosis	Placement (Fisher's exact)
ADHD	0.177
Mood	0.211
Anxiety	0.571
Disruptive behaviour disorders	**0.018**
V-code: Sexual abuse	**0.028**
Physical abuse	0.458
Neglect	**0.023**
Parent-child relationship	0.331
Sibling relationship	0.666
Bereavement	0.082
Academic problem	**0.014**
Abuse unspecified	0.721
Other	1.000

3.5.5. Mother's status versus presenting clinical problem

The association of the presenting clinical problem and the status of the mother (alive or deceased) was significant in children who had ADHD ($p = 0.031$): 31.46% with mother alive, 17.46% with mother deceased and in disruptive behaviour disorders ($p = 0.007$): 15.54% with mother alive and 20.00% with mother deceased (Table 3.8). The association was also very significant for bereavement ($p = 0.000$): 1.99% with mother alive, 28.57% with mother deceased).

Table 3.8 Parent's status (mother alive) and the presenting clinical problem

Axis I diagnosis	Mother alive (Fisher's exact)
ADHD	**0.031**
Mood	0.761
Anxiety	0.747
Disruptive behaviour disorders	**0.007**
V-code: Sexual abuse	0.779
Physical abuse	0.826
Neglect	0.862
Parent-child relationship	0.204
Sibling relationship	1.000
Bereavement	**0.000**

Academic problem	0.288
Abuse unspecified	0.319
Other	1.000

3.5.6 Father's status versus presenting clinical problem

There was a statistically significant association between the status of the father (alive or deceased) and sexual abuse (p = 0.006): 6.07% with father alive, 12.82% with father deceased and academic problems (p = 0.011): 13.55% with father alive and 2.56% with father deceased (Table 3.9).

Table 3.9 Parent's status (father alive) and the presenting clinical problem

Axis I diagnosis	**Father alive (Fisher's exact)**
ADHD	0.788
Mood	0.946
Anxiety	0.702
Disruptive behaviour disorders	0.153
V-code: Sexual abuse	**0.006**
Physical abuse	0.809
Neglect	0.384
Parent-child relationship	0.918
Sibling relationship	0.620
Bereavement	0.061
Academic problem	**0.011**
Abuse unspecified	0.816
Other	0.268

3.5.7 Educational level of caregiver versus the presenting clinical problem

The association of the presenting clinical problem and educational level of the caregiver was significant in children who were sexually abused (p = 0.012): 6.25% with tertiary education, 2.80% with grade 7 to 12, and 13.33% with less than grade education, and in children who were neglected (p = 0.030): 0% with tertiary education, 0% with grades 7 to 12 and 13.33% with less than grade 7 education, as well as in children with academic

problems (p = 0.000): 18.75% with tertiary education, 17.76% with grade 7 to 12 and 20.% with less that grade 7 education (Table 3.10). An (almost) significant association was also shown for disruptive behaviour disorders (p = 0.055): 18.75% with tertiary education, 11.21% with grades 7 to 12 and 6.67% with less than grade 7.

Table 3.10 Educational level of caregiver and the presenting clinical problem

Axis I diagnosis	**Educational level (Fisher's exact)**
ADHD	0.177
Mood	0.067
Anxiety	0.332
Disruptive behaviour disorders	**0.055**
V-code: Sexual abuse	**0.012**
Physical abuse	0.366
Neglect	**0.030**
Parent-child relationship	0.071
Sibling relationship	0.643
Bereavement	1.000
Academic problem	**0.000**
Abuse unspecified	0.263
Other	0.318

3.5.8 Marital status of parents versus the presenting clinical problem

There was statistically a very significant association between marital status of parents and bereavement (p = 0.001): 2.25% parents living together, 2.94% parents separated and 36.36% with a single widowed parent (Table 3.11).

Table 3.11 Marital status and the presenting clinical problem

Axis I diagnosis	**Marital status (Fisher's exact)**
ADHD	0.963
Mood	0.560
Anxiety	0.208
Disruptive behaviour disorders	0.161

V-code: Sexual abuse	0.299
Physical abuse	0.359
Neglect	0.697
Parent-child relationship	0.813
Sibling relationship	0.176
Bereavement	**0.001**
Academic problem	0.337
Abuse unspecified	0.338
Other	0.535

3.5.9 Income/employment status versus the presenting clinical problem

There was a statistically significant association between income in the household and sexual abuse (p = 0.035): 5.33% with income present, 8.70% with income absent; and children who are neglected (p = 0.004): 1.33% with income present and 13.04% with income absent; and academic problems (p = 0.000) - 17.33% with income present and 8.70% with income absent (Table 3.12).

Table 3.12 Income and the presenting clinical problem

Axis I diagnosis	**Income/employment status (Fisher's exact)**
ADHD	0.195
Mood	0.272
Anxiety	0.809
Disruptive behaviour disorders	0.428
V-code: Sexual abuse	**0.035**
Physical abuse	0.134
Neglect	**0.004**
Parent-child relationship	0.128
Sibling relationship	0.100
Bereavement	0.364
Academic problem	**0.000**
Abuse unspecified	0.687
Other	0.405

3.5.10 Housing versus the presenting clinical problem

There was statistically significant association between the type of housing and sexual abuse (p = 0.003): 6.99% with living in a home, 0.00% with living in a flat, 21.57% with living in a children's home and 9.09% living in informal housing.

3.6 Odds ratios

Odds ratios were calculated for the individual demographic and socio-economic variables to assess whether they represented independent risk factors for the respective outcome variables (Axis I-diagnoses), namely for ADHD, mood disorders, anxiety disorders, disruptive behaviour disorders and the V-codes. A summary of the odds ratios for the demographic and socio-economic variables that showed a statistical significant association with the presenting clinical problem is presented in Table 3.13

Table 3.13 Summary of comparison of demographic and socio-economic variables with presenting clinical problem

CLINICAL PROBLEM **p-value - red (<0.05); Odds ratio – blue**	**1. DEMOGRAPHIC VARIABLE** Gender: M - male, F - female; Race: B - Black, W - White, A - Asian, C - Coloured.		**2. SOCIO-ECONOMIC VARIABLE** Caregiver: P - parent, R - relative, Fp - foster parent; Placement: P - parent; F - formal, I - informal; Mother: A - alive, D - deceased; Father: A - alive, D - deceased; Educational level: T - tertiary, S - secondary, Pr - primary; Marital status: Md - married, S - single, W - widowed; Income: E - employed, U - unemployed; Housing: H - home, Fl - flat, Ch - children's home, I - informal.							
	1.1 Gender %	**1.2 Race %**	**2.1 Caregiver %**	**2.2 Placement %**	**2.3 Mother %**	**2.4 Father %**	**2.5 Educational level %**	**2.6 Marital status %**	**2.7 Income %**	**2.8 Housing %**
1. ADHD	M 37.7 F 19.8 p=0.001	W 2 C 1.38	R 1.14 Fp 1.70	F 1.89	A 31.5 D 17.5 p=0.031	D 1.28		S 1.12		Fl 1.42
2. Mood	F 1.32	C 1.46	R 1.42	F 2.71	D 1.32	D.1.12	S 2.26 Pr 2.31		U 1.73	Ch 1.18
3. Anxiety		C 1.36								Fl 1.25

4. Disruptive behaviour	M 21.4 F 11.7 p=0.042	W 1.96 C 1.48	P 13.3 R 26.1 Fp25.8 p=0.041 R 2.3 Fp 2.26	P 13.3 F 30.4 I 18.2 p=0.018 F 2.84 I 1.44	A 15.5 D 20.0 p=0.007 D 1.35		T 18.75 S 11.21 Pr 6.67 p=0.055	S 1.3		I 1.16
5. V-code 5.1. Sexual abuse	M 15.3 F 5.7 p=0.007 F 2.97	W 1.29	P 6.9 R 2.2 Fp21.2 p=0.004 F 3.62	P 6.7 F 18.8 I 4.6 p=0.028 F3.25		A 6.1 D12.8 p=0.006 D 2.27	T 6.3 S 2.8 Pr 13.3 p=0.012 Pr 2.31	S 1.93	E 5.3 U 8.7 p=0.035 U 1.69	H Fl Ch 3.7 I 1.3 p=0.003 Ch 3.66 I 1.33
5.2. Physical abuse			R 1.37 Fp 1.95	F 1.94 I 1.5	D 1.46	D 1.39		W 2.86	U 2.22	Fl 2.17 Ch 2.92 I 2.22
5.3. Neglect		W 4.55 C 1.85	P 2.2 R 12.1 Fp12.1 p=0.022	P 2.6 F 11.6 I 4.6 p=0.023 F 4.98 I1.81		D 2.14	T 0.0 S 0.0 Pr 13.3 p=0.030	S 1.56 W 2.87	E 1.3 U 13.0 p=0.004 U 11.1	Ch 3.04

5.4. Parent-child relations	F 1.42	B 7.1 W 5.8 A 20.0 C 21.0 p=0.003 C 3.25 A 3.45				D 1.16		S 1.13	U 1.16	
5.5. Sibling relations	F 1.15					D 1.38		W 4.35		Fl 2.17
5.6. Bereave-ment	F 1.55	A 1.7	R 3.15 Ch 1.23	I 3.69	A 1.99 D 28.57 p=0.000 D 19.68	D 3.79		Md2.3 S 2.9 W36.4 p=0.001 S 1.32 W24.56	U 2.02	
5.7. Academic problem	F 1.1		P 13.8 R 8.8 Fp1.5 p=0.021	P 13.3 F 1.5 I 13.5 p=0.014		A13.6 D 2.6 p=0.011	T 18.8 S 17.8 Pr 20.0 p=0.000		E 17.3 U 8.7 p=0.000	I 1.17

3.6.1 ADHD

The following results are the significant odds ratio for the different disorders. The odds ratio for ADHD was as follows: for white children 2.00, coloured children 1.38, children living with close relatives 1.14, those living in children's home 1.70. The odds ratio for ADHD in children who were formally placed was 1.89, in families where father was deceased 1.28, in parents separated 1.12 and in children living in flats 1.42. ADHD had two significant associations with compared variables.

3.6.2 Mood disorders

The odds ratios for mood disorders in female children is 1.32; Coloured children is 1.46; children living with close family is 1.42; children formally placed is 2.71; their mother being deceased is 1.32; father deceased is 1.12; parents with education level grades 7-12 is 2.26; parents with education levels less than grade 7 is 2.31; families with no income 1.73; and those living in children's home is 1.18.

3.6.3 Anxiety disorders

The odds ratio for children with anxiety disorders in coloured children was 1.36 and those living in flats 1.25.

3.6.4 Disruptive behaviour disorders

The odds ratio for children with disruptive behaviour disorders is 1.96 in white children; 1.48 in coloured children; 2.30 in children living with close family; 2.26 in children living in children's home; 2.84 in children who were formally placed; 1.44 in children

informally placed; 1.35 in children whose mother was deceased; 1.30 parents who were separated; and 1.16 in children living in informal housing. Disruptive behaviour disorders had five significant associations with compared variables.

3.6.5 V-codes

Odds ratios were calculated for: sexual abuse, physical abuse, neglect, parent-child relations, sibling relations, bereavement and academic problem.

(1) Sexual abuse

The odds ratio for children with sexual abuse is 2.97 for female children; 1.29 for the white race; formally placed is 3.25; father deceased is 2.27; caregivers with less than grade 7 is 2.31; parents separated is 1.93; families with no income is 1.69; those living in a children's home 3.66; and children living in informal housing 1.33. Sexual abuse had seven significant associations with compared variables.

(2) Physical abuse

The odds ratio in children with physical abuse is 1.37 in children living with close relatives; children formally placed 1.94; children informally placed is 1.50; mother deceased is 1.46; father deceased 1.39; parents separated 1.56; parents widowed is 2.86; families with no income 2.22; children living in a flat is 2.17; children's home 2.92; and children living in an informal dwelling 2.22.

(3) Neglect

The odds ratio for children who have been neglected is 4.55 in the white race; 1.85 in the Coloured race; 5.04 for children in children's home; 4.98 in children formally placed; 1.81 in children informally placed; 2.14 when fathers were deceased; 1.56 parents

separated; 2.86 parents widowed; and 11.1.0 in families with no income. Neglect had four significant associations with compared variables.

(4) Parent-child relationship

The odds ratio for children with parent-child relationship difficulties is 1.42 for female children; 3.25 for Asian children; for Coloured children 3.45; when their father is deceased 1.16; parents separated 1.13; and in families with no income 1.16. Parent-child relationship difficulties had one significant relation with compared variables.

(5) Sibling relationship difficulties

The odds ratio for children with sibling relationship difficulties is 1.15 for female children; 1.38 when father is deceased; parents widowed 4.35; and families living in flats is 2.17.

(6) Bereavement

The odds ratio for children suffering from bereavement is 1.55 for females, 1.70 for Asian children; 3.15 living with close relatives; 1.23 living in children's home; 3.69 informally placed; 19.68 mother deceased; 3.79 father deceased; 1.32 parents separated; 24.86 parents widowed; and 2.02 families with no income. Bereavement had 2 significant associations with compared variables.

(7) Academic problems

The odds ratio for children with academic problems is 1.10 for females and 1.17 in children living in informal housing. Academic problems had 5 significant associations with compared variables.

CHAPTER 4 Discussions

Several limitations should be noted with regard to this study. Firstly, the known limitations of a retrospective study are the lack of control over clinical data sets and data capturing. A second limitation is the reliability and validity of the diagnosis. There were a large amount of 'unknown' values in the caregiver level of education, which led to difficulties in elaboration in the demographic data. However, the reason for this could be explained by the large number of children seen at the clinic came from children's homes. The level of education of the child was not analysed and this would have been important to determine the burden of the disease process on progress in school and this is a shortcoming of the study. The data with regard to liaison psychiatry was not reflected in the files. This could be due to the fact that in many cases the intervention would have been a single assessment session. The study period, only one year, was too short to show trends in disease, for example, seasonal trends. Study subjects were drawn from patients attending a government hospital. The patients are likely to be low-income earners from the surrounding areas and may possess unique psychosocial attributes. The study was unable to produce information on the amount of time spent by the different professionals with users. This would have been helpful to improve the clinic's efficiency. Further, it would have been useful to delineate exactly the actual service provided by the individual service providers as this information would have illustrated the distribution of workloads among the service providers. Family psychiatric history and substance abuse of the parents were not evaluated in the study and this is a serious shortcoming as we could have evaluated the possible genetic loading and impact of parental substance abuse on children. This could have been informative when a comparison of associations between

socio-demographic and childhood illnesses was done. Diagnosis was not compared to service utilisation in the study, which could have provided important information on the pattern of needs for specific diagnosis.

4.1 Demographic and socio-economic profile

The population in the study sample was 303 children and adolescents with more males than females seen. The ages ranged from 1 to 16 years of age. The age groups that made the most use of the clinic are the 5 to 10-year old and the 10 to 15-year categories. In view of this pattern of use by the users, the clinic focus should be on these age groups. The needs of children in these age groups should be evaluated to focus on preventative programmes to lessen pathology in these individuals. The population in this community is approximately evenly spread among the white, black and Coloured races with Asians forming a small proportion of the clinic population. Most children lived with their mothers. The next largest group of children had house parents as their main caregivers because they reside in children's homes, such as, the Abraham Kriel Kinderhuis, Sparrows, St Josephs' and Nksoi's Haven, just to mention of few of the homes in the area. 63.89% of the children were formally placed; however, 20.37% were informally placed. This raises the issue of whether the basic needs of the children are being met in these informal placements. Only 8.58% of the cases seen were referred to the social workers. It is difficult to describe the education level of the caregivers as over 50% of the education level of the caregivers is unknown due to lack of information in the files due to the poor quality of information taken in the history. Caregiver level of education would help understand the supervision and help that the children receive. This is a limitation of

the study. The population consisted of a large proportion of those with disrupted family lives as evidenced by the high percentage of parents who were separated or divorced. Single parents and widowed parents also contributed to these figures. In 21.1% of the children their parent's marital status was unknown. This could possibly be due the fact that these children are from children's homes, or orphans and so the information is not available, rather than that the quality of history taking is so poor as not to detail this information. Disruptive family lives lead to an increase in psychiatric presentations and disorders. Approximately only a third of the children's parents were in full time employment; in about a third of cases, the employment status of the parents was unknown. Studies done in Canada by Koen DE, Brooks-Gunn J & Leventhal T. Hertzman., (2002) indicate that behaviour problems are higher in neighbourhoods with higher unemployment rates and in neighbourhoods with low cohesion, after controlling for family socio-economic factors. [(26)] Studies done by Fergusson DM, Horwood LJ & Woodward LJ., (2001) found that children who are exposed to unemployment are significantly associated with suicidal ideation, substance abuse and criminal behaviours. This confirms that financial stresses have a major impact on the burden of disease and the well-being of children at present and in future. [(27)] Our results demonstrate that 11.55% of the children seen at the clinic come from the West Rand region. At the time, this region had a weekly rotation through three areas, that is, Kagiso, Krugersdorp and Randfontein. The staffing of these clinics included a psychiatric nurse, registrar and a community service psychologist. There seems to be a lack of resources in this area, hence the reason for the increased burden placed on the Rahima Moosa CAMHS. About a tenth (10.23%) of the children who attended the clinic were from the region covered by Chris Hani

Baragwanath Hospital. Personal preference of the parents seemed to have been the reason for these children attending the Rahima Moosa CAMHS.

4.2 Clinical profile

Intellectual impairment: In this study mental retardation was found in 45 of the 303 users (14.9%) who attended the clinic. This contrasts with the study of Schoeman et al., (1989), which indicated that in two psychiatric units in Transvaal and Natal, mental retardation (severe to borderline) was the most frequently occurring disorder at two of the units surveyed: Chris Hani Baragwanath Hospital (36.1%) and King Edward VIII Hospital (50%). [15] A possible explanation for these findings could be that fewer children had formal IQ testing at the Rahima Moosa clinic and hence intellectual impairment could have been under reported. Due to the study being retrospective, there could be lack of data and poor quality of data in the files hence leading to lower figures as compared to the above two studies.

Behaviour problems: Moodley and Pillay (1993) found that one third of children admitted to a Natal inpatient mental health unit were diagnosed as having a disruptive behaviour disorder, including conduct disorder, attention hyperactivity disorder and oppositional defiant disorder. [17] In this study at RMMCH, which was conducted in an outpatient setting, 17.82% of the children had disruptive behaviour disorders, 31.02% had ADHD and 1.65% had ADD. These figures are similar to the statistics seen in Natal [17]. In the National Health and Nutrition Examination survey of children and adolescents in the USA, the 12-month prevalence of ADHD was 8.6% and 2.1% for conduct disorders.

[28] The possible reason for the low prevalence rates is that this study was a sample of non-institutionalised US civilians whereas this study population was at a psychiatric clinic and diagnostic interviews were done by lay interviewers.

Child abuse: Statistics reported by Holford and Smith in their Mofolo study found approximately 57% of children were excessively punished, many to the point of physical abuse.[18] In this study a very small percentage (3.96%) had suffered physical abuse. This information was mainly from reports from social workers of children in children's homes. The figure is probably low due to the fact that proper documentation and coding of this as a V-code might have been lacking in the files that were analysed.

Depression: The prevalence of depression is reported to be 2% of all school going children, with a greater prevalence in adolescent girls. [20] This study at RMMCH showed that a much higher percentage of the children (18.81%) had depression. One Australian study found one in three girls as compared to one in six boys aged 14 to 15 years, reported depressive symptoms.[21] In the National Health and Nutrition Examination survey of children and adolescents in the USA, the 12-month prevalence of mood disorders was 3.7%.[28]

Psychosis: Psychosis is most likely to have an organic basis in pre-pubertal children. In the older adolescent, psychotic disorders are reported to include toxic psychoses, schizophrenia, brief reactive psychosis, mania and psychotic depression. The prevalence of schizophrenia in adolescents is probably 1-2% per 1000. [14] In this study only one

child was diagnosed with schizophrenia and three children had a psychosis secondary to a general medical condition. In a clinic based South African study, Schoeman et al., (1989) found a low rate of psychosis in children and adolescents (about 1%). [15]

Enuresis: In this study elimination disorders affected 14.19% of the children who attended Rahima Moosa CAMHS clinic. This is in keeping with the findings of research conducted by Rutter and colleagues cited by Street and Broughton, which found approximately 13-14% of children wet their beds at least once a week and by age of 10 years, 2.9% of boys and 2% of girls wet their beds.[24]

Investigations: A very small percentage of children were investigated in this study population: EEG requested in 7.59%; CT Brain requested in 3.30% and blood investigations requested in 4.95%. According to an audit done in the Royal Liverpool Children's NHS trust, 40% of the EEGs requested were considered unnecessary and approximately 50% of the clinicians felt that EEG could diagnose epilepsy. [29] In our population group, investigation was only done if clinically indicated.

Medication: In this study, the most widely prescribed drugs were psycho-stimulants and antidepressants for the treatment of depression and anxiety. A small proportion of the children received medication, highlighting the need in a child and adolescent clinic to have more psychological input and other interventions as part of the treatment modalities. This is in keeping with a clinical audit of prescribing practices of community child and adolescent psychiatrists working in the West Midlands in the United Kingdom, which

found the vast majority, were prescribing stimulants and antidepressants. At least half of the consultants were prescribing antipsychotics and melatonin. From this audit over half of the consultants would consider prescribing antipsychotics for the treatment of aggressive behaviour. One third of the consultants cited pressure on services as a reason for prescribing medication. [30]

4.3 Current services

In this study population the main referral source is the Rahima Moosa Hospital outpatient department and schools. According to a study by Wolpert M & Fredman G., (2007) certain child characteristics (age, type of problem presented, and gender) influenced the referral decisions of parents, general practitioners and child psychologists. [31] Results from this study suggested that the age of child and the type of problem significantly affected the subject's response, while the gender of the child did not. Children who showed their disturbances in terms of conduct disorder may be more likely to arouse concern than those who present with an emotional disturbance. A psychologically disturbed 10-year old is more likely to reach mental health services than a psychologically disturbed 3-year old. [31]

The waiting time at our clinic was on average 49.32 days. This is comparative with a clinical audit done by Carr A, McDonnell D & Owen P., (1994) who found that most clients were seen within two months. [32] The reason for the waiting list being so long is due to lack of staff and resources. The study reflected that 47 appointments were not attended by patients and their families. These were follow-up appointments. Non-

attendance at an initial child and adolescent mental health services outpatient appointment is an inconvenience for staff and indirectly for the families. According to a study done by Ubeysekara A & Cox N., (1998), which interviewed family members who failed to attend their first appointment at a child psychiatric clinic, common reasons for non-attendance were: improvements in the child's symptoms during the waiting period, anxiety about seeing a psychiatrist or social worker, financial difficulties and an invitation to attend. Another important factor was that families were ill prepared by the referrers. A possible solution to this problem is telephonic confirmation of the appointment prior to the date of appointment, particularly when families are asked to confirm if they are attending. [33].

The services rendered by the Rahima Moosa CAMHS team qualified as a secondary level of service according to the definitions set out by Dawes et al., (1997). The team operated out of a regional hospital (Rahima Moosa Hospital). The main services provided here were diagnosing and management of a range of child and adolescent mental health problems. Patients were referred from primary healthcare, for example, schools and primary healthcare clinics as well as community organisations such as children's homes. Training was provided to medical students at this hospital; however, ideally training should be extended to other healthcare providers at primary level, caregivers of children in children's homes and schools. Tertiary level care was offered by Tara and Charlotte Maxeke Johannesburg Academic Hospital where child and adolescent specialist psychiatrists offered supervision to the secondary level services and inpatient care. This is in keeping with recommendations suggested by the Audit commission of 1999 in the

United Kingdom [34] and Dawes et al., (1997) [4]. Due to the lack of the allocation of a permanent social worker as part of the multidisciplinary team at Rahima Moosa CAMHS, these children were not routinely referred to the social worker that works in the general hospital. The more recent development of the adolescent and child teams (CAMHS) has been the focus of adolescent psychiatry. The difficulties of these services are the age limits set, that is, the cut-off age of 18 years instituted by educational and legal grounds. These adolescents require a different clinical approach because their priorities, obstacles and challenges differ to those of a child. Many adult type illnesses begin as a prodrome in the adolescent and the Rahima Moosa CAMHS team tended to struggle operationally and clinically with adult type disorders, such as mood, psychotic, substance and borderline disorders, which begin to manifest within the adolescents into adulthood.

According to Dawes et al., (1997), secondary level services should be provided at regional level [4]. These should include multidisciplinary specialist mental health teams operating from a regional hospital or community healthcare centre. The main services to be provided are diagnosis and management of a range of child and adolescent mental health problems. Patients who are referred from primary healthcare are seen here. These specialists should also provide supervision and training of primary healthcare workers. Referral of diagnostic problems to the tertiary level would take place through this level and not directly from primary level. Mental disorders account for around 10-20% of the total disease burden among young people in South Africa. There are high levels of unmet needs, poor access to and fragmentation of services and a lack of quality care for child and adolescents with emerging mental health disorders. This requires serious policy

attention and additional investment and reform. Child psychiatry is a relatively new sub-speciality and a new service provision in mental health. Thus, it faces many challenges and is under resourced and poorly distributed among communities. This was evident in the findings in this study, where areas, such as the West Rand, have very little if any services. Child and adolescent services focus on developmental and family issues, hence the ability to work flexibly with a range of other service providers including the education department. The bulk of the service is rendered by paediatricians and primary healthcare.

4.4 Demographic and socio-economic variables and clinical presentation

ADHD: Children in institutions are frequently overactive and have poor attention spans. These signs are a result of prolonged emotional deprivational factors and disappear when deprivational factors are removed, such as through adoption or placement in foster homes. Stressful psychic events, disruption of family equilibrium and other anxiety-inducing factors contribute to the initiation or perpetuation of ADHD. Socio-economic status does not seem to be a predisposing factor.[14] Studies conducted in children in southern Ethiopia in 2000 revealed socio-demographic correlates of attention deficit hyperactivity disorders in children. Children between the ages of 10 to 14-years had a more than threefold increase risk of ADHD as compared to younger children and residence in an urban area was also significantly associated with ADHD. [35] There was no significant association with sex, religion, fathers' education, mothers' education, marital status, family size or housing condition. The authors of the Ethiopian study acknowledge that there may have been a reporting bias in their study. The parents of children with ADHD show an increased incidence of hyperkinesis, sociopathy, alcohol

use disorders and conversion disorders. [14] In this study there was a significant association with ADHD and sex as well as mother being alive. A possible explanation for this, is that mothers notice their children's symptoms and so refer to mental health services. According to this study the odds for having ADHD was higher if the child was white or Coloured, lived with close relatives or in a children's home, was formally placed, father was deceased, parents were separated and in children living in flats. In the National Health and Nutrition Examination survey of children and adolescents in the USA regarding the twelve-month prevalence of ADHD, boys had a 2.1 times greater prevalence of attention/hyperactivity disorders than girls.[28]

Disruptive behaviour disorders: The disorder seems to be more prevalent in boys than girls before puberty, and the sex ratio appears to be equal after puberty. There are no distinct family patterns, but many parents of children with the disorder are themselves overly concerned with issues of power, control, and autonomy. [14] Some parent factors that are associated with disruptive disorders are severe physical and verbal aggression, chaotic homes, divorce, parental psychopathology, child abuse and negligence. Sociopathy, alcohol dependence and substance abuse in parents are associated with conduct disorders in their children. Socio-economically deprived children are at a higher risk for the development of conduct disorders than children and adolescents who grow up in urban environments. Unemployed parents and lack of supportive social networks seem to predict conduct disorder. Children brought up in chaotic, negligent conditions often express poor emotional modulation of emotions including anger, frustration and sadness. Poor modelling of impulse control and chronic unmet needs lead to a less well developed

sense of empathy. In the study in Ethiopia, disruptive behaviour disorders were significantly associated with increasing age only. [35] As with ADHD the authors of the Ethiopian study acknowledge that their findings could be due to reporting bias. In this study disruptive behaviour disorders were associated with caregiver relationship, placement and the mother's status. The odds of a child suffering form disruptive behaviour was higher if the child was white or Coloured, lived with close family or in a children's home whether formally or informally placed, mother was deceased, parents separated and they lived in an informal dwelling. Children who lived with close family and in childrens' home would possibly act out more due to them being separated from their parents. Children from broken families have greater chance of poor parental boundaries and rules hence leading to more disruptive behaviours. Children who have lost their mothers are likely to have more behaviour disturbances for several reasons including grief, loss, changes in their life circumstances and possibly not being noticed until their behaviour is out of hand. In the National Health and Nutrition Examination survey of children and adolescents in the USA, regarding the twelve-month prevalence of conduct disorders, there were no gender differences in rates amongst the children. [28]

Mood disorders: Mood disorders increase with increasing age. Depression is more common in boys than in girls among school age children, but some bias may be present in the clinic reports, as boys outnumber girls in psychiatric clinics. Little evidence indicates that parental marital status, number of siblings, family socio-economic status, parental separation, divorce, marital functioning or familial constellation or structure play much of a role in causing depressive disorders in children. However, some evidence indicates that

boys whose father died before they were 13-years of age are more likely than controls to have depression. [14] In the Ethiopian study, mood and anxiety were not significantly associated with any socio-demographic variable studied, which concurs with the findings of this study. [35] A limitation of the Ethiopian study was that due to the relatively few numbers of cases in the study and hence the lumping together of potentially distinct and unrelated disorders which could have lead to the above finding. In the National Health and Nutrition Examination survey of children and adolescents in the USA, regarding the twelve-month prevalence of mood disorders, girls had a twofold higher rate of mood disorders than boys. [28] In this study the odds of a child having a mood disorder was high if the child was female, Coloured, living with close family, formally placed, mother and father deceased, caregiver level of education less than grade 12, families with no income and living in children's home. Children who lived with family and who were formally placed, were not living with their parents this would result in issues of rejection and abandonment and this could account for them suffering from mood disorders. The loss of a parent at a young age, places a person at a greater risk of developing a mood disorder and this is in keeping with the finding of the study.

Anxiety disorders: Separation anxiety disorders are more common in young children than in adolescents and have been reported to occur equally in boys and girls. Mothers with anxiety disorders who are observed to show insecure attachment to their children tend to have children with higher rates of anxiety disorders. External life stresses often coincide with the development of anxiety disorders. The death of a relative, a child's illness, a change in a child's environment or a move to a new neighbourhood or school is

frequently noted in the histories of children with separation anxiety disorder. Learning factors and genetic factors play a role in anxiety disorders. [14] Unfortunately in this study family psychiatric history was not evaluated as a contributing factor to the mental disorders. In the National Health and Nutrition Examination survey of children and adolescents in the USA, regarding the twelve-month prevalence of anxiety disorders, there were no gender differences in rates amongst the children.[28] In this study anxiety disorders was more likely in Coloured children and in those living in flats.

Abuse: Abusive parents themselves have often been victims of physical and sexual abuse and of long-term exposure to violent home lives marked by pain and physical torment, which are powerful promoters of aggression. Stressful life conditions such as overcrowding and poverty can contribute to aggressive behaviour and may contribute to physical abuse towards children. Social isolation, the lack of a support system and parental substance abuse increase the potential for abusive and neglectful treatment of children. When environmental crises, such as unemployment, housing problems and financial need, heighten stress levels in vulnerable individuals, neglect and abuse may ensue. Mental disorders of the parents can play a role in so far as a parent's judgement and thought processes are impaired. The perpetrator of physical abuse is more often the mother than the father according to a group of perpetrators studied and 80% were regularly living in the homes of the children they abused. More than 80% of children studied were living with married parents, and about 20% were living with a single parent. Many abused children came from poor homes and families tended to be socially isolated. High risk factors identified include child living with a single parent home, marital

conflict, history of physical abuse and an increase in sexual abuse. [14] In this study there was statistically significant association between the type of housing and sexual abuse and children living in a childrens' home. This is due to a higher incidence of children in childrens' homes who have been sexually abused, as this might be the reason for their removal in the first place. The epidemiology of child abuse was investigated with data from the Second National Incidence and Prevalence Study of Child Abuse and Neglect. A statistical comparison of incidence rates suggested that age, family income, and ethnicity were risk factors for both sexual abuse and physical abuse, but county metro-status was not. Gender was a risk factor for sexual abuse not physical abuse. A logistic regression analysis showed that ethnicity, county metro-status, and a gender-by-income interaction distinguished sexual abuse from physical abuse. [36]

Neglect of a child: Parents who neglect their children are often overwhelmed, depressed, isolated and impoverished. Unemployment, the absence of a two-parent family and substance abuse may exacerbate the situation. In this study the odds of neglect in a child was higher if the child was white or Coloured, lived in a children's home, father was deceased, parents were separated or widowed and if there was no income in the family. According to a study done by Joseph C, Cappelleri JC, Eckenrode J & Powers JL., (1993), rates of physical and sexual abuse varied as a function of the socio-demographic characteristics of the child and his or her family and these characteristics helped distinguish between those children at risk for physical abuse and those at risk for sexual abuse [36]. Low income was a risk factor for both forms of maltreatment. [14] The findings of this study confirmed an association with sexual abuse and low income. Girls were

more likely to be abused sexually than boys in keeping with study of Joseph et al. Unlike the results of Joseph C et al., (1993), which showed that relative to physical abuse, sexual abuse was more likely for whites than for blacks but not more likely for whites than for other race groups, this study found no association between race and sexual or other types of abuse [36]. This study did not evaluate parental mental illnesses and substance abuse. The odds of a child being sexually abused was higher in this study if parents were deceased, separated or widowed, no income in household, lived in a children's home or informal dwelling or in a flat. Many children living in childrens' home would have been removed because of sexual abuse. Children living in poor social circumstances i.e. financial problems, poor housing broken homes, are exposed to harsher community stresses hence more abuse.

Academic problems: Many emotional factors contribute to a child's confidence, competence and academic success. Children who are troubled by family conflict, social isolation, or shyness may not fulfil their potential. Cultural and economic background can play a role in how well accepted a child feels in school and can affect the child's academic achievement. Familial socio-economic level, parental education, race, religion and family functioning can influence a child's sense of fitting in and can affect preparation to meet the school demands. In this study the income status, caregiver, placement of the child, education level of the caregiver and the father being alive were associated with academic problems. Children in placement would receive less supervision with homework, suffer more emotional problems and this could account for the

association with poor academic performance. Low income is associated with poorer housing, no electricity, food restrictions and these contribute to academic performance.

Bereavement: Bereavement in children presents with the child's need to find a person to substitute for the lost parent. Children may transfer their need for a parent to several other adults than to one. If there is no consistently available person, severe psychological damage may result so that the child no longer looks for, or expects, intimacy in any relationship. [14] In this study marital status had an association with bereavement, which is in keeping with the findings of Kaplan and Saddock [14]. This study also revealed a higher odds of suffering from bereavement if the child was female, Asian, living with a close family member or in a children's home, parents were deceased, parents were separated or widowed and no income in the family. It is important to point out that children who live in Childrens' homes have multiple cumulative losses and this will play a role in causing increased presentation with bereavement in this group. Asian communities are usually close and supportive and hence one would have expected lower odds of suffering from bereavement however due to the small sample of Asian children this could account for the anomaly.

CHAPTER 5 Conclusion and recommendations

In spite of government's initiative to prioritise child and adolescent mental health services in South Africa, more needs to be done to improve the psychiatric services amongst this vulnerable group including more available clinics, more child psychiatry training posts and greater social work services. Socio-economic factors influence the prevalence of childhood disorders and hence modifying the environment, to which these children are exposed, is an integral part of the holistic treatment approach.

This study clearly demonstrates the huge impact that socio-economic circumstances have on the prevalence of childhood disorders; hence, the urgent need for government and social welfare departments to improve the socio-economic status of our communities. Job creation and employment will lead to better outcomes and help lower the incidences of childhood illnesses. The focus should be on preventative measures, that is, improving the social well-being of both children and their parents, which will result in lower prevalence of disease.

School-based preventative and early detection initiatives: Main referral sources at primary healthcare level are schools and house-parents at children's homes. Since the main users of the clinic are in the school going age group, preventative programmes (promotion of normal development, e.g. bonding, stimulation, interpersonal and coping skills) should be targeted for these individuals. Providing psycho-education with regard to recognition of mental health problems to this group in the catchment area can lead to

early detection of mental illness and early intervention, leading to lesser burden of disease. Rahima Moosa CAHMS could offer in-service training to schools. Schools can also play a role in coordinating the special educational needs of learners and close liaison with schools will ensure the appropriate placement of children. In a recent American study of a universal intervention (LIFTS: Linking the Interest of Families and Teachers) with regard to reducing the prevalence of conduct problems, 32 classes in 12 primary schools (in at risk neighbourhoods) were exposed to control or preventative intervention. [37] Specially trained staff worked closely with teachers in classroom-based social and problem solving skills training and peer interaction interventions, promotion and follow up and the intervention group showed significant decreases in aggressive behaviour.[30] This highlights the need for the training of teachers.

Referral system: The function of a level 2 CAMHS team should be: providing training for tier 1 colleagues; consultation and liaison with tier 1 colleagues; direct specialist intervention for children and families whose needs cannot be met wholly by tier 1 and 2; and gate keeping access to tiers 3 and 4. There seems to be little shift from studies conducted by Vogel et al., (1996) with regard to the allocation of child and adolescent specialist training and consultant posts. This is evident as the registrar post at Rahima Moosa CAMHS is still a post borrowed from the adult services. The proposal of the consultant post at the Rahima Moosa CAMHS was for a post borrowed from paediatric services. This reiterates the need for government to prioritise child and adolescent mental health services by creating an additional post in level 2 CAMHS team in order for them to function efficiently and to do outreach work to the primary healthcare level 1 service

providers. Extra staffing leads to shorter waiting lists and faster screening and hence, earlier intervention.

Capacity: The possibility of a trained psychiatric nurse could be an integral part of the Rahima Moosa CAMHS team. The nurse could aid with screening of the children, which would reduce waiting times for children to be assessed. The Rahima Moosa CAMHS team does not have a social worker dedicated to the team. The social worker is shared with the rest of the hospital dealing with child and adolescent issues. A multidisciplinary approach requires a social worker as part of the team. Thus, a recommendation is to include a social worker in the team to help with grants, placements, home visits, investigation of alleged abuse and assisting caregivers.

Regional services: The West Rand services should develop their child and adolescent services to reduce the burden on the Rahima Moosa CAMHS. Over the past few years, the Rahima Moosa CAHMS has been growing in numbers and hence each region should develop their own services.

Role players: Liaison with the multi-agency stakeholders will improve child and adolescent care and lead to better outcomes for the children. Resources are spread across a range of sectors and these resources are poorly coordinated. Better communication and networking between agencies are needed. The Department of Education should be actively involved in finding placements for children who have been identified with

learning difficulties. There is a need for mental health to be integrated with education and incorporated in education policy.

Team member roles: As a level 2 clinic, the medical doctor with a psychiatric background in the team should provide the specialist assessment, that is, psychiatric assessment. A recommendation for improved service delivery is that screenings should be done by other team members with subsequent referral to a psychiatric clinic, thereby using the psychiatric registrar in his or her specialist field. This would create a more efficient service as the psychiatric assessment waiting list would be reduced.

Routine qualitative reviews: Clinic auditing of patient satisfaction should be conducted regularly to identify problems with service delivery. This pilot study should be followed by an ongoing assessment of services and the findings compared to improve services.

Quality of information of files: The quality of information taken in the file should be audited regularly so that the standard of history taking improves. Pertinent social factors that need to be included are family psychiatric history, parental substance abuse, education level of parents and psychosocial factors that contribute to axis IV.

Appendix

A. Data Collection Sheet

B. Routine Consent Form

C. Ethics Clearance Certificate

D. Catchment area (MAP)

APPENDIX A

DATA COLLECTION SHEET

DEMOGRAPHIC DATA:

Age

Actual age	< 5 years	5-10 years	>10-<15 years	>15 years

Sex

Male	Female

Race

Black	White	Asian	Coloured	Other

Catchment area

Catchment area	West Rand	East Rand	Central	Other

Caregiver relationship to child

Parent	Close family	foster parent	unknown

Placement of child with other caregiver if applicable

Formally placed	Informally placed	Unknown

Parent status: mother

Deceased	Alive	Unknown

Parent status: father

Deceased	Alive	Unknown

Caregiver: Level of Education

None	< Grade 7	Grade 7-12	Tertiary education	Unknown

Relationship of biological parents

Married/living together	Separated/divorced/single	Widowed	Unknown

Employment of parent- biological father

Employed full time	Employed part time	Disabled	Unemployed	Unknown

Employment of parent: biological mother

Employed full time	Employed part time	Disabled	Unemployed	Unknown

Type of housing

Flat	House	Children's home	Other	Unknown

No of people living in accommodation

No of cohabiters

CLINICAL DATA

Diagnosis:
Axis 1:

Disorder	**Tick**	**Specify**
Mood		
Psychotic		
Anxiety		
Disruptive behaviour		
Learning disorder		
Elimination disorder		
Communication		
Disorder secondary to GMC		
Pervasive developmental		
Adjustment		
ADHD		
Separation anxiety		
Substance		
Reactive attachment		
Other		

V codes

Abuse	Neglect of a child	Parent-child relationship problems	Sibling relational problems	Bereavement	Academic problem

Antisocial behaviour	Other

Axis 2: Mental retardation

Mild (50-69)	Moderate(35-49)	Severe (20-34)	Profound (Below 20)	Unknown

Axis 3:

Epilepsy	Head injury	HIV	Other

Axis 4:

Financial	Accommodation	Losses	Abuse	Parental discord	Other

Special investigations:

EEG	CT Brain	Bloods	Other	

Medication prescribed

Antidepressants	Psycho stimulants	Antipsychotic for psychosis	Antipsychotic for behaviour	Other

Mood stabilisers- for behaviour control	Mood stabilisers- for mood	Anticonvulsants- for epilepsy

Intervention: Referral for within department:

Psychiatry clinic- child	Psychiatry clinic- adult	Individual therapy	Family therapy	Parental Guidance	Other

Parent training group	Parent infant group	Couples therapy	IQ Assessment	Emotional assessment	HIV support group

SERVICE DATA

Referral source:

Parent	School	Coronation OPD	Coronation inpatient	Allied health practitioners	Social worker

Primary healthcare clinics	Children's home	Tertiary hospitals	Other

Waiting time:

Date booked	
Date first seen	
No of visits to date	

Service provider:

Registrar	Full time psychologist	Sessional psychologist	Intern psychologist

Service provided to patient:

Screening	Feedback	Play therapy	Individual therapy	Couples therapy

Family therapy	Parent guidance	Parent training group	Parent infant group

IQ assessment	Emotional assessment	Psychiatric assessment	Psychiatric follow up	Psychology follow up

Psychiatric consult	DNA	Trauma debriefing

Referrals out:

Child / social welfare	Allied health practitioners	Coronation OPD	Coronation inpatients	Education department	Primary healthcare clinics

Tertiary hospitals	Other

APPENDIX B

APPENDIX B

CORONATION HOSPITAL
PSYCHOLOGY DEPARTMENT

CONSENT FORM - CHILD

I _____mother/ guardian and/or
I _____ father/ guardian of
_____ (child's name)
give permission for my child to be psychologically assessed/ attend psychotherapy at Coronation hospital. The process has been explained to me and I understand that all information will be treated as confidential. The feedback to be given to any external referral source will be discussed with me beforehand.

I also understand that it is standard policy for the Psychology Department at Coronation Hospital not to do forensic work. No assessments may be done for these purposes and no staff may appear in court on a patient's behalf, unless the psychologist is served with a subpoena to appear in court, in which case the psychologist will appear as an unwilling witness. A subpoena may also be issued with regard to hospital records, including psychology files, which may then be used during court proceedings.

I also give permission for information contained in the psychology file to be shared with a supervising psychologist and/or used for research purposes on the condition that my confidentiality and anonymity and the rights of my child are protected.

I have read and understand the above-mentioned policies and am willing to continue and allow my child to continue with assessment/psychotherapy under these conditions.

Signed_____ date_____

Signed_____ date_____

APPENDIX C

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Raman

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER M070363**
PROJECT	A Review of the Child and Adolescent Mental Health Care Services at Coronation Hospital
INVESTIGATORS	Dr N Raman
DEPARTMENT	Department of Psychiatry
DATE CONSIDERED	07.03.30
DECISION OF THE COMMITTEE*	APPROVED UNCONDITIONALLY

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 07.05.03 **CHAIRPERSON** .....
(Professors PE Cleaton-Jones, A Dhai, M Vorster, C Feldman, A Woodiwiss)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor : Dr ABR J V Rensburg

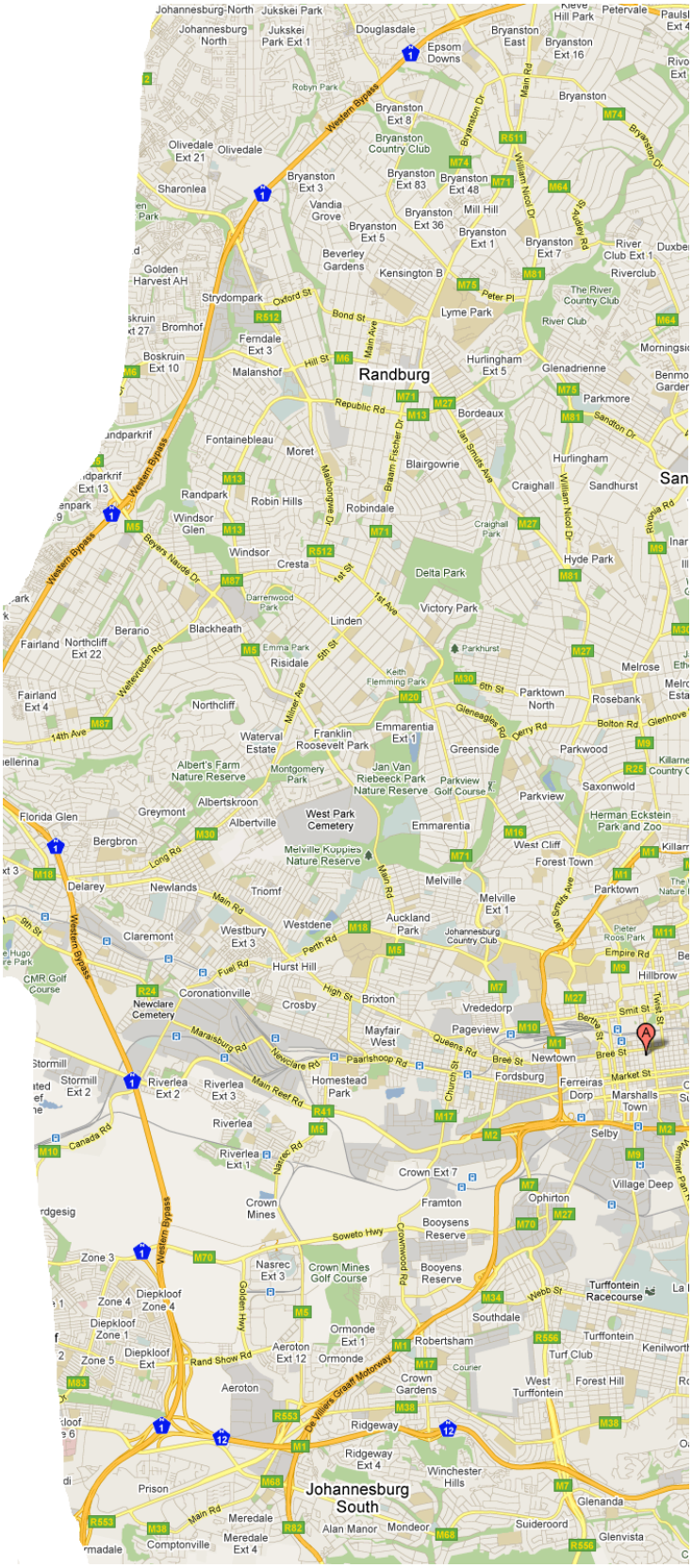
DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX D

MAP OF CATCHMENT AREA



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