Clinical and psycho-social profile of child and adolescent mental health care users and services at an urban child mental health clinic in South Africa

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Abstract

Objective: National and international child and adolescent mental healthcare policy and action advocate that the health and well being of children should be increasingly given greater attention. The purpose of this study was to describe the demographic, socio economic and clinical profile of the users at the child and adolescent mental health clinic of the Rahima Moosa Mother and Child Hospital (RMMCH). **Method:** A descriptive, retrospective clinical audit from users' clinical files was performed 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. Odds ratios were calculated for variables that showed a statistically significant association (p-value less than 0.05). **Results:** A total of 303 users attended this clinic. 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. Where the child was placed 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 found to be related to ADHD and disruptive behaviour and whether the father of a user was alive or deceased, was found to be 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 parent (widowed mother) showed a significant association with bereavement. Household income was associated with sexual abuse, neglect and academic problems. **Conclusion:** This study demonstrated the 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 communities. There is a need to improve psychiatric services for the population served by this hospital, including more clinics in its catchment area, as well as child psychiatry training posts and extended social work services.

Keywords: Socio-economic variables; Clinical profile; Child and adolescent mental health services; South Africa

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

includes 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; and the establishment at the time of a National Commission on Special Needs in Education and Training.[1]

Section 28(1) of the Constitution of the Republic of South Africa (Act no. 108 of 1996) provides that all children 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

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exploitation including exploitation for their labour.[2] Despite this emphasis on child services, however, there is generally a gross lack of child psychiatric facilities available. The area of child and adolescent health should be a priority for government. Dating from the 1908's, a report to the Committee of Enquiry into Child Mental Health Services reported a serious shortage of trained mental health workers at that time.[3]

Dawes et al. made the following recommendations with regard to child and adolescent mental health: ''*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 these authors, services must contain preventative, promoting, curative and rehabilitative elements. In this context, they advised that primary level services should operate at district level and should include: education of the community and screening for children at risk (preventative); family planning, youth education and basic parenting skills (promoting); as well as psycho social interventions and ongoing maintenance management of chronic disorders (curative). Secondary level services should be provided at regional level, including multidisciplinary specialists, operating from a regional hospital or community healthcare centre.[4] At this level these specialists should provide diagnostic services and management of a range of mental health problems, as well as supervision and training of primary health care workers. Tertiary level services should be rendered at a provincial level or national level, through specialist units operating from academic health complexes. Some services might be contracted by the state from NGOs and private facilities. Rehabilitative services include special institutions, such as, schools for autistic children.

The Rahima Moosa Mother and Child Hospital (RMMCH) in Coronationville, Johannesburg, South Africa, is a regional hospital dedicated to specialist services for women and children. The hospital forms part of the academic complex of the University of the Witwatersrand, with staff mainly from the departments of Paediatrics and Obstetrics and Gynaecology. The process of introduction of psychiatric services began in 2005, when a specialist trainee (registrar) from adult psychiatry at Helen Joseph Hospital (HJH) – affiliated to the aforementioned academic complex - initially offered a weekly outpatient service, which was gradually increased to a twice-weekly service from April 2005. The establishment of this registrar post - motivated by the adult psychiatric unit at HJH - echoed the finding of Vogel in 1996, that all child psychiatry posts at the time, were 'borrowed' from the adult services.[5] Following the first year of implementation of child and adolescent psychiatric services at RMMCH, the current study was undertaken with the following objectives: 1) to describe the demographic and socio-economic profile of service users and care givers; 2) to describe the clinical profile of users; 3) to describe the services offered; and 4) to compare the demographic profile of users and the socio-economic profile of their caregivers with the presenting clinical problems.

Method
Sample
A descriptive, retrospective clinical review of the data from all users' clinical files over a one-year period from January to December 2007 was performed.

Site
The Rahima Moosa Mother and Child Hospital (RMMCH) in Coronationville, Johannesburg, South Africa,

Data
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. A record sheet with demographic, socio-economic, clinical and service variables was completed for each user and entered into the database. Demographic and socio-economic variables reviewed included age, gender, race, catchment area, main caregiver, placement of the child, if parents were alive, level of education of caregiver and parents' marital status. Household variables included income, type of housing and number of co-inhabitants. Clinical variables included the diagnostic formulation on Axes I, II and III, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR).[6] Service variables included referral source, waiting time and number of visits.

Data analysis
The statistical software programme STATA 10.1 was used for the analysis of the data. Variables were described using frequencies, percentages and cross tabulations. Demographic and socio-economic variables were compared with the presenting clinical problem (Axis I diagnosis, including V-codes) using the Fischer's exact test. Probability with p-values of less than 0.05 was regarded as significant. 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). OR's larger than 1 indicated that the odds of that outcome for the exposed subjects were positively associated with that outcome, while OR's of less than 1 indicated that the exposure was protective for that outcome.

Ethics
Permission to conduct the study was obtained from the RMMCH and ethical clearance was obtained from the Human Research Ethics Committee of the University of Witwatersrand.

Results
A total of 303 users were seen at the mental health care clinic at RMMCH during the period January to December 2007. These users attended the clinic once, or multiple times during this period, resulting in a total number of 1454 consultations documented for children, adolescents and their care givers over this period.

Demographic variables
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.

The demographic and socio-economic profiles of users and their care givers are summarized in Tables I and II. The socio-economic variables reviewed were documented for 303 service users. Of these, the marital status of the parents of 136 (44.9%) users were documented as: single parents (either not married or divorced); 89 users' parents (29.4%) were married; 11 (3.6%) were widowed; and for 67 (22.1%) parental marital status was not documented.
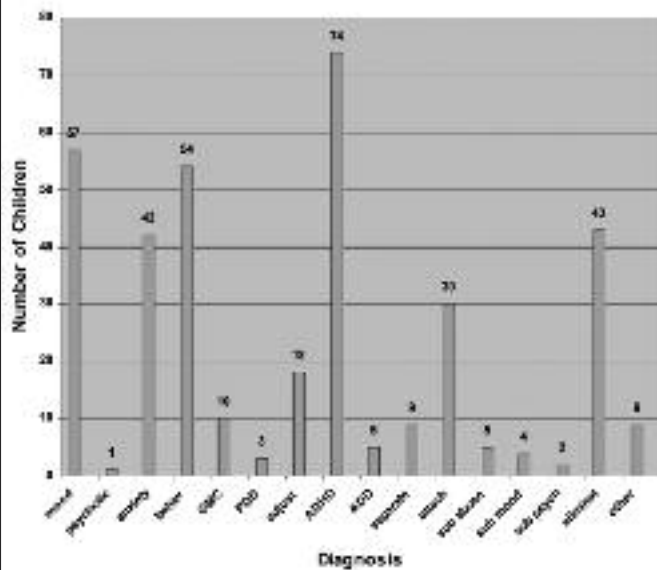
Clinical variables

Axis I refers to primary psychiatric disorders, while V-codes (also notated on Axis I) refer to problems that are encountered by the patient presenting as the focus of clinical attention.[6] Axis II refers to intellectual impairment, as personality disorders were not analysed as the patients included in this study were less than 18 years of age. Axis III refers to the presence of a co-morbid general medical condition. Several children had more than one diagnosis allocated after assessment and the figures following here below, therefore, represent the number of times a diagnosis was made, and not the number of separate cases.

- *Psychiatric diagnosis*
  The most common psychiatric diagnoses allocated during the study period were attention deficit hyperactive disorder – ADHD (n=74), mood disorders (n=57 depressed and n=3 bipolar disorder), behaviour disorders (n=54), anxiety disorders (n=59) and elimination disorders (n=43), (Figure 1). Only one child suffered from schizophrenia and two children suffered from a psychotic disorder secondary to temporal lobe epilepsy. Possible substance abuse problems were documented for only 11 children. One child was diagnosed with Asperger's disorder and two with autism. Disorders secondary to a general medical condition included mood disorders secondary to a head injury and epilepsy. With regard to elimination disorders, enuresis was seen more commonly (n=34) than encopresis (n=9).

Table I: Demographic profile

Sex of users	N=303 (%)
Males	192 (63.37)
Females	111 (36.63)

Race of users	N=303 (%)
Black	98 (32.3)
White	104 (34.3)
Asian	20 (6.6)
Coloured	80 (26.7)

Area	N= 303 (%)
Catchment area	202 (66.67)
West rand	35 (11.55)
Charlotte Maxeke Academic Hospital unit	19 (6.28)
Chris Hani	31 (10.23)
Other	16 (5.28)

Table II: Socio-economic profile

Caregiver of child	N= 303(%)	Level of education of caregiver	N=303 (%)
Parents	188 (62.05)	No education	2 (0.66)
Close relatives	46 (15.18)	Less than grade 7	13 (4.29)
Foster parents	66 (21.78)	Grade 7-12	106 (35.0)
Unknown	3 (0.99)	Tertiary	16 (5.28)
		Unknown	166 (54.78)
Placement of child	**N=108 (%)**		
Formal placement	(63.89)	**Employment –mother**	**N=303 (%)**
Informal placement	(20.27)	Full time	90 (29.8)
Unknown	(17.68)	Part time	7 (2.31)
		Unemployed	86 (28.48)
Status of mother	**N=303 (%)**	Disabled	3 (0.99)
Alive	251 (82.84)	Deceased	31 (10.26)
Deceased	35 (11.55)	Unknown	85 (28.15)
Unknown	17 (5.61)		
		Employment -father	**N= 303 (%)**
Status of father	**N=303 (%)**	Full time	100 (33.00)
Alive	214 (70.63)	Part time	10 (3.30)
Deceased	39 (12.87)	Unemployed	38 (12.54)
Unknown	50 (16.50)	Disabled	1 (0.33)
		Unknown	121 (39.94)
Marital status of parents	**N=303 (%)**	Deceased	33 (10.89)
Single	136 (44.88)		
Married	89 (29.37)	**Type of housing**	**N=303 (%)**
Widowed	11 (3.63)	Flat	45 (14.85)
Unknown	67 (22.11)	Children's home	51 (16.83)
		Houses	143 (47.2)
		Other dwellings	22 (7.26)
		Unknown	42 (13.86)

Figure 1: Axis I diagnoses

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

Anxiety disorders included post traumatic stress disorder (n=12), panic disorder (n=5), and generalised anxiety disorder (n=42). Learning disorders were diagnosed in 14 children including receptive and expressive learning disorder (n=1), mathematics learning disorder (n=1) and a global learning disorder (n=1).

- *V-Codes*
  These diagnoses included: emotional abuse (n=2); unspecified abuse (n=13); 32 academic problems (n=32); bereavement (n=15); sibling relationship (n=5); parent/child relationship (n=34); neglected (n=14); physical abuse (n=12); and sexual abuse (n=28).

- *Intellectual impairment*
  This was present in 45 children who attended the clinic. Borderline intellectual impairment refers to an IQ in the range of 71 to 84. Mild intellectual impairment refers to children with an IQ score of 50 to 70, moderate intellectual impairment refers to an IQ score from 35 to 55, and severe intellectual impairment refers to an IQ score from 20 to 40. There were 8 children with borderline intellectual impairment, 16 children with mild, 9 with moderate, and for 12, intellectual capacity was unspecified.

- *Medical illnesses*
  Some of the common general medical conditions that were documented included: epilepsy (n=13), head injury (n=4), and HIV/AIDS (n=6). Six children had other medical disorders, which included progressive encephalopathy, deafness, ectodermal dysplasia, and developmental delay.

Figure 2: Medication prescribed
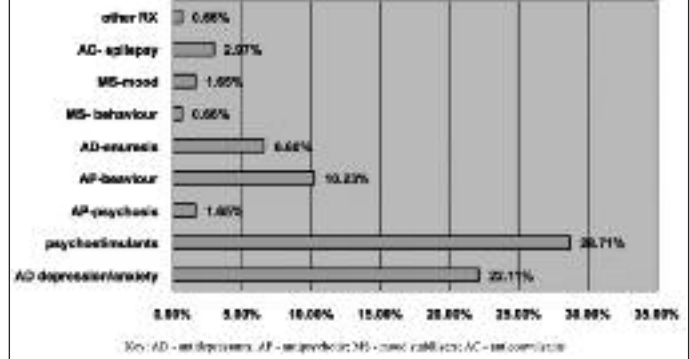
Key: AD - antidepressants; AP - antipsychotic; MS - mood stabilisers; AC - anticonvulsants

- *Special investigations*
  Investigations conducted included both EEG's (n=23) and CT scans of the brain (n=10). Blood investigations yielding relatively abnormal but clinically insignificant results, were documented for only 15 children.

- *Medication*
  The most commonly used antidepressants used were citalopram and imipramine. Methylphenidate preparations used were Ritalin and Ritalin LA (Figure 2). Risperidone was the most widely used antipsychotic.

- *Therapeutic intervention*
  Every child referred to the clinic was screened, where after patients were referred for a psychiatric assessment, for psychotherapy (individual, family, couples, parent training groups, parent-infant groups), or for an IQ assessment, emotional assessment or HIV/AIDS support groups (Table III).

Table III: Therapeutic interventions

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)

* One or multiple consultations per child or care giver

Service variables
Most referrals were received from the RMMCH paediatric outpatient department (n= 84). Other referral sources were as follows: parents' self-referral (n=37); schools (n=54); children's homes (n=40); allied professionals (n=13); social workers (n=26); inpatients at RMMCH (n=4); primary health care (n=4); other tertiary hospitals (n=8); and 'other' sources

(e.g. Child Line and the hearing clinic) (n=20). The waiting time were calculated from the date when the referral was made, until the date when the patient was assessed at the department. This ranged from 0 to a maximum of 413 days, with a mean of 49 days.

The definition of a visit refers to every time a user attended a service at the clinic with a minimum average duration of one hour. At the time, the team consisted of 2 intern psychologists, 3 session psychologists, 1 community service psychologist, 2 full time psychologists and the registrar. The total number of visits of users seen by any one of the professionals in the clinical team ranged from one to 30 visits per user over this 12-month period. As a result, the total number of consultations was 1454 for the total number of 303 users. The distribution of the workload (visits) at the clinic amongst the clinical staff was as follows: intern psychologist (n=106), session psychologist (n=15), full time psychologist (n=77) and the psychiatry registrar (n=176). Most screenings were referred for psychiatric assessments (83%). After patients were assessed at the clinic, it was sometimes necessary to refer the children to agencies that were not part of the clinic establishment. These were to: a psychiatric hospital (n=9); social workers (n=27); the education department (n=7); allied professionals (n=18); RMMCH inpatients (n=2); outpatient hospital services (n=12); and an optometrist (n=4).

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

Demographic and socio-economic variable were compared with the five most common presenting clinical problems (Axis I diagnoses): ADHD, mood disorders, anxiety disorders, disruptive behaviour disorders and with the V-code diagnoses made (sexual abuse, physical abuse, neglect, parent-child relationship problems, bereavement and academic problems). These results were summarized in Table IV.

ORs ratios were calculated to assess whether these variables represented independent risk factors for the respective Axis I-diagnoses (Tables V and VI). For this population, being male increased the likelihood of presenting with AHDH (OR37.7) and disruptive behaviour disorders (OR21.4), and being female increased the likelihood of being sexually abused (OR19.8). Race showed a significant association with parent-child relationship difficulties (coloured OR21). Regarding socio-economic variables, the identity of the caregiver of the child, where the child was placed, whether the mother or father was alive or deceased, the educational level of the care giver, the household income and the type of housing were associated with the presentation of disruptive behaviour disorders, sexual abuse, neglect and academic problems. Whether the mother of a user was still alive, was significantly associated with the child presenting with: ADHD (alive OR31.5); disruptive behaviour (deceased OR20); and bereavement (deceased OR28.6). Whether the father of a user was alive, was related to: sexual abuse (deceased OR12.8); and academic problems (alive OR13.6). The marital status of the parents showed a significant association with bereavement (parent widowed OR36.4), and the type of housing was associated with the risk of sexual abuse (children's home OR3.7). Single parent status, being divorced or not married, was found to have weaker associations, although with odds ratios of larger than 1, with the V-code problems of sexual abuse (OR1.93), neglect (OR1.56), parent-child relationship problem (OR1.13) and bereavement (OR2.9).

Discussion

With regard to limitations of this retrospective study, there was a lack of control over clinical data sets and reliability and validity of the documented diagnosis, which resulted in a large amount of 'unknown' values in e.g. substance abuse of care users and caregivers' level of education. This led to difficulty in elaborating more on the clinical and demographic data. The level of education of the child, family psychiatric history, and substance

Table IV: Significant associations between demographic, socio-economic variables and presenting clinical problems										
Clinical Problem	*Demographic Variable*			*Socio-Economic Variable*						
	Gender	*Race*	*Caregiver*	*Placement*	*Mother*	*Father*	*LOE care giver**	*Marital status*	*Income*	*Housing*
1. ADHD	Male					Alive				
2. Mood disorders										
3. Anxiety disorders										
4. Disruptive behaviour	Male		Relative	Formal	Alive					
5. V-Codes 5.1 Sexual abuse										
5.1 Sexual abuse	Female		Foster parent	Formal		Deceased	Primary		Un-employed	Children's Home
5.2 Physical abuse										
5.3 Neglect			Foster parent	Formal			Primary		Un-employed	
5.4 Parent- child relations		Coloured								
5.5 Sibling relations										
5.6 Bereavement					Alive			Widowed		
5.7 Academic problem			Parent	Informal		Alive	Primary		Employed	
*LOE – Level of education										

Table V: Odds ratios for the associations between demographic, socio-economic factors and the presenting Axis I psychiatric diagnosis

CLINICAL PROBLEM	1. DEMOGRAPHIC VARIABLES		2. SOCIO-ECONOMIC VARIABLES							
	Gender: M - male, F - female; Race: B - Black, W - White, A - Asian, C - Coloured.		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; Level of education (LOE): 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							
	Significant Odds Ratios in bold blocks; *p-value < 0.05 – italics*									
	Gender	Race	Caregiver	Placement	Mother	Father	LOE	Marital status	Income	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 disorders	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 disorders		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 2.3Fp 2.26	P 13.3 F 30.4 I 18.2 *p=0.018F* 2.84 I 1.44	A 15.5 D 20.0 *p=0.007* D 1.35			S 1.3		I 1.16

abuse of caregivers was not analysed. This information would have been important to determine the burden of the disease process on the child and genetic contribution to the illness. There was also not a differentiation made of psychiatric diagnoses in different age categories, which was an important distinction to make, since certain psychiatric and medical diagnoses have a higher prevalence in certain age groups.

With regard to the adherence to evidence based guidelines for the safe prescribing of medication, such as second generation antipsychotics in children, considerable consensus from published guidelines exists.[7] While these guidelines indicate that the assessment, when prescribing these agents, should include weight and body mass index, waist circumference blood pressure, lipid levels and glucose, adherence to these or others guidelines has not been followed at the RMMCH mental health care clinic.

With regard to a comparison with the findings of other studies, Moodley and Pillay found that one third of children admitted to a KwaZulu-Natal inpatient mental health unit were diagnosed as having a disruptive behaviour disorder, including conduct disorder, attention hyperactivity disorder and oppositional defiant disorder.[8] In this study at RMMCH in an outpatient setting, similar figures were found: 17.82% disruptive behaviour disorders, 31% ADHD and 1.65% ADD. According to Kaplan and Sadock[9] socio-economic status does not seem to be a predisposing factor for ADHD, but in this study, there was a significant association with ADHD and gender of the child, as well as with the mother being alive. A possible explanation for this is that mothers notice their children's symptoms and so refer more to mental health services.

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 two-fold higher rate of mood disorders than boys.[10] Locally, Vogel reported that depression was more common in boys than in girls among school age children seen in psychiatric clinics, although some bias may have been present in the clinic reports, as boys outnumbered girls in these psychiatric clinics.[5] Flisher et al. reported that the prevalence of depression was 2% of all school going children, with a greater prevalence in adolescent girls.[11] This RMMCH study showed that a much higher percentage of children (18.81%) had depression, as compared to studies in America and Australia.[10,12] In this study the odds of a child having a mood disorder was high if: the child was female; coloured; living with close family; was formally placed; her mother and/or father deceased; her caregiver's level of education was less than grade 12; she was from a family with no income; and if she was living in a children's home.

Disruptive behaviour 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.[9] In the current study, the odds of a child suffering from disruptive behaviour was higher if the child was white or coloured, if the child lived with close family or in a children's home (whether formally or informally placed), if mother was deceased, if parents were separated and if they lived in an informal dwelling.

External life stresses often coincide with the development of anxiety disorders, while learning factors and genetic factors also

Table VI: Odds ratios for the associations between demographic, socio-economic factors and the presenting V-code problems

CLINICAL PROBLEM	1. DEMOGRAPHIC VARIABLES		2. SOCIO-ECONOMIC VARIABLES							
	Gender: M - male, F - female; Race: B - Black, W - White, A - Asian, C - Coloured.		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; Level of education (LOE): 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							
	Significant Odds Ratios in bold blocks; p-value < 0.05 – italics									
	Gender	Race	Caregiver	Placement	Mother	Father	LOE	Marital status	Income	Housing
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=0.004F 3.62	P 6.7 F 18.8 I 4.6 p=0.028F3.25		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	Ch 3.7 I 1.3 p=0.003 Ch 3.66 I 1.33
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
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=0.023F 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
4. Parent- child relations	F 1.42	B 7.1 W 5.8 A 20.0 C 21.0 p=0.003C 3.25 A 3.45				D 1.16		S 1.13	U 1.16	
5. Sibling relations	F 1.15					D 1.38		W 4.35		Fl 2.17
6. Bereavement	F 1.55	A 1.7	R 3.15 Ch 1.23	I 3.69	A 1.99 D 28.6 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	
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

play a role in anxiety disorders.[9] While family psychiatric history as a contributing factor to the mental disorders, was not evaluated in the current study, anxiety disorders were found to be more likely in coloured children and in those living in flats. This could be because the population serviced by this clinic was mainly coloured.

In the current study, elimination disorders affected 14.19% of the children who attended the mental health care clinic at RMMCH. 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.[13]

With regard to V-code problems (physical and sexual abuse), Holford and Smith reported in their Mofolo study that approximately 57% of children were excessively punished, many to the point of physical abuse (.Holford L, Smith C. Family life: Sequelae of apartheid. Johannesburg: Child and Adolescent & Family Unit TMI Unpublished). In the current 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. According to a study by Joseph et al., 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 to distinguish between those children at risk for physical abuse and those at risk for sexual abuse.[14] The findings of this RMMCH 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.[14] The odds of a child being sexually abused was however higher if parents were deceased, separated or widowed, if there was no income for the household, and if the child lived in a children's home, an informal dwelling or in a flat. Children living in poor social circumstances are more exposed to harsher community stresses, hence more abuse may occur. The higher incidence of sexual abuse in children in children's homes might be the reason for their removal in the first place.

The income status, caregiver, placement of the child, education level of the caregiver and the father being alive were associated with academic problems in the current study. Children in placement would probably 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.

In the current sample bereavement was more likely if the child was placed (e.g. living with a close family member or in a children's home), and if parents were deceased, separated or widowed and with no income. It is important to note that children who were placed in a children's homes have already suffered multiple, cumulative losses, accounting for more bereavement in this group.

Following this initial review of child and adolescent mental health care services rendered at RMMHC during 2007, and comparing it with those proposed by Dawes et al.[4], these services can at least be regarded as a secondary level of service rendering. The team at RMMHC operated out of a regional hospital and the services provided included the diagnosis and management of childhood illnesses, as well as the training of medical students. A tertiary level of care was offered at the time by Tara Hospital and the Charlotte Maxeke Johannesburg Academic Hospital (both hospitals form part of the academic complex mentioned earlier), from where child and adolescent specialist psychiatrists also offered supervision to staff responsible for these secondary services at RMMHC. This scenario was also in keeping with recommendations suggested by the Audit Commission of 1999 in the United Kingdom.[15] Since 2007, the child and adolescent mental health clinic at RMMCH has been developed further by the appointment of a full-time child psychiatrist and a registrar. Referrals for admission are still made to the Tara and Helen Joseph Hospitals. While services and training are now fully integrated with the academic complex of the University of the Witwatersrand, some posts designated for the clinic are still unavailable, e.g. a professional nurse, social worker(s) and occupational therapist(s).

Conclusion

This study demonstrated the huge impact that socio-economic factors have on the prevalence of childhood psychiatric disorders and mental health problems in a vulnerable community. Addressing socio-economic factors will therefore have to be an integral part of a holistic approach to the treatment and management of patients in this setting. In addition, school-based preventative programmes will be required, and early detection initiatives will lead to lesser burden of disease. Liaison in this regard, between the departments of Health and Education, will improve child and adolescent care and treatment outcomes. In spite of government's initiative to prioritise child and adolescent mental health services in South Africa, much more needs to be done to improve the psychiatric services amongst this vulnerable group, including more available clinics. More designated child and adolescent psychiatry training posts must be made available, and extended social work services must be provided.

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