Pathways to Child and Adolescent Psychiatric Care in the Division of Child and Adolescent Psychiatry at Red Cross Children's Hospital

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Declaration

I Dr Birke Anbesse Hurrissa ,hereby declare that the work on which this dissertation is based is my original work and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university. I empower the university to reproduce for the purpose of research either the whole or any portion of the content in any manner whatsoever.

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Date: April 29/ 2011

CONTENTS

Abstract

Objective: To document the routes taken by patients to reach the Division of Child and Adolescent Psychiatry (DCAP) at Red Cross Children's Hospital and to identify the factors that are associated with delay in gaining access to care.

Methods: All new children and adolescents attending the Division of Child and Adolescent Psychiatry (DCAP) between December 2009 and September 2010 were included in the study (N = 118). The "encounter" form developed by WHO for the study of pathways to psychiatric care was modified for use in the study. The data were collected by clinicians in routine assessments, and then entered into Predictive analytics software version 18 (PASW Statistics 18). The time delay along each stage of the pathway to care was documented. Associations between the delay at each stage and the patients' sociodemographic characteristics, presenting complaint and diagnosis were examined using Mann-Whitney and Kruskal-Wallis tests.

Result: Out of the total sample 31.4 % contacted private and state hospitals as the first contact to care, 18.6 % went to school, 16 % to other groups of care provider such as police, children's homes, child guideline, pharmacists and social welfare, 14.4 % went directly to the DCAP before seeking help anywhere, 12.7 % went to clinics and 5.9 % went to general medical practitioners. The median delay was 96 weeks between onset of the illness and arrival at the DCAP. Children who went directly to the DCAP encountered the longest mean delay of 125.7 weeks before care was obtained. Diagnosis of oppositional defiant disorder and conduct disorder were found to be associated with longest delay before arrival at the DCAP.

Conclusion: The result of this study indicates that there is long delay in accessing mental health services and a lack of community resources in child and adolescent psychiatry. This implies the need for the additional community child mental health resources. There is also a need to empower and educate the professionals working at the different health care systems, school teaching staff and different child centred institutions about child mental health. Identification of high risk groups and planning a range of preventive interventions would be important at school and community level.

1. Introduction

The referral pathway to mental health care consists of sequences of actions that move the individual through different levels of a health care system. Each level represents a different context, such as the community, primary health care and specialist psychiatric services (Goldberg and Huxley (1992).

Information on pathways to care is important because it reveals the time taken to receive care, routes taken towards care, and the potential causes of delays in accessing care. In the context of depleted mental health resources in African countries, this is important in improving efficiencies and increasing access to much needed care.

In order to understand current evidence, a structured literature review was undertaken, focusing on the pathways to care and barriers to receiving care. A literature search was conducted on MEDLINE using the following key words: child, pathway, psychiatric care. The search found 19 articles from which only 5 were relevant. The excluded studies were studies about children and mental health but were not studies about service delivery or pathways to psychiatric care. For example one reported on correlates of childhood psychiatric disorders and other factors such as family, neighbourhood and child factors, and another about cost effectiveness of medications such as methylphenidate in treatment of Attention deficit hyperactivity disorders in children. In addition to this MEDLINE search, further articles were found through reference lists and hand searches.

1.1 Pathways to care

A number of studies have been reported indicating the different routes taken to reach various mental health care systems. Most of these studies are from high income countries, with only a small numbers of studies from low income countries.

According to studies of adults carried out in high income countries the first consultation was usually with general medical practitioners (Gater et al. 1991, Vazquez-Barquero et al. 1993). In different studies the referral route depends on a number of different factors. According to the study done in Eastern Europe (Gater et al. 2005) it was found that the choice of referral depended on the diagnosis and on the setting. Patients with psychotic disorders were more likely to be referred for psychiatric services, whereas those with social or material problems were more

likely to be referred to social workers. Patients in urban areas were more likely to be referred than those in rural areas.

In the same study general practitioners (GPs) have a limited role as gatekeeper in Albania, Croatia, Macedonia, Romania, Serbia and Montenegro and rarely prescribed treatment for mental disorders, except sedatives. The findings of this study indicated the major service providers in these countries were consulting GPs (62%), hospital doctors (12%) and psychiatric services (16%) (Gater et al. 2005). In addition to the major pathways, a few cases used different pathways: 10% of patients went to religious healers as the first entry, 6% to priests and 3% to the police. Then, following these pathways, most proceed via either GPs or hospital doctors to reach psychiatric services, with few of them following the primary entry directly to the psychiatric centre (Gater et al. 2005).

Several studies (Sayal et al. (2006), Abiodun et al.. (1992), Flisher et al. (1997), Zwaanswijk et al. (2005), Godfrey et al. (1995)) have also been conducted among children and adolescents. However, according to Sayal et al. (2006), compared to adult mental health, much less is known about the interface between child mental health and primary care. Pathways for children are more complex as they rely on adults such as parents and teachers to identify their problems and initiate service use.

In the Netherlands, Zwaanswijk et al. (2005) found that school personnel play an important role in the process of help-seeking for child psychopathology, in both detecting service need, referral for help and provision of care. Although Dutch GPs are supposed to be gatekeepers of mental health care, their role in help-seeking for child psychopathology was limited. Hence, the following solutions were proposed: educating parents about child psychopathology and availability and accessibility of care, improving GPs' skills in detecting child psychopathology; and direct contact between mental health professionals, GPs and schools.

In contrast, a UK study by Sayal (2006) found that even though children with mental health problems are regular attenders within primary care, most parents acknowledge that it is appropriate to discuss concerns about psychosocial issues in this setting. Few children present with mental health symptoms even if the parents have such concerns, and subsequently less than half of children with disorder are recognized in primary care. Amongst children that are recognized, about half are referred to specialist services. Overall, up to one third with disorders receive services for mental health problems.

The above studies were all conducted in high income countries. In addition, studies addressing pathways to care have been conducted in Ethiopia, Nigeria and Zimbabwe. All of these studies involved adult patients.The study conducted in Ethiopia by Bekele et al. (2008) indicated that out of the total 1044 patients, 41.1% initially went directly to the psychiatric service without having previous sought help elsewhere, 30.9% sought help from holy water or church, 21.5% consulted doctors in private or government hospitals, 4.5% had initial contact with herbalists or other traditional healers, and 2% were seen by nurses or psychiatric nurse. Similarly in Zimbabwe the route to psychiatric care indicated that most patients bypass primary care, and specialist psychiatric services were used as the initial point of entry to care (Reeler 1992).

However, the study in Nigeria showed a different picture from Ethiopia and Zimbabwe. Instead of directly going to the psychiatric services, most patients went to medical practitioners as the first point of entry. In this study, 26.5% of patients initially sought care from traditional healers, 13.4% had initial contact with religious healers, 55.9% presented to various medical practitioners in public and private health facilities, and 4.2% had initial contact with patent medicine dealers when they become mentally ill (Abiodun 1995).

To my knowledge in Africa there are no published studies on pathways to child and adolescent psychiatric care.

1.2 Barriers to care

The study by Sayal et al. (2006) indicated that following parental awareness of child symptoms, parental perception of problems was the key initial step in the help seeking process. Factors such as the type and severity of disorder, parental perceptions, child age and gender, family and social background factors determine the manner in which affected children gain access to services. In addition to this the main reasons for not referring recognised children include problems that are transient or related to GP confidence in managing the problem within primary care.

Another study on pathways to psychiatric care in Eastern Europe by Gater et al. (2005) highlighted the important role of family and friends and suggested a significant impact of the stigma associated with mental disorders. These factors suggest the development of a public mental health approach and exploration of the best ways to collaborate with families.

From general population studies that systematically investigated factors involved in receiving professional help, it is known that children who are referred are not representative of all those who have psychiatric disorders (Roberts et al. 1998) and referral is affected by many factors besides the children's problems.

A study by Flisher et al. (1997) conducted on correlates of unmet needs for mental health services by children and adolescents in the USA indicated the barriers to mental health services. These include health insurance not covering mental health treatments, help being too expensive, youth refusal to attend services, not trusting mental health professionals, transportation problems, child previously not being helped, being unsure where to go, being unable to get an appointment, being on a waiting list, and thinking the problem would go away or be solved unassisted.

Gater et al. (1991) described the referral pathways taken by 1,554 patients newly referred to the mental health service in 11 countries, and documents factors associated with delays in referral. Some of these factors which were significantly associated with longer delays were somatic symptom presentation and seeing a native healer that was in some of the centres such as Nairobi, Aden and Ujung Pandang. The pathways in centres relatively well provided with psychiatric staff were dominated by GP and to a lesser extent hospital doctors, whereas the relatively less well resourced centres showed a variety of pathways with native healers often playing an important part. Delays were remarkably short in all centres regardless of psychiatric resources, but some centres found longer delays on pathways involving native healers (Gater et al. 1991).

Beel et al. (2008) conducted research about GPs' views on psychologists and the determinants of patient's referral. The study result identified three main themes such as feelings toward psychologists, factors operated against referrals and treatment and GP dissatisfaction with the mental health system.

Many factors have been identified that may determine GPs referrals of clients to mental health professionals. Such as GPs attitude toward mental health and mental health professions, GP's training, feelings of competence, comfort, understanding and skill, professional relationships, support accessibilities, time constraints, patient difficulty and the affordability of psychological service for patients. Generally there were three main themes which were identified and these

include feelings toward psychologists, factors operated against referrals and treatment and GP dissatisfaction with the mental health system (Beel et al. 2008).

Feeling toward psychologists included the sub themes like psychologist capabilities and role in team, feedback communication and professional relationships, understanding of psychologists, understanding of psychologist training. The overall feeling demonstrated toward psychologists' capabilities was that they were competent to manage many aspects of treatment for patients with mental health issues and frequently were the provider of choice when referring. Regarding feedback communication and professional relationships most of the GPs in the current study were dissatisfied with the feedback from psychologists when the psychologists were outside the practice. In this study it was found that as a result of understanding of psychologists' training referral pattern didn't seem to differ (Beel et al. 2008).

Factors operating against referral and treatment included the sub themes of general practitioner factors, patient factors and organizational factors. The GP's factors includes lack of time, the large number of patients requiring support with mental health issues and the emotional requirements of dealing with these patients as causing stress and feelings of being under pressure. The patient factors operating against referral and treatment identified by the GPs included inability to pay for psychological services ,somatic presentation affecting identification of mental heath issues, culture, time factors, stigma, patient reliance, gender, motivation, understanding mental health problems ,patient difficulty and support. Among the organizational factors, lack of the mental health services was found to be a major factor operating against best practice (Beel et al. 2008).

On the other hand a study from Australia by Allison et al. (2008) conducted research on overcoming barriers in referral from school to mental health services. The main finding was that the main barriers and sources of dissatisfaction that school identified were child and adolescent mental health service waiting lists, service availability and lack of flexibility. As a result of the long waiting list parents gave up waiting and sought help elsewhere and school staff indicated that the long delays in accessing services made them reluctant to refer to child and adolescent mental health services.

Cratsley et al. (2008) conducted a study on the duration of untreated psychosis, referral route and age of onset in an early intervention psychosis service and local child and adolescent mental

team. This research investigated the association between demographic and clinical variables and duration of untreated psychosis in a sample of cases of psychosis. The finding was the median duration of untreated psychosis across the entire sample was 91 days, while those patients with initial treatment for psychosis from the child and adolescent team had a median duration of untreated psychosis of 69 days. There were two variables that showed a significant association with duration of untreated psychosis: referral route and age of onset, with earlier age of onset associated with shorter duration of untreated psychosis. The finding was discussed in relation to possible explanatory factors with particular focus on service level variables and pathways to care.

In this study multiple linear regressions of The Croydon Early Intervention in Psychosis Team (COAST) and Croydon Child and Adolescent Mental Health Service (CAMHS) caseload revealed that the referral route was significantly associated with duration of untreated psychosis (DUP) (two-tailed p value<0.001). Individuals referred via the liaison psychiatry service in the local hospital and the Home Treatment Team had the lowest duration of untreated psychosis.

In the same study it was indicated that the local CAMHS team may have played a role in the identification and treatment of psychosis at an early age. It was also emphasized that the professional in Croydon CAMHS service were highly trained and experienced in early identification of psychosis and its treatment. Regarding the service level explanation it was indicated as there was no significance difference in DUP between patients grouped by initial service contact. Finally the authors suggested that the involvement of the child and adolescent team is vital to the work of early intervention in psychosis services (Cratsley et al. 2008).

From the literature it was found that there are different pathways used by patients to reach mental health services. Additionally there are several different barriers to the mental health care and these include: GP dissatisfaction with the mental health system, insurance not covering mental health treatments, help being too expensive, youth refusal to attend services, not trusting mental health professionals, transportation problems, child previously not being helped, being unsure where to go, being unable to get an appointment, being on a waiting list, and thinking the problem would go away or be solved unassisted.

The literature review also indicated the importance of these studies for developing strategies to avoid unnecessary delays and to plan the necessary programmes to train health staff to provide

early and appropriate mental health services. There are few published studies on pathway to mental health care among children and adolescents worldwide. But to our knowledge there are no published studies on pathways and barriers to mental health services among children and adolescents in South Africa.

1.3 Rationale for this study

The main rationale for doing this research is that little is known regarding the pathways to receiving child and adolescent psychiatric care in the Division of Child and Adolescent Psychiatry (DCAP), Red Cross War Memorial Children's Hospital, or the factors that are associated with delay on the pathway. By developing an understanding of these factors, the study can contribute to the development of strategies to reduce delay and improve access.

1.4 Objectives of the study

The overall aim of the study was to document the routes taken by patients to reach the Division of Child and Adolescent Psychiatry and to identify factors that could be associated with delay in gaining access.

The specific objectives of the study were to:-

- Document the route taken by patients to reach Child and Adolescent Psychiatric care at the Red Cross Children's Hospital.
- Investigate the time interval taken to reach child psychiatric care in relation to the different care providers involved in referring the patients.
- Analyse the relationship of delay on the pathway to care and a variety of socio demographic factors
- Analyse the relationship of delay on the pathway to care and clinical factors.

2. Methodology

2.1 Study setting

This study was conducted in the DCAP, at Red Cross Children's Hospital which is one of the public health services in Cape Town, South Africa. In this division there are different clinical services which are offered for children and adolescents with mental health needs, including an inpatient therapeutic and learning centre, consultation liaison service, parent infant mental heath unit, outpatient department and outreach units at Vanguard, Kensington, Retreat and Red Cross Hospital behavioural clinics in Cape Town, South Africa.

Children and adolescents suffering from a wide variety of emotional and behavioural problems are referred to the Division. The units are staffed by variety of disciplines, including psychologists, psychiatrists, nurses, social workers and occupational therapists.

Referral to the division comes from different settings of the western region of Cape Town. These include inpatient and outpatient departments in the Red Cross children's Hospital, schools, community clinics or other health sector settings.

2.2 Sample

All new cases of children and adolescents including infants who attended the DCAP between 28th December 2009 and 30th September 2010 were included in the study. A total of 120 children and adolescents attended the services and were assessed during this period. However two of them were excluded since they were not found to fulfil the inclusion criteria; that is they were not new cases. This makes the total sample of 118. Patients were screened and interviewed in the outpatient rooms by professionals working in DCAP.

The consent and assent forms together with the proposal were submitted to the Research Ethics Committee (REC) of the Faculty of Health Sciences, University Cape Town before data collection commenced.(see appendix 2) After permission was granted (ethics permission number is REC REF:370 / 2009) a meeting was held with the staff members at the DCAP and it was suggested the data could be collected as routine clinical information without the consent and assent form, as all the data collected would be collected anyway, as part of routine clinical assessment. The REC at the Faculty of Health Sciences then granted permission to collect data without the consent and assent forms. (Appendix 3).

The interview was conducted by the professionals who saw these new cases, for example child psychiatrists, psychologists, child psychiatry nurses, psychiatric and child psychiatric registrars. The interview was conducted in the home language of the caregiver, which was English, Afrikaans or isiXhosa. Where necessary the professional would translate questions into Afrikaans or isiXhosa.

2.3 Measures

The "encounter" form developed by WHO for the study of pathways to psychiatric care was modified and used for the study. The last revised version of the encounter form is attached with this dissertation. (See Appendix 1)

The form contains basic questions including enquiries about places where contacts have taken place, source of referral, name of professional or the mental health practitioner who sees the patient and characteristics of the patient (age, sex, marital status, social position, and past history of psychiatric care). It also includes questions about the profession of each previous care provider whom the patent was in contact with, along with total duration of symptoms, length of time since the patient was first seen, the source of each referral, the main problem presented, the main treatment offered, the duration of the patent's journey to the care provider and the diagnosis made by the mental health practitioner. Additional socio- demographic variables such as address, religion, ethnic group, level of education, occupation of parent and family size were added to the original encounter form.

Some parts of the encounter form were modified to make it relevant to the area where the research was done and to the local child and adolescent population. Some of these change made were on basic information of the patients (religion, language (list of specific languages used in South Africa were added), population groups which were classified in to 5 types, education of the patents (for both parents were included) and six subclasses of the educational level were added in our encounter form, occupation of the both parents were included with the different subclasses). In addition to these to indicate the level of the socioeconomic status description of their house in general and the details of their housing condition to indicate their socioeconomic class were added to our encounter form with about five sub-classes.

2.4-Analysis

After information was collected using the encounter form the data were captured into an Excel file and imported into Predictive analytics software version 18 (PASW Statistics 18). After data cleaning, basic frequencies and descriptive data were generated. Comparisons between groups were investigated using either Mann-Whitney tests for two groups or Kruskal-Wallis tests for 3 or more groups. Three delay measures were computed. The time in weeks between the onsets of the disorder (first developing symptoms) to the first helper was defined as Delay 1. The time in weeks since onset of the disorder and arrival at DCAP was defined as Delay 2. The time in weeks since first seeking care and arrival at DCAP was defined as Delay 3. Each of the delay-variables was also recoded into 3 categories of delay as follow. Delay 1 was categorised in four categories (1) less than three months (2) three months to one year (3) one to two years (4) more than two years. Delay 2 was categorised in four categories (1) less than one year (2) one to two years (3) two to four years (3) more than four years. Delay 3 was categorised in four categories (1) less than one month (2) one to four months (3) four months to one year (4) more than one year. The delay categories were cross tabulated with various demographic variables where the group sizes were too small for conventional comparisons tests (i.e., Mann-Whitney and Kruskal-Wallis). In most cases the numbers of cells with expected counts less than 5 were too large to justify a chi-square test of independence and thus only the contingency table was described.

The socio demographic characteristics of the study group and their parental characteristics were described in two different tables. The association between mean delays and the socio demographic and the parental variables were summarized also in different tables. The type of care sought by patients before they arrived at the DCAP and the routes each patient took to reach the psychiatric centre were summarized in a diagram.

3. Results

3.1 Socio demographic

A total of 118 new cases of children and adolescents attended the DCAP at Red Cross Children's Hospital during the 10 month period. The sociodemographic characteristics are shown in table 1. Participants were grouped in to 7 groups of suburbs depending on their residential location and it was shown in appendix 4 and the parental characteristics in table 2.

The majority of the children and adolescents were male. The mean age was 10.7 years (range = 1-20 years, standard deviation 4.2 years). From the total sample of 118 participants, 69 (58.5%) of the children and adolescents live with their single parent, 26 (22.0%) with both parents and 23 (19.5%) live with neither of the parents. Most parents had a secondary level education.

As the DCAP at Red Cross children's Hospital has different outreach services, some participants also attended these outreach clinics (Retreat, Behavioural clinic at Red Cross Children's Hospital, Kensington and Vanguard child and adolescent psychiatry clinics). The majority of the participants, 78 (66.1%) were seen in the DCAP at Red Cross children's Hospital. Nineteen (16.1%) of them were seen in Retreat, 9 (7.6%) at the behavioural clinic at Red Cross children's Hospital, 7 (5.9%) at Kensington and 5 (4.2%) at Vanguard child psychiatry clinics

Ninety one (77.1%) of participants presented with a referral letter. From the total sample of 118, 27 (22.9%) of the participants attended the psychiatric service from the DCAP on the advice of Doctors, 36 (30.5%) school, 14 (11.9%) previous carer, 6 (5.1%) social workers, 5 (4.2%) by their family members and 17 (14.4%) by others (nurses, occupational therapist, speech therapist and children's home staff). From the total sample 45 (38.1%) of the participants had a previous history of care by other mental health services before they were referred to the DCAP at Red Cross Children's Hospital.

Table 1: Sociodemographic Characteristics

Sociodemographic Characteristics	Number	%
Sex		
Male	77	65.3
Female	41	34.7
Age (years)		
0-6	24	20.3
7-10	30	25.4
11-15	47	39.8
16 and above	17	14.4
Religion		
Islam	30	25.4
Christianity	83	70.3
Judaism	0	0
Traditional African religions	1	0.8
Other	4	3.4
Population group		
Black	15	11.9
White	15	11.9
Coloured	87	73.7
Indian	1	0.8
Languages spoken at home		
English	61	51.7
Afrikaans	18	15.3
Xhosa	9	7.6
English and Afrikaans	24	20.3
English and Xhosa	2	1.7
English and other	3	2.5
English ,Afrikaans and other	1	0.8
Residential location		
South east suburb	67	56.8
Northern suburb	10	8.5
Southern suburb	24	20.3
CBD & Surrounding	5	4.2
Western sea board	4	3.4
Southern Peninsula	6	5.1
West coast	2	1.7
Number of people sharing a room at night		
≤ 2 people	91	81.3
> 3 people	21	18.8
Socioeconomic status		
They don't have enough money for food	7	5.9
They have enough money for food, but not other basic items such as clothes	9	7.7
They have enough money for food and clothes but are very short of many other things.	41	35.0
They have the most important things, but few luxury goods	51	43.6
They have money for luxury goods and extra things	9	7.7
Description of their home		
Shack	5	4.2
Wendy house or backyard dwelling	17	14.4
Tent or traditional dwelling	1	8
brick house or flat	94	79.7
Other	1	8

Religion other (unknown and not applicable) and description of their home other (other than the listed above)

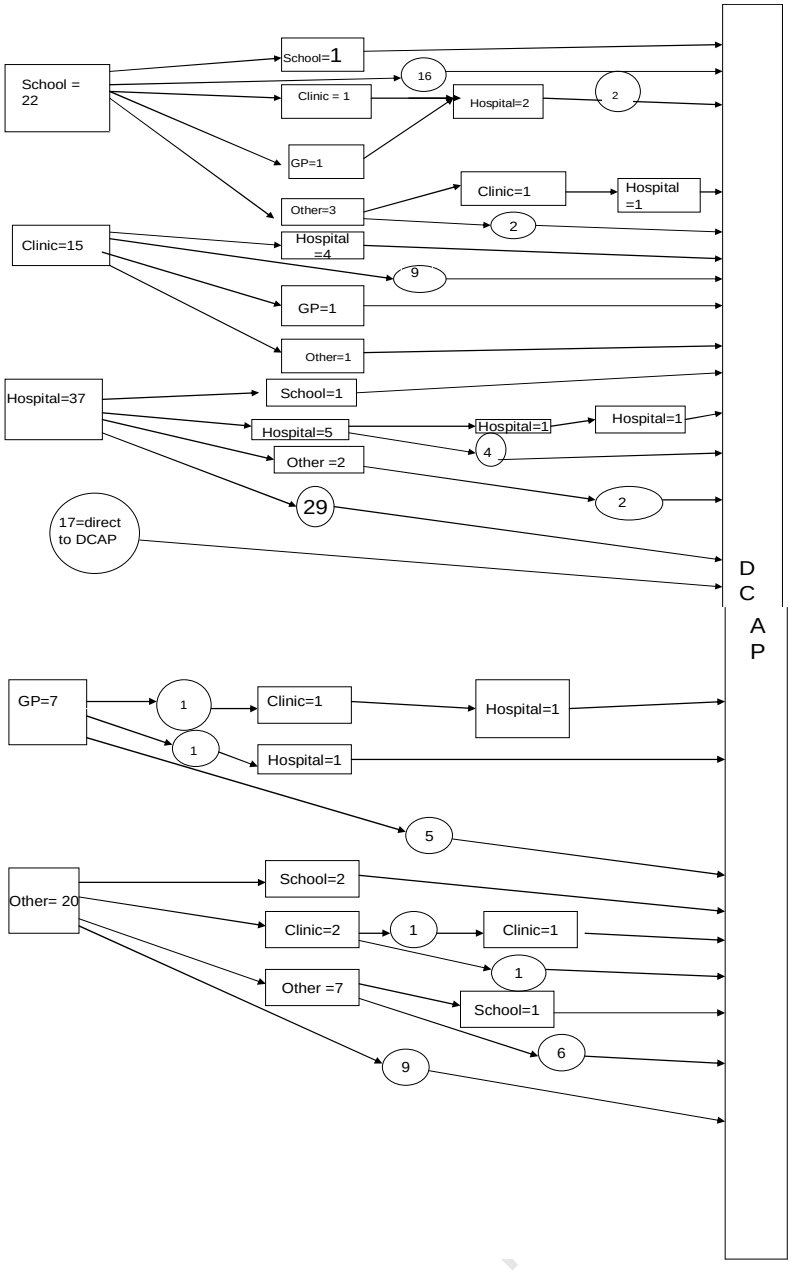
Table 2: Parental characteristics

Parental characteristics	Number	%
Parent marital status		
Married	44	37.3
Single	74	62.7
Occupation of father /main male caregiver		
Unemployed	16	13.6
Manual laborer	30	25.4
Student	1	0.8
Pensioner	6	5.1
Administrator /secretary /clerk	18	15.3
Professional /Manger	4	3.4
Other*	43	36.6
Occupation of mother /main female caregiver		
Unemployed	43	36.4
Manual laborer	14	11.9
Student	0	0
Pensioner	5	4.2
Administrator /secretary /clerk	37	31.4
Professional /Manger	8	6.8
Other *	11	9.3
Highest level of education of the father		
No formal education	3	15
Less than primary education	2	1.7
Primary education	11	9.2
Secondary education	52	43.3
College /University education	15	12.5
Not know	36	30
Highest level of education of the mother		
No formal education	1	0.8
Less than primary education	1	0.8
Primary education	15	12.5
Secondary education	62	51.7
College /University education	20	16.7
Not know	21	17.5

*Occupation other (unknown occupational status, died, warden, bartender, personal trainer, self-employed and business owner).

3.2. Pathway to care

Figure 1: the routes that children and adolescents took to reach the DCAP at Red Cross Children's Hospital



*other (police, children's home, Social Welfare, child guideline, Pharmacist, children institute, social worker, Parent center). General medical practitioner= (GP). The numbers on the above figure indicate the number of participants who went to that particular health care provider.

Out of 118 total samples of patients, 17 (14.4%) went directly to DCAP without having previously sought help elsewhere. Of the rest, 37 (31.4%) first went to hospital, 22 (18.6%) to school, 20 (16.9%) to others, 15 (12.7%) clinics and 7 (12.7%) general medical practitioners as their first care providers.

After their first contact to the non psychiatric care provider from the remaining 101 participants 68 (57.6%) of them went to DCAP, 13 (11.0%) to other (police, children's home, social welfare, child guideline, pharmacist, children institute, social worker, parent centre), 10 (8.5%) to hospital, four (3.4%) to school, four (3.4%) to clinics and two (1.7%) to GPs as their second care provider before reaching to DCAP.

As their third care provider, 27 (22.9%) went to DCAP, four (3.4%) to hospital, one (0.8%) to school, one (0, 8%) to clinic and one (0, 8%) to the other (police, children's home, social welfare, child guideline, pharmacist, children institute, social worker, parent centre).

As their fourth care provider 7 (5.9%) went to DCAP, one (0.8) to hospital and the other one (0.8) to the other care provider. The remaining two participants went to DCAP as their fifth care provider.

3.3. Delays along the pathway to care.

Delay between developing the symptom and arrival at DCAP ranged between one week and 672 weeks. The mean delay was 96.0 weeks with standard deviation of 123.8, modal value 96.0 weeks and the median time was also 96.0 weeks. The delay at the 25th percentile was 48 weeks, with 75th percentile at 192 weeks. Thirty six (31.0%) of the participants had a delay of less than 1 year.

Mean delay in weeks between developing of the symptom and arrival at the first care giver was 84.7, (median 48.0 standard deviation 110.2). The range of the delay was 0 -659 weeks.

Mean delay between contacting the first care giver and arrival at the DCAP was 48.9 weeks (median 16.0, standard deviation of 81.9, range 0-432 weeks). Of these participants, 34 (28.8%) had a delay between 4 months and 1 year in duration.

3.4 Associations of delay and socidemographic characteristics.

Delay associated with sociodemographic characteristics for age, sex, religion, and marital status of the parents are shown in Table 3. The association between delay and residential location, socioeconomic status, educational level and occupational status of the parents are shown on tables 4, 5, 6 and 7 respectively.

The significance of the association between the delay and the above three variables (residential location, parent educational and occupational variables) were not tested, because of the small numbers in each sub-group.

There was no significant difference in mean delay between the onset of the symptom and arrival at DCAP (delay 2) for age, sex, religion, marital status of the parents, number of family members sharing a room at night with the child and setting where patients were seen for the first time ($p > 0.05$). Age groups 16 and older had a significantly higher mean delay in weeks (70.8) between contacting the first care giver and arrival at the DCAP (delay 3) than younger age groups ($p = 0.038$). There was longer mean delay for children with Islamic religion (127.3) compared to Christian (71.4) from starting of the symptoms and arrival at their first care giver (delay 1) ($p=0.024$). However, for delay between contacting the first care giver and arrival at the DCAP (delay 3) there was a significantly longer delay in weeks for children whose religion was Christian (58.6) ($p= 0.035$).

Table 3: Association between mean delays (weeks) and sociodemographic variable

Socio-demographic variable	Mean Delay1 (Weeks)	Test statistic	df	P*	Mean Delay-2 (Weeks	Test statistic	df	p*	Mean Delay-3 (Weeks)	Test statistic	Df	p*
Sex		1242.0	"a"	.106		1190.0	"a"	.054		1570.5	"a"	.964
Male	89.0				141.3				52.0			
Female	76.5				120.5				43.0			
Age (years)		5.063	3	.167		.587	3	.899		8.456	3	.038
0-6	83.3				121.2				37			
7-10	89.8				116.5				26.7			
11-15	89.9				151.8				61.2			
16 and above	63.8				134.6				70.8			
Parent marital status		1406.	"a"	.310		1576.0	"a"	.963		1563.5	"a"	.719
Married	76.0				130.9				55.1			
Single	90.0				136.0				45.2			
Religion *		875.0		.024		1197.0		.904		922.5		.035
Islam	127.3				142.7				16.1			
Christianity	71.4				131.1				58.6			

"a" =degrees of freedom could only be reported if there were more than 2 variables
Delay -1: Mean delay (weeks) between first developing symptoms and first seeking care
Delay- 2: Mean delay (weeks) between first developing symptom and arrival at the psychiatric service
Delay- 3: Mean delay (weeks) between first seeking care and arrival at the psychiatric service
*Significance for age and parental marital status tested using Mann-Whitney U and for age Kruskal- Wallis H tests
*Significance for Religion compared only between Muslim and Christian religion

Table 4: Association between delay and residential location or region

		Delay 2 (in weeks)				Total
		<1 year	1 to 2 years	2 to 4 years	> 4 years	
South Eastern Suburbs	Count	14	18	17	17	66
	% within Region	21.2%	27.3%	25.8%	25.8%	100.0%
	% within delay 2	38.9%	60.0%	70.8%	65.4%	56.9%
Northern Suburbs	Count	5	2	1	2	10
	% within Region	50.0%	20.0%	10.0%	20.0%	100.0%
	% within delay 2	13.9%	6.7%	4.2%	7.7%	8.6%
Southern Suburbs	Count	9	7	3	5	24
	% within Region	37.5%	29.2%	12.5%	20.8%	100.0%
	% within delay 2	25.0%	23.3%	12.5%	19.2%	20.7%
CBD* & surrounds	Count	3	0	1	0	4
	% within Region	75.0%	.0%	25.0%	.0%	100.0%
	% within delay 2	8.3%	.0%	4.2%	.0%	3.4%
Western seaboard	Count	2	1	0	1	4
	% within Region	50.0%	25.0%	.0%	25.0%	100.0%
	% within delay 2	5.6%	3.3%	.0%	3.8%	3.4%
Southern Peninsula	Count	2	1	2	1	6
	% within Region	33.3%	16.7%	33.3%	16.7%	100.0%
	% within delay 2	5.6%	3.3%	8.3%	3.8%	5.2%
West Coast	Count	1	1	0	0	2
	% within Region	50.0%	50.0%	.0%	.0%	100.0%
	% within delay 2	2.8%	3.3%	.0%	.0%	1.7%
Total	Count	36	30	24	26	116
	% within Region	31.0%	25.9%	20.7%	22.4%	100.0%
	% within delay 2	100.0%	100.0%	100.0%	100.0%	100.0%

Delay 2 (weeks) is delay between onset of the symptom and arrival at DCAP

*CBD-Central business district)

Table 5: Association between delay and socioeconomic status

		Delay 2 (in weeks)		Total
		One year or less	More than 1 year	
Low SES	Count	5	11	16
	% within socioeconomic status	31.3%	68.8%	100.0%
	% within delay2 (weeks)	14.3%	13.8%	13.9%
Medium SES	Count	11	29	40
	% within socioeconomic status	27.5%	72.5%	100.0%
	% within delay2 (weeks)	31.4%	36.3%	34.8%
High SES	Count	19	40	59
	% within socioeconomic status	32.2%	67.8%	100.0%
	% within delay2 (weeks)	54.3%	50.0%	51.3%
Total	Count	35	80	115
	% within socioeconomic status	30.4%	69.6%	100.0%
	% within delay2 (weeks)	100.0%	100.0%	100.0%

SES= Means socioeconomic status.

Delay 2 is delay between onset of the symptom and arrival at DCAP

Table 6: Association between delay and father /main male figure educational variable

		Delay 2 (in weeks)				Total
		<1 year	1 to 2 years	2 to 4 years	> 4 years	
No formal education	Count	1	1	1	0	3
	% within father's education	33.3%	33.3%	33.3%	.0%	100.0%
	% within delay2 (weeks)	4.2%	5.0%	5.6%	.0%	3.8%
Less than primary education	Count	1	1	0	0	2
	% within father's education	50.0%	50.0%	.0%	.0%	100.0%
	% within delay2 (weeks)	4.2%	5.0%	.0%	.0%	2.5%
Primary education	Count	3	2	3	2	10
	% within father's education	30.0%	20.0%	30.0%	20.0%	100.0%
	% within delay2 (weeks)	12.5%	10.0%	16.7%	11.1%	12.5%
Secondary education	Count	17	11	11	12	51
	% within father's education	33.3%	21.6%	21.6%	23.5%	100.0%
	% within delay2 (weeks)	70.8%	55.0%	61.1%	66.7%	63.7%
College/University education	Count	2	5	3	4	14
	% within father's education	14.3%	35.7%	21.4%	28.6%	100.0%
	% within delay2 (weeks)	8.3%	25.0%	16.7%	22.2%	17.5%
Total	Count	24	20	18	18	80
	% within father's education	30.0%	25.0%	22.5%	22.5%	100.0%
	% within delay2 (weeks)	100.0%	100.0%	100.0%	100.0%	100.0%

Delay 2 is delay between onset of the symptom and arrival at DCAP

The 5 categories of the socioeconomic status (see appendix 1, 2nd page of the encounter form on No 22) were collapsed into 3 categories to allow for more detailed statistical analysis. These categories were Low, Medium and High socioeconomic status (SES). Additionally the category of Delay 2 was also divided in to two categories namely (1) One year or less and more than one year; and (2) Two years or less and More than two years (see table 5).

The association between socio-economic status and Delay 2 was investigated using the chi-square test of independence. The result suggests no statistically significant association between the two variables ($\chi^2(2) = .255$, $p = .880$) for both of the delay categories, namely the first recode of delay 2 (one year or less vs. more than one year) and second recode of delay 2 (two years or less vs. more than two years). However, for the second recode of delay 2 (two years or less vs. more than two years) the proportions suggest a trend of greater delay being associated with lower socio-economic status. The proportion of patients from High SES (n=20, 33.9%) is smaller than the proportion of patients from Medium and Low SES (n=21, 52.5%; n=9, 56.3%).

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Participants who came from the south eastern suburbs had a longer delay compared to other Participants. Out of 66 participants who came from the south eastern suburbs, 17 (25.8%) had a delay of 2 - 4 years from the starting of the symptoms and arrival at the DCAP (see table 4).

Out of the 10 participants whose father had primary educational level, three (30%) had delay between 2-4 years between onset of the symptom and arrival at the DCAP (see table 6).
Thirty of the participants had their fathers being manual laborers and out of these nine (30.0%) were having a delay that was more than 4 years. Similarly out of the total sample, six of the participants had a father who was a pensioner and from these two (33.3%) of them had a delay between 2-4 years (See table 7).

3.5 Association between delay and first care giver

From all participants, those who went directly to the DCAP as their first care giver had a longer mean delay in weeks (125.7) before seeking care compared to those who first sought help from clinics (98.5), school (80.8), other organizations (such as police, children's home, social welfare,

child guideline, pharmacist, children institute, social worker, parent centre) (103.05) and hospitals (63.9) (p=0.028 and chi-square = 12.59).

Mean delay in weeks between onset of the symptom and arrival at the DCAP was longer (153.9) for those who used school as their first care giver compared to those who used other care providers. The mean delay in weeks was longer (150.2) for those who used other organizations compared to those who used a hospital (127.5) as their first care giver. However all these difference were not statistically significant (p=0.899).

3.6 Association between delay and main problem presented at the first care provider

From the total sample 58 (49.2%) presented to their first care providers with behavioural problems, followed by 20 (16.9%) who presented with mood disorder, 8 (6.8%) with various family problems, 6 (5.1%) with attention and hyperactivity problems, 5 (4.2%) anxiety, 3 (2.5 %) developmental problems (delay in intellectual ability and adaptive functions), 2 (1.7%) behavioral problem due to medical conditions and 16 (13.6 %) other types (psychosomatic, adjustment problems, school refusal, relationship problems, learning problems and sexual abuse).

The association between delay and main problem presented were cross tabulated in two ways that was for those who went directly to the DCAP and the other groups who went to the division via other routes. (see table 8.a and 8.b).

Table 7: Association between delay and father /main male figure occupation

		Delay 2 (in weeks)				Total
		<1 year	**1 to 2 years**	**2 to 4 years**	**> 4 years**	
Unemployed	Count	2	6	5	3	16
	% within Father's Occupation	12.5%	37.5%	31.3%	18.8%	100.0%
	% within delay2	5.6%	20.0%	20.8%	11.5%	13.8%
Manual laborer	Count	10	7	4	9	30
	% within Father's Occupation	33.3%	23.3%	13.3%	30.0%	100.0%
	% within delay2	27.8%	23.3%	16.7%	34.6%	25.9%
Student	Count	1	0	0	0	1
	% within Father's Occupation	100.0%	.0%	.0%	.0%	100.0%
	% within delay2	2.8%	.0%	.0%	.0%	.9%
Pensioner	Count	1	1	2	2	6
	% within Father's Occupation	16.7%	16.7%	33.3%	33.3%	100.0%
	% within delay2	2.8%	3.3%	8.3%	7.7%	5.2%
Administrator/ secretary/clerk	Count	4	7	5	2	18
	% within Father's Occupation	22.2%	38.9%	27.8%	11.1%	100.0%
	% within delay2	11.1%	23.3%	20.8%	7.7%	15.5%
Professional/manager	Count	1	1	1	1	4
	% within Father's Occupation	25.0%	25.0%	25.0%	25.0%	100.0%
	% within delay2	2.8%	3.3%	4.2%	3.8%	3.4%
7 Other	Count	17	8	7	9	41
	% within Father's Occupation	41.5%	19.5%	17.1%	22.0%	100.0%
	% within delay2	47.2%	26.7%	29.2%	34.6%	35.3%
Total	Count	36	30	24	26	116
	% within Father's Occupation	31.0%	25.9%	20.7%	22.4%	100.0%
	% within delay2	100.0%	100.0%	100.0%	100.0%	100.0%

Delay 2 (weeks) is delay between onset of the symptom and arrival at DCAP

Table 8.a: Associations of delay and symptom presented directly to DCAP

			Delay 2 (in weeks)				Total
			<1 year	1 to 2 years	2 to 4 years	> 4 years	
DCAP	Attention and hyperactivity	Count	0	2	1	0	3
		% within symptom presented	.0%	66.7%	33.3%	.0%	100.0%
		% within delay2 (weeks)	.0%	33.3%	25.0%	.0%	17.6%
	Behaviour	Count	2	4	2	2	10
		% within symptom presented	20.0%	40.0%	20.0%	20.0%	100.0%
		% within delay2 (weeks)	50.0%	66.7%	50.0%	66.7%	58.8%
	Family	Count	1	0	0	0	1
		% within symptom presented	100.0%	.0%	.0%	.0%	100.0%
		% within delay2 (weeks)	25.0%	.0%	.0%	.0%	5.9%
	Other	Count	1	0	1	1	3
		% within symptom presented	33.3%	.0%	33.3%	33.3%	100.0%
		% within delay2 (weeks)	25.0%	.0%	25.0%	33.3%	17.6%
	Total	Count	4	6	4	3	17
		% within symptom presented	23.5%	35.3%	23.5%	17.6%	100.0%
		% within delay2 (weeks)	100.0%	100.0%	100.0%	100.0%	100.0%

Delay 2 is delay between onset of the symptom and arrival at DCAP.

Table 8.b: Associations between delay and symptom presented to DCAP via other routes

			Delay 2 (in weeks)				Total
			<1 year	1 to 2 years	2 to 4 years	>4 years	
Via OTHER ROUTES To DCAP	Mood	Count	11	4	3	1	19
		% within symptom presented	57.9%	21.1%	15.8%	5.3%	100.0%
		% within delay2 (weeks)	34.4%	16.7%	15.0%	4.3%	19.2%
	Anxiety	Count	3	0	0	1	4
		% within symptom presented	75.0%	.0%	.0%	25.0%	100.0%
		% within delay2 (weeks)	9.4%	.0%	.0%	4.3%	4.0%
	Attention and hyperactivity	Count	1	0	0	2	3
		% within symptom presented	33.3%	.0%	.0%	66.7%	100.0%
		% within delay2 (weeks)	3.1%	.0%	.0%	8.7%	3.0%
	Developmental	Count	0	0	1	2	3
		% within symptom presented	.0%	.0%	33.3%	66.7%	100.0%
		% within delay2 (weeks)	.0%	.0%	5.0%	8.7%	3.0%
	Psychiatric problems due to Medical condition	Count	1	1		0	2
		% within symptom presented	50.0%	50.0%	.0%	.0%	100.0%
		% within delay2 (weeks)	3.1%	4.2%	.0%	.0%	2.0%
	Behaviour	Count	9	17	10	12	48
		% within symptom presented	18.8%	35.4%	20.8%	25.0%	100.0%
		% within delay2 (weeks)	28.1%	70.8%	50.0%	52.2%	48.5%

Table 8.b: Associations between delay and symptom presented to DCAP via other routes (continued)

			Delay 2 (in weeks)				Total
			<1 year	1 to 2 years	2 to 4 years	> 4 years	
Via Other Routes To DCAP	Family	Count	2	0	3	2	7
		% within symptom presented	28.6%	.0%	42.9%	28.6%	100.0%
		% within delay2 (weeks)	6.3%	.0%	15.0%	8.7%	7.1%
	Other *	Count	5	2	3	3	13
		% within symptom presented	38.5%	15.4%	23.1%	23.1%	100.0%
		% within delay2 (weeks)	15.6%	8.3%	15.0%	13.0%	13.1%
	Total	Count	32	24	20	23	99
		% within symptom presented	32.3%	24.2%	20.2%	23.2%	100.0%
		% within delay2 (weeks)	100.0%	100.0%	100.0%	100.0%	100.0%

Delay 2=delay between onset of the symptom and arrival at DCAP

Other* = psychosomatic, adjustment problems, school refusal, relationship problems learning problems, sexual abuse

Table 9: Association between delay and diagnosis made at the DCAP

Diagnosis	Mean delay between onset of symptoms and arrival at the first care giver		Mean delay between onset of the symptom and arrival at DCAP	
	N (%)	Delay (weeks)	N (%)	Delay (weeks)
Anxiety, GAD, Panic disorder, PTSD, Performance anxiety, Separation anxiety & adjustment	16 (13.8%)	44.5	16	62.1
ODD & conduct disorder	17 (14.7%)	90.9	17	178.2
ADHD	28 (24.1%)	93.9	28	153.0
MDD & BPD & Dysthymic disorder	16 (13.8%)	80.3	16	128.4
Parent child relational problem & reactive attachment disorder	13 (11.2%)	147.5	13	175.4
Other: MR, PDD, Substance related disorders, pathological bereavement, Para suicide, Enuresis, Learning disorders, Encopresis, & Tic disorders	14 (12.1%)	83.7	14	142.4
No diagnosis	12(10.3%)	47.3	12	75.9
Total	116 (100%)		116	

Note: GAD(Generalized anxiety disorder), PTSD(Posttraumatic stress disorder), ODD(Oppositional defiant disorder, ADHD(attention deficit hyperactivity disorder, MDD(major depressive disorder), BPD(Bipolar disorder), MR (mental retardation) and PDD(Pervasive developmental disorders).

From the total of 17 participants who went directly to the DCAP, 10 presented with behavioural problems out of which 2 (66.7%) experienced the longest delay namely greater than 4 years. The other 3 presented with attention problems and hyperactivity out of which 2 (66.7%) experienced a delay of 1-2 years (see table 8.a).

For the second group of participants who went to the DCAP via other routes and presented with anxiety and mood symptoms there was a shorter delay (less than one year). However, the other groups presenting with developmental, attention deficit and hyperactivity problems had the longest delay (of more than four years) (See table 8.b)

3.7 Association between delay and diagnosis made at the psychiatric services

Association between delay and diagnosis made at the psychiatric service is shown in Table 9.

From the total sample 65 received only one diagnosis, 41 two or more diagnosis and 12 no diagnosis. The participants who receive diagnosis of oppositional defiant disorder were found to have statistically significant longer mean delay in weeks (178.2) between onset of the symptom and arrival at the DCAP compared with other disorders (p=0.006).

Mean delay in weeks between starting the symptom and arrival at the first care provider was highest (147.5) for groups of participants who receive diagnosis of parent child relational problem and reactive attachment disorder, compared to participants who receive other diagnoses. However the result was not statistically significant (p=0.33)

4. Discussion

4.1. Pathways to care and delay

The results of this study indicate that the majority of participants contacted doctors working in the different private and state hospitals as their first contact. This makes the results of this study different from that conducted by Kilic et al. (1994), Reeler et al. (1992), Bekele et al. (2008) in all of which the majority of patients bypassed the primary care providers and went directly to the mental health services.

In our study, schools were found to be the second most common place which the children and adolescents used as their first contact. Additionally the school staff such as school teachers, counsellors and psychologists played important roles in advising children and adolescents to seek help from the different health care providers.

This is consistent with findings from the study from the Netherlands by Zwaanswijk et al. (2005) which indicated that school personnel play an important role in the process of help-seeking for child psychopathology, in detecting service need, directly providing services and referral for help. Despite school playing an important role in the process of help seeking in our study it was found that those children and adolescents who used school as their first contact of care had the second longest delay between the onset of the symptom and arrival to the first care giver after those children who went directly to the DCAP. The reason for this delay could be explained according our finding shown on the figure 1 that describes routes children and adolescents took to reach the DCAP. This shows 29 (78%) of the children and adolescents who used hospital doctors as their first care provider referred directly to DCAP but those used school as their first care givers only 16 (72 %) referred directly to DCAP. Here it seems those referred from hospitals were mostly referred directly to DCAP, explaining the reason for having shorter delay compared to those referred from school who used additionally other care providers before reaching the DCAP. Hence this indicates the need for school interventions that include awareness creation, identification of high risk groups and facilitation of referral to the appropriate health care providers.

By contrast, those children and adolescents who used hospital doctors and GPs as their first contact were found to have a shorter delay compared to those who used school. The majority of children who used hospital doctors and GPs were referred to the DCAP but those referred from school went on many different routes before reaching the DCAP. This was similar to a study by Godfrey et al. (1995) who found children who had contacted general practitioners and health visitors were likely to be referred directly to the mental health services but school staff mostly sought help from other agencies.

Next to school staff, few family members of the children and adolescents were found to contribute in facilitating the care to be sought from the different health care providers. Despite the contribution by family members and school staff, there are still long delays encountered by children and adolescents who seek help. The overall result of the study indicates the need for strategies to be planned for enhancing the role of community health professionals, school

teaching staff, social workers, psychologists, counsellors, other professionals and the society in general to obtain adequate awareness about child mental health problems and early referral to the necessary health care givers.

Having the longest mean delay of 96 weeks for participants who went directly to the DCAP may be due to a number of factors. This may include the possibility that the stigma of seeking care directly from a psychiatric service may prevent self-referral and lead to substantial delays in families seeking assistance, whereas referrals through more socially acceptable sources (such as GPs, schools) may lead to quicker referrals.

In addition to this the current average waiting list at the DCAP is between 3 and 5 months before being seen by a mental health professional (Mr Rod Anderson personal communication). One of the reasons for this is the lack of mental health professionals. This could be considered as one of the barriers in referral from different care providers. This may be similar to a study conducted by Allison et al. (2008) regarding overcoming barriers in referral from school to mental health services. The findings indicated that the main barriers and sources of dissatisfaction that school identified were child and adolescent mental health waiting lists, service availability and lack of flexibility. As a result of the long waiting list parents gave up waiting and sought help elsewhere. School staff indicated that the long delays in accessing services made them reluctant to refer to child mental health services.

Another study by Gater et al. (2005) found that the referral route depends on a number of different factors such as diagnosis and setting. It was indicated that patients with severe disorders were more likely to be referred for psychiatric services, whereas those with social or material problems were more likely to be referred to social workers. Additionally the study by Gardner et al.. (2000) identified other predictors of referral such as severity of problems, presence of emotional problems, poorer family functioning, visits for psychosocial problems, and family agreement about the treatment. Similarly in our study, the cross tabulation results indicated that some of the participants who went directly to the DCAP presented with the attention and hyperactivity symptoms, which is a chronic and longstanding childhood onset mental health problem.

Additionally the result of this study indicates the need for further studies about the factors that may contribute the longer delay to get help from the DCAP. Knowing these factors will help DCAP to improve the ways of service delivery including planning new strategies on the referral

system and additionally for the increase in resources for child mental health care at outreach levels.

In the Western Cape other than the DCAP at Red cross children's hospital there are other public sector child and adolescent psychiatry units such as those at Tygerberg Child and adolescent psychiatry, Lentegeur adolescent Psychiatric unit, and the inpatient adolescent psychiatry unit at Groote Schuur Hospital where children and adolescents can get services for their mental health problems. These facilities are all in Cape Town. The DCAP at Red Cross Children's Hospital catchments area involves the western part of the Cape Town metropole. However, as seen in our study, there were participants who came not only from these catchments areas but also from every part of Cape Town. Additionally there were participants who were from outside of Cape Town area, for example Atlantis and Mamre. This indicates the uneven distribution of referral and also the lack of adequate mental health services in other catchment areas. This is similar to findings from a study on pathways to care in Cape Town among adult psychiatric patients by Lund et al. (2010) where the result showed inadequate community mental health services in the Western Cape province. This provides added reason for service planners to give focus on the allocation of the new community based child mental health services.

In our study despite the long distance some participants traveled to reach the DCAP because of lack of adequate resources elsewhere, distance was not associated with delay in gaining access to care. Rather the participants coming from the nearest suburbs, such as south eastern suburbs, had longer delays in reaching the DCAP. Similarly the study by Gater R et al. (1991) found that physical distance did not play a major role in delays in gaining access to care.

4.2 Associations between delay and clinical and socio demographic factors

In this study it was found that there was an association between delay on contacting the first care provider and Muslim religion. The delay associated with the Muslim religion might be due to families approaching religious healers before contacting their first care providers. Additionally there was an association between delay and arrival at the DCAP for older children. Both of these findings indicate that there might be factors related to barriers to receiving services that could include a lack of awareness of parents to identify childhood problems, fear of stigma, or factors related with the care provider such as the long waiting list of the mental health services. The study by Flisher et al. (1997) on correlates of unmet needs for mental health services

identified barriers to mental health services such as insurance not covering some types of treatments, help being too expensive, youth refusal to go, not trusting mental health professionals, transportation problems, child previously not being helped, being unsure where to go, being unable to get an appointment, too difficult to get help because of being on a waiting list, and thinking the problem would go away or be solved unassisted.

This indicates the need for interventions based on awareness creation about childhood mental health problems for the community in order to get early support from health care providers.

The result of our study indicated that there no significant association between delay and father's occupational status and socioeconomic status and this makes the result different from that of Bekele et al. (2008) which shows joblessness is associated with longer delay.

4.3 Strengths and limitations of the study

To my knowledge, this study reports the first data on pathways to care and delays in obtaining care for child and adolescent psychiatry in South Africa. One of the strengths of the study is that the data collection was conducted over 10 months of the year, including both school term time and holidays. This allowed the study to reflect varying attendance rates across these time periods.

However, there were also some limitations in this study. The relatively small sample size is one limitation. The sample is small compared to other African studies that used a large number of participants such as the 1044 by Bekele et al. (2008) in Ethiopia and 238 by Abiodun et al. (1995) in Nigeria. But similarly to our study there was a published study with small number of participants conducted in Zimbabwe by Reeler et al. 1992 with 48 participants. The small sample size limited both the kind of analyses that could be conducted and the extent to which the findings from this study can be generalized to other populations

The other limitation was that the data collection depended on the information from the informants from their past memory about the duration of the illness and the time they went to the different care giver. As caregivers may not recall correctly, this may affect this study through recall bias.

4.4 Conclusion

The finding of this study showed the private and state hospitals are the major and the first care providers for children and adolescents with mental health problems before being referred to the DCAP. Additionally the diagnosis of oppositional defiant disorder and conduct disorders, older age groups and Muslim religion were associated with longer delays in seeing mental health professional and longer delay before seeking help after the onset of their illness.

In general the study highlights the long delays that occur before children and adolescents obtain the mental health care they need. Some of the children and adolescents have to travel long distances from every part of the Cape Town as well as areas outside of Cape Town to get mental health service. This indicates a lack of adequate community resources in child and adolescent psychiatry in Cape Town, South Africa.

The overall results indicate the great need of adequate child mental health resource allocation at the community as well as specialist level. It is also important to plan for training and empowering of professionals working at the different health care system levels, schools and other child centered institutions. Specifically these professionals need training regarding child mental health, identification of high risk groups, the early detection of mental health problems, referral to appropriate mental health services and planning of preventive interventions at school and community level. The DCAP at Red Cross Children's Hospital may need to investigate or revise its referral systems and plan new strategies to reduce the delays in obtaining mental health services. Ongoing research is needed to monitor these trends over time.

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Appendix 1: Encounter form: Pathway to care

Red Cross War memorial Children's Hospital and University of Cape Town
Division of Child and Adolescent Psychiatry
Pathways to Care - Encounter Form

INFORMATION ON CLINICIAN

1. Setting in which the patient was assessed:

_____

2. Name of clinician:

_____

3. Profession of clinician:

_____

4. Date: _____

BASIC INFORMATION ON PATIENT

5. Folder Number: _____

6. Home Address: _____

_____

_____

7. Postal code: _____

8. Age: ____ years _____ months

9. Sex:

❑ *Male*
❑ *Female*

10. Marital Status of parents:

❑ *Married or cohabiting*
❑ *Single*

11. Religion:

❑ *Islam*
❑ *Christianity*
❑ *Judaism*
❑ *Traditional African religions*
❑ *Other, specify:* _____

12. Languages are spoken at home

❑ *English*
❑ *Afrikaans*
❑ *Xhosa*
❑ *Other (please specify):* _____

13. Population group:

❑ *Black*
❑ *White*
❑ *Coloured*
❑ *Indian*
❑ *Other (please specify):* _____

14. Does the child live with her/his mother?

❑ *Yes*
❑ *No*

15. Does the child lives with her/his father?

❑ *Yes*
❑ *No*

16. Highest level of education of the father:

❑ *No formal education*
❑ *Less than Primary education*
❑ *Primary education*
❑ *Secondary education*
❑ *College/University education*
❑ *Not know*

17. Highest level of education of the mother:

❑ *No formal education*
❑ *Less than Primary education*
❑ *Primary education*
❑ *Secondary education*
❑ *College/University education*
❑ *Not known*

18. Occupation of father/main male caregiver:

- ❑ *Unemployed*
- ❑ *Manual labourer*
- ❑ *Student*
- ❑ *Pensioner*
- ❑ *Administrator/secretary/clerk*
- ❑ *Professional/ manager*
- ❑ *Other, specify:* _____

19. Occupation of mother/main female caregiver:

- ❑ *Unemployed*
- ❑ *Manual labourer*
- ❑ *Student*
- ❑ *Pensioner*
- ❑ *Administrator/secretary/clerk*
- ❑ *Professional/ manager*
- ❑ *Other, specify:* _____

20. Number of people the child shares a room with at night: _____

21. Which of the following best describes the home?

- ❑ *Shack*
- ❑ *Wendy house or backyard dwelling*
- ❑ *Tent or traditional dwelling*
- ❑ *Brick house or flat*
- ❑ *Other* _____

22. Which of the following is true of the home?

- ❑ *They don't have enough money for food*
- ❑ *They have enough money for food, but not other basic items such as clothes*
- ❑ *They have enough money for food and clothes but are very short of many other things*
- ❑ *They have the most important things, but few luxury goods*
- ❑ *They have money for luxury goods and extra things*

23. Who suggested care be sought from the DCaP?

- ❑ *Patient*
- ❑ *School*
- ❑ *Previous carer*
- ❑ *Family*
- ❑ *Doctor*
- ❑ *Other, specify:* _____

24. Has the patient come with a referral letter?

- ❑ *Yes*
- ❑ *No*

25. Past history of care by any mental health service:

- ❑ *Yes*
- ❑ *No*

THE FIRST CARER

26. Where did they go to seek help?

_____

27. How long ago? _____weeks

28. Who was seen?

_____

29. Who suggested care was sought?

_____

30. What was the main problem presented?

_____

31. How long ago did the main problem start? _____ weeks

32. What was the main treatment offered?

_____

33 Duration of patient's first journey to care: _____hours _____min

THE SECOND CARER

34. Where did they go to seek help?

_____

35. How long ago? _____weeks

36. Who was seen?

_____

37. Who suggested care was sought?

_____

38. What was the main problem presented?

_____

39. What was the main treatment offered?

_____

40. Duration of patient's first journey to care: _____ hours _____ mins.

THE THIRD CARER

41. Where did they go to seek help?

_____

42. How long ago? _____weeks

43. Who was seen?

_____

44. Who suggested care was sought?

_____

45. What was the main problem presented?

_____

46. What was the main treatment offered?

_____

47. Duration of patient's first journey to care: _____ hours _____ mins

THE FOURTH CARER

48. Where did they go to seek help?

_____

49. How long ago? _____weeks

50. Who was seen?

_____

51. Who suggested care was sought?

_____

52. What was the main problem presented?

_____

53. What was the main treatment offered?

_____

54. Duration of patient's first journey to care: _____ hours _____ mins

Note: If there were more than four carers, please contact Dr Anbesse.

CLINICIAN'S DSM AXIS I DIAGNOSES

55. 1st diagnosis:

_____

56. 2nd diagnosis (<u>not</u> alternative)(if applicable):

_____

Appendix 2: Consent and assent forms

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Division of Child and Adolescent Psychiatry
Red Cross War Memorial Children's Hospital
Klipfontein Road, Rondebosch 7700
Tel. + 27 21 685 4103 (secretary)
Tel. + 27 84 510 6382 (cell)
Fax + 27 21 448 8158
alan.flisher@uct.ac.za

STUDY ON PATHWAYS TO CARE IN THE DIVISION OF CHILD AND ADOLESCENT PSYCHIATRY AT RED CROSS CHILDREN'S HOSPITAL

PATIENT INFORMATION AND CONSENT LETTER

Dear parent or guardian,

ABOUT THE STUDY

The study is about pathways to child and adolescent psychiatric care in the Division of Child and Adolescent Psychiatry at Red Cross Children's Hospital. This study has been approved by the Research Ethics Committee of the Faculty of Health Science at the University of Cape Town. The main objective of the study is to understand the routes taken by patients to reach to the Division of Child and Adolescent psychiatry at Red Cross Children's Hospital and to identify the factors that are associated with delay. The study result will assist us to improve our services.

We would be grateful if you would answer some questions that your clinician will ask you, such as places where you have received help before, who referred you, previous problems you may have experienced with your mood or behaviour, how long you have had difficulties and the length of time between having difficulties and receiving help.

WHAT WILL HAPPEN?

With your consent, you and your child will be asked to participate in answering the questions described above.

WILL ANYONE KNOW HOW YOU AND YOUR CHILD ANSWERED THE QUESTIONNAIRE?

NO. Participation and the information provided are strictly confidential.

ARE THERE ANY RISKS?

There are no risks through participation in the study.

DO WE HAVE TO PARTICIPATE?

NO. Taking part in this study is completely voluntary. There will be no negative consequences if you do not participate.

WHAT ABOUT THE RESULTS OF THE STUDY?

No information will be given to anyone about any individual patient's involvement in the study.

WHO CAN I ASK IF I HAVE QUESTIONS ABOUT THE STUDY?

If you have any questions about the study, please contact Dr. Birke Anbese Hurrissa or Prof. Alan Flisher at 021-6854103.

WHO CAN I ASK IF I THERE ARE ANY PROBLEMS WITH THE WAY THE STUDY IS CONDUCTED AT MY CHILD'S SCHOOL?

Prof. Mark Blockman
Chair: Research Ethics Committee
University of Cape Town
7700
Tel. 021-4066492

WHAT SHOULD I DO IF I WOULD LIKE TO TAKE PART IN THE STUDY?

<u>If you would like to take part in the study, please complete the form below:</u>

I, …… *(print own name)*, parent / legal guardian of my child…… *(print child's name*), GIVE PERMISSION to participate in the study of pathway to child and adolescent psychiatric care in the Division of Child and Adolescent Psychiatry at Red Cross Children's Hospital

Signature: _____ Date _____

WHAT SHOULD I DO IF I WOULD NOT LIKE TO TAKE PART IN THE STUDY?

<u>If you would NOT like to take part in the study, please complete the form below:</u>

I, …… *(print own name)*, parent / legal guardian of my child…… *(print child's name*), DO NOT GIVE PERMISSION to participate in the study of pathway to child and adolescent psychiatric care in the Division of Child and Adolescent Psychiatry at Red Cross Children's Hospital

Signature: _____ Date _____

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Division of Child and Adolescent Psychiatry
Red Cross War Memorial Children's Hospital
Klipfontein Road, Rondebosch 7700
Tel. + 27 21 685 4103 (secretary)
Tel. + 27 84 510 6382 (cell)
Fax + 27 21 448 8158
alan.flisher@uct.ac.za

STUDY ON PATHWAYS TO CARE IN THE DIVISION OF CHILD AND ADOLESCENT PSYCHIATRY AT RED CROSS CHILDREN'S HOSPITAL

PATIENT INFORMATION AND ASSENT LETTER

Dear patient,

ABOUT THE STUDY

The study is about pathways to child and adolescent psychiatric care in the Division of Child and Adolescent Psychiatry at Red Cross Children's Hospital. This study has been approved by the Research Ethics Committee of the Faculty of Health Science at the University of Cape Town. The main objective of the study is to understand the routes taken by patients to reach to the Division of Child and Adolescent psychiatry at Red Cross Children's Hospital and to identify the factors that are associated with delay. The study result will assist us to improve our services.
We would be grateful if you would answer some questions that your clinician will ask you, such as places where you have received help before, who referred you, previous problems you may have experienced with your mood or behaviour, how long you have had difficulties and the length of time between having difficulties and receiving help.

WHAT WILL HAPPEN?

If your parents signs the parent consent form indicating they are happy for you to participate in the study, we will invite you to participate in the study.

ARE THERE ANY RISKS?

There are no risks from your participating in the study.

DO I HAVE TO PARTICIPATE?

NO. Taking part in this study is completely voluntary. If you do not take part in the study, there will be no negative consequences. However, your participation *really* can help us understand how people your age are able to get the access to different child and adolescent psychiatric services in a better way.

WILL ANYONE KNOW WHAT YOU ANSWERED IN THE QUESTIONNAIRE?

- **NO.** What you say is confidential. Your name will not be kept and no one will be able to find out what you have said.

- **NO ONE** other than staff will know what you say or see the answers that you give on the questionnaire.

- Parents, and other staffs will **NOT** know how you answered the questions.

WHAT ABOUT THE RESULTS OF THE STUDY?

No information will be given to anyone about any individual patients' involvement in the study. We will use the results of the study to improve the child and adolescent psychiatric services

WHO CAN I ASK IF I HAVE QUESTIONS ABOUT THE STUDY?

- If you have any questions you can ask your clinician.

- If you have any questions at a later time you can call Dr. Birke Anbesse Hurrissa or Professor Alan Flisher at 021-6854103.

WHO CAN I ASK IF THERE ARE ANY PROBLEMS WITH THE WAY THE STUDY IS CONDUCTED AT RED CROSS CHILDREN'S HOSPITAL IN THE DIVISION OF CHILD AND ADOLESCENT PSYCHIATRY?

Prof. Mark Blockman
Chair: Research Ethics Committee
Faculty of Health Sciences
University of Cape Town

Tel. 021-4066492

WHAT SHOULD I DO IF I WANT TO TAKE PART IN THE STUDY?

- Please check the box below if you agree to participate and sign your name.

☐ **I agree** to participate.

I know why they are asking me to participate in the study and all of my questions have been answered.

_____	_____	_____
Patient's Signature	Print Name	Date

THANK YOU FOR HELPING US!

Appendix 3: Letters from REC of the Faculty of Health Sciences, University Cape Town (2 letters)

UNIVERSITY OF CAPE TOWN

Health Sciences Faculty
Research Ethics Committee
Room E52-24 Groote Schuur Hospital Old Main Building
Observatory 7925
Telephone [021] 406 6626 • **Facsimile** [021] 406 6411
e-mail: shuretta.thomas@uct.ac.za

21 September 2009

REC REF: 370/2009

Dr BA Hurrissa
Division of Child and Adolescent Psychiatry
Red Cross Children's Hospital

Dear Dr BA Hurrissa

PROJECT TITLE: PATHWAYS TO CHILD AND ADOLESCENT PSYCHIATRIC CARE IN THE DIVISION OF CHILD AND ADOLESCENT PSYCHIATRY AT RED CROSS CHILDREN'S HOSPITAL.

Thank you for submitting your study to the Research Ethics Committee for review.

It is a pleasure to inform you that the Ethics Committee has **formally approved** the above-mentioned study.

Approval is granted for one year till the 30th September 2010.

Please submit an annual progress report if the research continues beyond the expiry date. Please submit a brief summary of findings if you complete the study within the approval period so that we can close our file.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please quote the REC. REF in all your correspondence.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, HSF HUMAN ETHICS

Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938

S Thomas

This serves to confirm that the University of Cape Town Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.

The Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

S Thomas

UNIVERSITY OF CAPE TOWN

Health Sciences Faculty
Research Ethics Committee
Room E52-24 Groote Schuur Hospital Old Main Building
Observatory 7925
Telephone [021] 406 6338 • **Facsimile** [021] 406 6411
e-mail: nosi.tywabi@uct.ac.za

14 January 2010

REC REF: 370/2009

Dr BA Hurrissa
Child & Adolescent Psychiatry
Adolescent Health Research Unit

Dear Dr Hurrissa

PROTOCOL TITLE: PATHWAYS TO CHILD AND ADOLESCENT PSYCHIATRIC CARE IN THE DIVISION OF CHILD AND ADOLESCENT PSYCHIATRY AT RED CROSS CHILDREN'S HOSPITAL

Thank you for your email to the Research Ethics Committee.

It is a pleasure to inform you that the Ethics Committee has **noted and filed** the following documents with reference to the above mentioned study:

- Final version of the Questionnaire- Encounter Form

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, HSF HUMAN ETHICS

Appendix 4: Residential location

South eastern suburbs	Northern suburbs	Southern suburbs	CBD and surrounding *	Western seaboard	Southern Peninsula	Western Coast
Athlone	Bothasig	Diep River	Kensington	Summer Greens	Lakeside	Atlantis
Bonteheuwe	Brooklyn	Kenilworth	Observatory	HoutBay	Muizenberg	Mamre
Bridgetown	Durbanville	Kleinmond	SaltRiver	Tableview	Oceanview	
Crawford	Edgemead	Newlands	Tamboerskloof		Srandfontein	
Delft	Maitland	Plumstead				
EaglePark	Parow	Retreat				
Gugletu	Thornton	Rondebosch				
Hanoverpark	Woodstock	Southfield				
Khayalitsha	Facreton	Wynberg				
Landsdown						
Langa						
Lavender Hill						
LotusRiver						
Mannenberg						
Mitchell's plain						
Mountview						
NewfieldVillage						
Ottary						
Rylands						
Silvertown						
Steenberg						

*CBD (central business district

Lists of corrections made based on the Examiners' reports on the dissertation submitted to UCT for MPhil Degree in Child and Adolescent Psychiatry.

Candidate's Name =Dr Birke Anbesse Hurrissa

Title of the Dissertation - Pathways to Child and Adolescent Psychiatric care in the Division of Child and Adolescent Psychiatry at the Red Cross Children's Hospital

I would like to thank both examiners for their helpful comments and suggestions. I have corrected the dissertation based on the suggestions of the examiners, in the following manner.

Part One

Examiner's report (by Prof Inge Petersen)

Evaluation of thesis

A. Introduction

Page 1

The overall suggestion about the literature review was that it was superficial and additionally detailed descriptions were indicated. Based on this comment in my corrected dissertation I included a more detailed description of the relevant literature as follows:-

1. On the same page of the examiner report under the topic "introduction" it was suggested to give a detailed description about factors associated with delay in the pathway study by Gater et al. (1991). A detailed description has now been included in the corrected dissertation.

2. On the same page of the examiner's report regarding the study by Beel et al. (2008) it was suggested to give the detailed description about the GPs feeling toward psychologist capabilities and role in team, feedback communication and professional relationships, understanding of psychologists and understanding of psychologist training given. Additionally the details of factors operating against referral and treatment that includes GP factors, patient factors and organizational factors were suggested to be described in detail. I have made these corrections accordingly.

3. On the same page (page 1), 3rd paragraph and 2nd line, regarding the suggestion about the study by Cratsley et al. (2008) detailed description was provided about the service level explanatory factors which were associated with duration of untreated psychosis.

4. Additionally on the same page of the examiner's report, regarding a study by Allison et al. (2008) it was requested to specify where the study was conducted and I have now included this information.

B. Objectives

On page 2 second paragraph the examiner suggested to include the overall aim and to split the third objective in to two: firstly the association of delay and sociodemographic factors and secondly the association of delay and clinical factors. This has been done accordingly.

C. Results

1. On page 2 on the 3rd paragraph of the examiner's report, regarding the suggestion about section 3.2 the description of the pathways to care on page 17-18 (previous dissertation but on the corrected dissertation on page 19, 1st till 4th paragraph) the different terminologies used such as "level" and "stage" have been corrected to clarify the results.

2. On the same page on the 4th paragraph, regarding the suggestion about section 3.3 to be given its own section, this was done accordingly and the rest of subheadings which were under section 3.3 were changed as follows:

- Previously subsection 3.3.1 about association between delay and socioeconomic factors changed to section 3.4 but retaining the same heading title.

- Subsection 3.3.2 association between delay and first care giver changed to section 3.5.

- Subsection 3.3.3 association between delay and main problem presented at the first care giver changed to section 3.6.

- Subsection 3.3.4 association between delay and diagnosis made at the psychiatric services changed to section 3.7.

3. On 2nd page on the 4th paragraph of the examiner's report, the last sentence suggests that the results of the analysis were misplaced and should be more fully presented and described under a differentiated section. This has been corrected and presented under the appropriate headings. For example in the previous section 3.3.1, regarding associations of delay and sociodemographic characteristics there was a point which was misplaced concerning the relationship between onset of illness and contacting the first caregiver. This point was related to the second research question that investigated the time interval taken to reach child psychiatric care in relation to the different care providers involved in referring the patients. Hence this point is now documented on page 25 and 26 of the corrected dissertation under section 3.5, related to the association between delay and first care giver.

4. On page 2 of the examiner's report on the 5th paragraph, regarding the suggestion about table 6 namely to collapse some of the categories of socioeconomic status to allow for statistical analysis: according to the suggestion the 5 categories of the socioeconomic status were collapsed into 3 categories (Low, Medium and High socioeconomic status) additionally the categories of delay two (delay2) were also divided in to two categories namely (1) One year or less and more than one year; and (2) Two years or less and More than two years. For this reason the previous table was changed with the new table based on the 3 categories of socioeconomic status.

5. Suggestion on the 2nd page of the last paragraph of the examiners report (the previous subsection 3.3.3 but new section 3.6) about the association between delay and symptom presented directly to DCAP. This was corrected by giving additional text description of the delay associated with the behavioural problem with which the majority of the patients presented.

D. Discussion and conclusion

1. On the first paragraph of the 3rd page as suggested the structure of the discussion was corrected in relation to the research objective (discussion regarding the first two research objectives was done together under the section 4.1 of the discussion and the last two research objectives discussed under section 4.2) on page 32 and 35 respectively.

2. On the second paragraph of the 3rd page there was a suggestion by the examiner that it would be useful to have a better integration of the findings themselves. I have made an attempt to integrate the findings themselves in the Discussion section of the corrected dissertation for example regarding the explanation for the shorter delay for referrals from doctors this was explained on page 33 of the corrected desertion.

However, regarding the specific suggestion given on the same paragraph, namely the point raised by the examiner about the doctors in private and state hospitals being the most common first contacts followed by schools. The examiner suggested that I should discuss this in relation to findings that the majority of those with a referral letter came from schools (result presented page 13 of previous dissertation but page 15, 3rd paragraph of the corrected dissertation). Here there seems to be a misunderstanding about the results which stated that 36 (30.5%) attended the psychiatric services of the DCAP on the advice of school but 27 (22.9%) on the advice of doctors. This doesn't mean that the majority of the children referred from school, since doctors or school staff may be the ones who advise them to seek help but the referrer may be another professional. Hence for this reason I didn't discussed this specific issue in the corrected dissertation, but I considered the overall suggestion (namely better integration of the findings) and for this I added some additional points mentioned in the above paragraph, in the Discussion.

3. On the 3rd page 3rd paragraph of the examiner's report, the suggestion about the finding that participants who went directly to DCAP had the longest delay was corrected and another explanation was given (in the corrected dissertation on page 34, 2nd paragraph).

4. For the suggestion on page 3 of the examiner's report the 4th paragraph about section 4.2 heading about determinates of delay along the pathway to psychiatric care ,the word determinants was replaced with "associations".

Minor technical errors

1. Page 3 No 1 of the examiner's report as suggested corrections about a study by Gater et al. (2005) was done. (See page 5 last paragraph of the corrected dissertation)

2. Page 3 number 2 of the examiner's report as suggested correction of appendices had been made.

3. Page 3 number 3 of the examiner's report about data analysis section on page 14 corrections about the PASWE statistics 18 was done.

4. Page 3 number 4 examiner's report about table 3 (previous dissertation but now table 2 on the corrected dissertation) "higher level of education of mother /father" corrected with "Highest level of mother/father".

5. Page 3 number 5 examiner's report on table 3 (previous dissertation but now table 2 on the corrected dissertation) the alignment of numbers and % with the highest level of education of father was corrected.

6. Page 3 number 6 examiner's report on table 3 (previous dissertation but now table 2 on the corrected dissertation) asterisk for the word "other" was added on both sides and on the same table 'not applicable' was removed from the section of other.

7. On the 4th page of the examiner's comment number 7, regarding writing using the portraits page orientation and landscape page orientation that was done on the previous dissertation on 19- 20 and 27 (but on the corrected dissertation on page 21-22 and table 7 (page 27). This has been corrected accordingly.

8. On page 4 number 8 and 9, regarding the suggestion of the examiner, the reference list was checked and the format changed to the APA Reference.

Part One

Examiners report (by Prof Mark Tomlinson)

On the first page

3rd paragraph about Familiarity with the relevant literature:

As commented above, I have tried to give more detail regarding the literature.

Substantive points

According to the suggestion the formatting to the dissertation was revised and corrected including placing the correct tables and texts in landscape and portrait formats.

On the second page

1. The second paragraph of the examiner's comment he asked why there were no p values for the table 5-8. This point was already mentioned in section 3.4, namely that for all these tables the associations were not tested, because of the small numbers in each of these sub-groups.

2. On the 2nd page of 3rd paragraph of the examiner's report on discussion point about longer delay as the examiners commented that my description was unclear. As commented above, a possible explanation for the longer delay for those who came directly to DCAP has been provided on page 34 of the corrected dissertation.

3. 4th paragraph of the examiners report regarding the limitation related to traditional healers has been deleted.

4. Regarding the suggestion on the 5th paragraph about the small sample size, this point was made in the Discussion only to compare the number of the participants who were included in this study with other similar published studies such as Ethiopian study who used 1044 participants and Nigeria(238). There was no implication that the sample size could have been made any larger, as this was the number of children and adolescents who attended during the study period.

5. Regarding the Reference list, as stated above, the reference list has been reformatted to comply with the APA Reference style, and all errors have been corrected.

Minor points

1. On page 5, “structure” has been changed to “structured”.

2. 8th paragraph examiner’s report about literature review with MEDLINE search, the reason that only 5 of 19 articles were included has been provided (see page 5 on 3rd paragraph of the corrected dissertation).

3. 9th paragraph examiner’s report about typographical errors, these corrections have been addressed.

4. On comment about other references to be added on page 5 (previous dissertation but on the corrected desertion one on page 6 of second paragraph) the reference has now been added (Gater et al. (2005).

5. About the suggestion on page 6 of the dissertation about “several studies” the list of these studied were included (see page 6 on the 3rd paragraph)

6. The suggestion on page 7 of the 3rd paragraph of the dissertation (but on corrected dissertation page 7, 4th paragraph) “our knowledge” has been changed to “my knowledge”.

7. On page 7 the last sentence of the first paragraph under section 1.2 the sentence of the dissertation that is “-----include problem that are transient or GP confidence” was corrected as suggested (that is replaced by “-----include problem that are transient or related to GP confidence”).

8. On page 8 that is 3rd paragraph (according to the previous dissertation but now on page 8 and 5th paragraph) the tense at the start of the first sentence has now been corrected.

9. On page 8 the 4th paragraph (of the previous dissertation but on the corrected dissertation on page 9 of the second paragraph) there was a suggestion that a reference should be added and this has been done as suggested.

10. On page 9 of the previous dissertation but page 11 on the corrected dissertation the first sentence of Section 1.4 the tense has been changed as suggested.

11. As for the comment about ethics permission number to be included in the text on page 10-11 (previous dissertation) but of the corrected dissertation on page 12 under section 2.2 about the sample on the second paragraph ethics permission number has now been included.

12. Page 11 of the previous dissertation (but page 13 on the corrected dissertation) regarding the suggestion on section 2.3 measurement used in the research about the WHO encounter form detail description about the changes made to the encounter form has now been provided.

13. As commented on page 13 of the first sentence of second paragraph (but on the corrected dissertation the 3rd paragraph on page 15) this correction was made as suggested: "Ninety one (77.1%) of participants presented to the DCAP with a ……."

14. Table 1 has been placed in a single table on one page rather than being one table on two pages.

15. A suggestion was made about the table about residential location being placed in the appendix, and this has been done.

16. As suggested by the examiner, the diagram which describes the routes taken to reach to the division of child and adolescent psychiatry by children and adolescents (Figure 1) was difficult to understand. For this reason the previous diagram has been replaced by another diagram which is more clear.

17. About half way on page 31 (of the previous dissertation but on corrected dissertation on page 35) the reference to “other factors” (under section 4.2) has been replaced with specific suggestions regarding factors that may offer a possible explanation.

18. Suggestion about the first sentence of the last paragraph that is on page 31 (on the previous dissertation but on the corrected dissertation it is on page 36 second paragraph first line) the word “the” has been deleted as suggested.

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