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An audit of the referrals to the Chris Hani Baragwanath academic hospital psychiatry outpatients department

Tenea, Zenaida

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TITLE: An audit of the referrals to the Chris Hani Baragwanath Academic Hospital Psychiatry Outpatients Department

Dr Zenaida Tenea

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

Master of Medicine in the branch of Psychiatry

Supervisor: Adj. Prof. F.Y. Jeenah

Johannesburg, 2016

DECLARATION

I, Zenaida Tenea, declare that this MMed is my own, unaided work. It is being submitted for the Degree of Master of Medicine in the branch of Psychiatry at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other university.

_____

Signature of candidate

_____day of_____20_____in

_____

DEDICATION

In memory of my grandfather

Ion Şerban

1932-2013

ACKNOWLEDGEMENTS

I would like to acknowledge the support and encouragement of my supervisor and mentor, Professor F.Y. Jeenah.

Thank you for your assistance and motivation.

ABSTRACT

Aim

The aim of this study was to conduct a clinical audit of all new referrals to the Chris Hani Baragwanath Academic Hospital (CHBAH) Psychiatry Outpatients Department (OPD) over a six month period, in order to assess the appropriateness and the quality of these referrals for the level of care provided.

Objectives

The study objectives were as follows: to describe, in a group of patients referred to CHBAH Psychiatry OPD, their socio-demographic characteristics, the sources of referral, the reasons for the referral, diagnoses and interventions prior to referral, as well as diagnoses, interventions and final outcomes following an assessment by the CHBAH psychiatry outpatients staff. Based on these an assessment of the appropriateness of referral was made.

This was a retrospective record review of all consecutive new outpatients referred to the CHBAH Psychiatry OPD for the period of 1 July 2012 to 31 December 2012. The study was conducted at Chris Hani Baragwanath Academic Hospital, which is a tertiary level hospital whose psychiatric department caters for mental health care users in the Southern Metro District Johannesburg area in the province of Gauteng, South Africa.

Results

The study found that most patients who were referred were female (68.8%), aged 18-39 years (48.9%), unemployed (70.5%), single (47.2%) and had attained a secondary level of education (57.4%). The largest source of referrals was from other disciplines within CHBAH (32.4%), in particular the department of internal medicine (20.5%). The commonest referral reason, referral diagnosis (29%) and diagnosis made by the CHBAH Psychiatry OPD staff was that of depressive disorders (35.8%, 29% and 31.3% respectively). 74.4% of patients did not have investigations done prior to referral; the commonest intervention at Psychiatry OPD was the initiation of psychotropic medication (56.8%) and the commonest outcome was follow-up at Psychiatry OPD (67.6%). Only 14.8% of new referrals were assessed as being appropriate, as 55.7% of patients did not have a diagnosis on referral, the diagnosis on referral was correct in 34.7% of cases, 39.2% of patients had not been initiated on any treatment prior to referral and the majority of patients did not have investigations performed on them prior to referral.

Discussion

The study provides further evidence that referral pathways are often bypassed, with many patients requiring simple interventions unable to access these at lower levels of care for a variety of reasons. Thus higher levels of care may become overburdened, further impacting on quality of care. Additional resource constrictions may be incurred, which has a ripple effect across all levels of care, often with far-reaching economic consequences. It is evident that the practical implementation of policies is faced with a number of challenges; these need to be addressed in order for the health care system to appropriately perform its function.

DOCUMENT OVERVIEW

	Pg
Title Page	I
Declaration	II
Dedication	III
Acknowledgements	IV
Abstract	V
Document Overview	VII
Table of Contents	VIII
List of Figures	XI
List of Tables	XII

TABLE OF CONTENTS

	Pg
Chapter 1 Introduction	1
1.1. Literature review	2
1.1.1. Health systems	2
1.1.2. Referrals	4
1.1.2.1. Sources of referral	5
1.1.2.2. Reasons for referrals	7
1.1.2.3. Post assessment diagnoses and outcomes at the referral site	9
1.1.2.4. Appropriateness of referrals	12
1.2. The need for this study	13
1.3. Hypothesis	14
1.4. Aim of the study	14
1.5. Study objectives	14
Chapter 2 Methods	
2.1. Study design	16
2.2. Study population	16
2.3. Data collection	16
2.4. Data analysis	17
2.4.1. Sample size calculation	17
2.4.2. Statistical analysis	17

2.5. Ethics 18

Chapter 3 Results

3.1. Socio-demographic characteristics of the study population 19

3.2. Sources of referral 21

3.3. Reasons for the referrals to the department of psychiatry 22

3.4. Diagnoses and interventions prior to referral 23

3.4.1. Diagnosis on referral 23

3.4.2. Investigations on referral 24

3.4.3. Treatment on referral 25

3.5. Diagnoses, interventions and final outcomes following an assessment by the CHBAH psychiatry outpatients staff 25

3.5.1. Investigations at Psychiatry OPD 25

3.5.2. Diagnosis at Psychiatry OPD 26

3.5.3. Treatment at Psychiatry OPD 27

3.5.4. Outcome following Psychiatry OPD assessment 28

3.6. Appropriateness of referral 29

Chapter 4 Discussion

4.1. Referrals to CHBAH Psychiatry OPD 31

4.1.1. Demographic characteristics 31

4.1.2. Sources of referral 32

4.1.3. Reasons for the referrals 33

4.2. Special investigations conducted and treatment initiated prior to referral 35

4.3. Post-referral 37

4.3.1. Diagnosis 37

4.3.2. Investigations conducted 40

4.3.3. Treatment initiated and outcomes 40

4.4. Overall appropriateness of the referrals 41

4.5. Limitations of the study 44

Chapter 5 Conclusion 46

References 48

Appendices

Appendix A. Data collection sheet 58

Appendix B. Ethics clearance by the Human Research Ethics Committee of the University of the Witwatersrand 61

Appendix C. Letter from CEO of Chris Hani Baragwanath Academic Hospital granting permission to conduct research 62

Appendix D. Letter of approval of protocol 63

LIST OF FIGURES

		Pg
Figure 1.1	Organisation of health care services	3
Figure 3.1	Frequency distribution of the source of referral of patients to CHBAH Psychiatry OPD	21
Figure 3.2	Frequency distribution of the reason for referral of patients to CHBAH Psychiatry OPD	22
Figure 3.3	Frequency distribution of the diagnosis of patients on referral to CHBAH Psychiatry OPD	23
Figure 3.4	Frequency distribution of reported investigations performed prior to referral of patients to Psychiatry OPD	24
Figure 3.5	Frequency distribution of the investigations performed at CHBAH Psychiatry OPD	25
Figure 3.6	Frequency distribution of the diagnosis of patients after assessment at CHBAH Psychiatry OPD	26
Figure 3.7	Treatment instituted for referred patients at Psychiatry OPD	28
Figure 3.8	Outcomes of patients referred to CHBAH Psychiatry OPD	29

LIST OF TABLES

		Pg
Table 3.1	Frequency distribution of socio-demographics characteristics of the study population	20
Table 3.2	Distribution of general medical conditions	27

Chapter 1 –

Introduction

In 1997, the White Paper for the transformation of health proposed a comprehensive restructuring of the health care system in South Africa, focusing on an effort towards decentralisation of the health services and a call for the strengthening of community based services (Department of Health, 1997 and 2003). This was also applicable to people with mental health-related problems and is based both on respect for the human rights of people with mental disorders and the use of updated interventions and techniques (World Health Organisation, 2001).

In 2004, the Mental Health Care Act of 2002 (Department of Health, 2005) was promulgated and mental health service delivery was reviewed and aligned to this act. More recently, since mental health care in South Africa has historically been overlooked in terms of its long-term economic importance despite the various legislations, a Mental Health Policy Framework and Strategic Plan 2014-2020 was developed (Department of Health, 2014). According to the document, the indirect cost of mental disorders outweighs direct treatment cost by two to six times in developed countries and may be even higher in developing countries. Specific strategies have therefore been proposed to address South Africa's growing mental health dilemma. These include strengthening community-based mental health services before further downscaling of psychiatric hospitals can proceed and strengthening the state district mental health system and psychiatric services in general hospitals. The role of specialised psychiatric services will focus on training, supervision and support of primary and secondary health care services, in addition to the provision of specialised care, treatment and rehabilitation for mental health care users in inpatient settings. It also calls for a system of appropriate referrals between the various levels of care. In a developing country such as South Africa, where the health care burden falls on the public sector, it is vital that service delivery occurs at the appropriate level of care.

There is very little research on levels of care and appropriate referrals in ambulatory specialised psychiatric services in South Africa, with most published data (both worldwide, as well as nationally) focusing mainly on inpatient consultation-liaison services (Sharp et al, 2011).

The few studies that have been done suggest a trend of unnecessary and often inadequate referrals from primary to higher levels of care. Hence, there is a need for further research in this field.

1.1 Literature review

1.1.1 Health systems

The Department of Health has implemented a policy designed to deliver services at different levels of care. Health care delivery is categorised as: level 1 (primary health care and district hospitals, serviced by professional nursing staff and general medical practitioners), level 2 (serviced by general specialists) and level 3 (tertiary institutions ideally concerned with sub-specialties). This system is mirrored in the WHO pyramid framework for optimal service delivery in the mental health setting (World Health Organisation, 2003). This has been adapted in the Mental Health Policy Framework and Strategic Plan 2014-2020 (Department of Health, 2014).

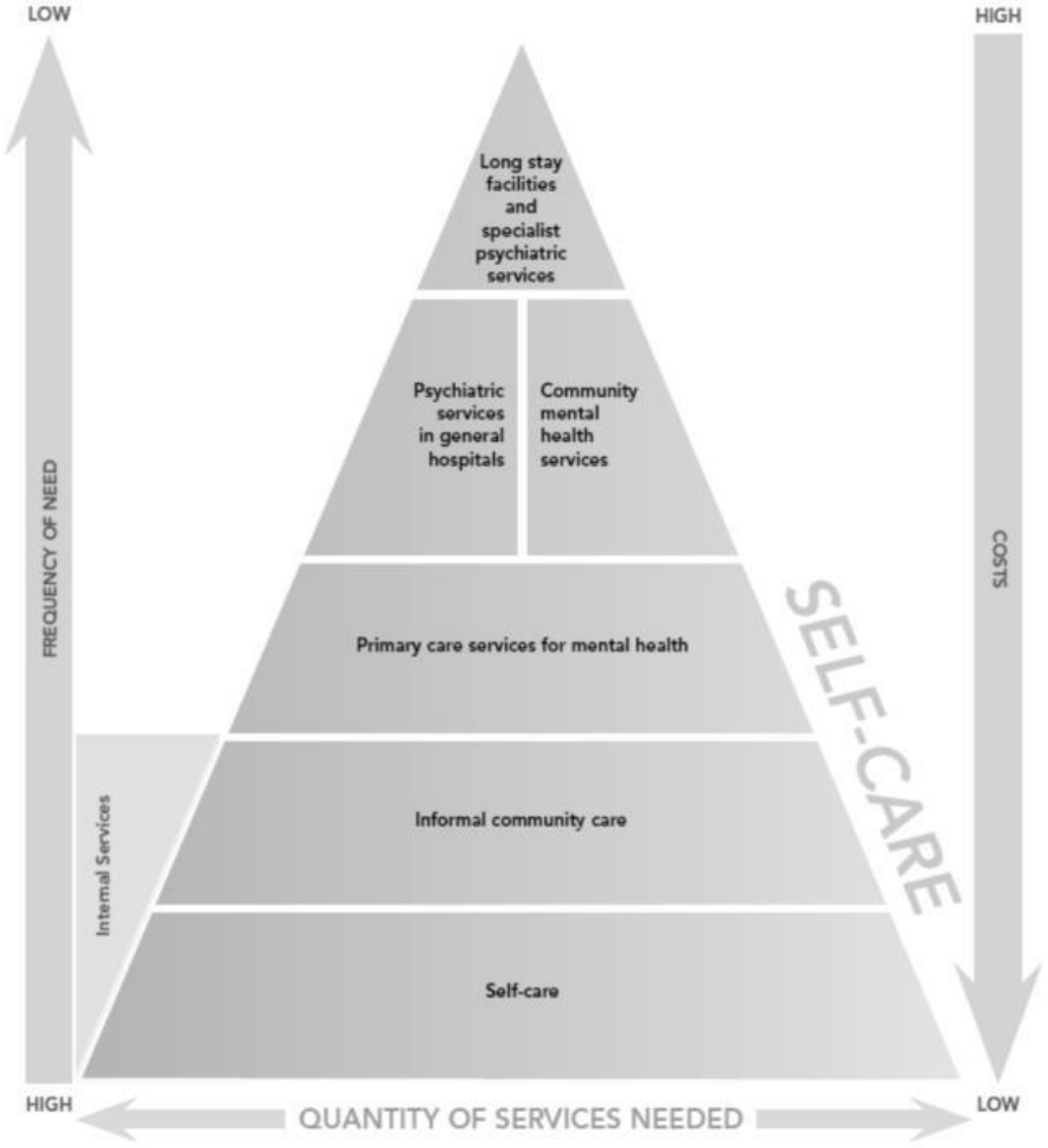


Figure 1.1 Organisation of health care services

(Source: *http://www.health-e.org.za/2014/10/23/policy-national-mental-health-policy-framework-strategic-plan-2013-2020*)

As depicted in the above figure, the lower tiers of the pyramid are associated with high frequency of need and relatively low cost; this trend tends to reverse itself as one ascends the pyramid. The structure of the health care system hinges on adequate communication between each level of care; consequently referrals have considerable implications for patients, the health care system, and health care costs (Akbari et al, 2008).

Despite the clear need for this system, both from an economic and an accessibility point of view, it would appear that there is a breakdown in health care communication and service delivery at various levels. In a study evaluating mental health services in the Free State (Freeman et al, 1999), 64% of patients attending psychiatric primary care clinics stated that they would prefer long-term hospital care. The authors surmise that 'in the absence of strong and supportive community care the only known alternative is hospital care'. Patients from remote areas prefer to visit central outpatient clinics, rather than go to their local, free-of-charge facilities (Kenchadze et al, 2013). The World Health Organisation states the following: 'Where there is no integrated first level care, additional pressures are put on the higher levels of care. Firstly, people are inappropriately referred to levels of care that should be dealing with more complex problems and secondly where there is no early identification of problems, treatment or prevention and promotion, more people become seriously ill and need to be treated at the higher levels (World Health Organisation, 2008).

There is also a need to balance deinstitutionalisation of mentally ill persons with the development of community mental health services (Lund et al, 2003) to support these persons in the community. A guided approach to deinstitutionalisation with services planned in a holistic fashion is required so as to create an optimal mix in the communities (Murthy, 2010).

1.1.2 Referrals

The referral system is the organisational structure for referring medical problems from generalists to specialists (Akbari et al, 2008) and vice versa. Various publications over the decades have attempted to shed light on referral patterns to psychiatric services, and the outcomes of such referrals. It would appear that, whether inpatient or outpatient referrals are being evaluated, the quality of referrals tends to be generally poor (Struwig et al, 2009; Jindal & Hemrajani, 1980; Ras et al, 2011). Improved referrals to psychiatric services will improve

the quality of holistic care rendered to patients utilising the services of general hospitals (Dor et al, 2002).

1.1.2.1 Sources of referral

It is important to be aware of the sources of referrals. The majority of published data available focuses on inpatient consultation-liaison services. In fact, earlier research seems to suggest that most referrals to psychiatric outpatient departments come from inpatients admitted to other disciplines, the range being 23.4%-65% (Sharp et al, 2011; Olukayode Jegede, 1978; Bhogale et al, 2000; Essam et al, 1990; Özkan et al, 1995).

A study conducted at the Western Infirmary, Glasgow, U.K., in which referrals to a consultation liaison psychiatry outpatient clinic were studied over a 36-month period, reported that community sources contributed 31.1% of outpatient psychiatric referrals, while the majority (60.2%) of referrals came from physicians based within the general hospital (Sharp et al, 2011).

In another study 900 consecutive referrals to an outpatient liaison psychiatry clinic at the University Hospital in Oxford, U.K., were studied over a period of seven years (Bass et al, 2002). The authors report that 39% of referrals were made by general hospital physicians and 34% by primary care doctors.

Babu and Radhika (2014), in a study conducted in ASRAMS Hospital (a tertiary level institution located in Eluru, India) over a 6-month period, analysed both inpatient (26.7%) and outpatient (73.3%) referrals to the psychiatric unit. 68.3% of cases were referred from within the general hospital, 18.09% from the superspecialty units of this hospital and 13.5% from outside sources. The commonest in-hospital sources of referral were and casualty (40%), internal medicine (55%) and neurology (25%).

In a study by Bhogale et al (2000), 338 psychiatric referrals over a 12 month period in 1996-1997 to K.L.E.S. hospital in Belgaum, India, were retrospectively studied. The authors reported that 83.17% of the patients were referred from general medicine, medicine allied and medical superspecialty departments.

Another study conducted over a 12-month period at the University College of Medical Sciences and Guru Tegh Bahadur Hospital (a tertiary care hospital in Delhi, India) reviewed the psychiatric outpatient referrals from different inpatient and outpatient departments (Jhanjee et al, 2011). Though the authors did not state whether the referrals were in- or outpatients, the most common sources of referral were medicine (46%) and surgery (11%).

Jindal and Hemrajani (1980), in an older study conducted over a two and a half month period at the Safdarjang Hospital in Delhi, India, reported that 63.9% of referrals came from medicine, 18.2% from surgery and surgical superspecialties and 18.2% from neurology and neurosurgery.

Keertish et al (2013), in a cross-sectional study conducted over a two-year period at a tertiary care hospital in Tumkur, India, described the referral patterns to the psychiatric outpatient unit. Most referrals (59%) came from internal medicine, followed by surgery and orthopaedics.

In another part of the Asian continent, Singh et al (2009) conducted a study at the Nepal Medical College and Teaching Hospital, reviewing in- and outpatient referrals to the Department of Psychiatry over a six-month period: once again, the majority of referrals came from internal medicine (49.8%), followed by surgery (11.2%) and ophthalmology/otorhino-laryngology (10.3%).

A study performed at the Istanbul Faculty of Medicine in Turkey, between 1989 and 1991, examined the consultation patterns to the Consultation Liaison Psychiatry Unit at this institution (Özkan et al, 1995). The most frequent source of outpatient referrals was internal medicine (48.99%), followed by neurology (18.27%).

Over the course of one year psychiatric referrals to a specialised mental institution in Saudi Arabia across different levels of care were examined (Al-Habeeb, 2002). The author found that sources of referrals differed across the levels of, with the sources of referrals in the teaching hospital being more diverse than the general hospitals and primary health care. The sources of referrals in the teaching hospital included other specialties (46.5%), primary health care clinics (41.7%) and self-referrals (5.7%).

There is a paucity of research regarding psychiatric referral patterns on the African continent. An older study conducted in Nigeria, in which the records of 203 patients seen over a three-month period at the outpatient psychiatric clinic of the Lagos University Teaching Hospital,

described the sources of referral as being quite diverse (Olukayode Jegede, 1978). Of the community referrals 13.3% included self-referrals or referrals by family/friends, 10.8% were referred by private practitioners and 4.9% by psychiatrists. Referrals from within the hospital were equal among medicine, surgery and obstetrics (each 14.8%), and the rest were referred from the staff clinic and other miscellaneous or unknown sources.

Within South Africa, two studies merit mention. The first, conducted at Addington Hospital in Durban reported that outpatient referrals constituted 57% and inpatient referrals 43% of the total (Gangat et al, 1987). Seventy percent of the inpatient referrals were from medical and allied departments, 18% from surgical and allied departments, and 4% from the obstetrics and gynaecology department. The specific sources of the outpatient referrals were not stated.

The second and more recent study is an audit conducted at Stikland Hospital in the Western Cape over a 12-month period (Ras et al, 2011). This revealed that of the 103 psychiatric outpatient folders reviewed, the majority of referrals came from private practitioners (58.3%) and only 41.7% came from the public sectors. Fifty-five percent of referrals came from general practitioners, while other sources of referral included psychiatrists, psychologists, professional nurses, social workers and other allied medical specialists.

In summary, the published literature, both internationally and nationally, suggests that whilst a large number of referrals to tertiary psychiatric services are from other disciplines within the hospital (mainly internal medicine), the source of referral from outside of the hospital is diverse and includes primary health clinics, private mental health care practitioners and general practitioners.

1.1.2.2 Reasons for referrals

Sharp et al (2011), in their Glasgow study on outpatient psychiatric referrals, found that the most common reasons for referral to the psychiatric outpatient clinic were depression (26.7%), anxiety (17.5%) and functional syndromes (14.2%). They further reported that 31.7% of referrals had no clear indication of the nature of presenting psychological difficulties.

From the Oxford study described previously, Bass et al (2002) reported that the most common primary reason for referral was somatic symptoms and pain (86%), followed by mood disorders (5%).

Research from India is far more prolific. Babu and Radhika (2014), in the Eluru study described above, reported that among the outpatients referred no reason was given in 17.9% of cases and a number of cases had unclear reasons for referral or constituted of vague complains. Diagnosis was attempted by the referring doctor in 54.75% of cases and this coincided with the diagnosis made by the psychiatric unit in 53.71% of cases. The most common diagnoses made by the referring doctor were conversion (23.96%), psychosis (18.18%), depression (17.35%) and suicidality (15.7%).

Jindal and Hemrajani (1980) in their study from New Delhi, India, concluded that 'in a large number of cases the referral was inadequate' and 'in many cases the patient was referred to psychiatry without any preliminary investigations having been made'. In this study, a tentative diagnosis was made by the referring unit in about 50% of cases, and this coincided with the psychiatric unit's diagnosis in about 50% of cases.

Other studies from India report the most common reasons for referral to be: unexplained physical symptoms, medicolegal difficulties, expert opinion, abnormal behaviour, anxiety, depression and substance use ((Bhogale et al, 2000; Jhanjee et al, 2011; Keertish et al, 2013).

In the Nepal study described in the previous section, it was found that the most common reasons for referral were 'expert opinion', abnormal behaviour, irrelevant talk, suicide attempt and depression (Singh et al, 2009). Özkan et al (1995), in their Istanbul study of 889 psychiatric referrals, reported that the most common reasons for referral were 'difficulty with diagnosis', anxiety and depression.

Olukayode Jegede, in the 1978 Lagos study previously described, reported lack of positive physical findings to explain somatic symptomatology to be the most common reason for referral. Similar findings of 'unexplained physical symptoms' were reported as being the most common reason for referral in several studies quoted above: 64.4% (Bhogale et al, 2000), 23.1% (Keertish et al, 2013) and 18.3% (Essam et al, 1990).

There is little research in the South African context. Gangat et al (1987) reported that the most common reasons for referral were parasuicide (24%), depression (13%), abnormal behaviour (11%) and alcohol abuse (7%).

The 2011 audit of psychiatric referrals at Stikland Hospital, Cape Town, reported that the most common reasons for referral were depression, anxiety and suicidality (31.06%) and 'further care/diagnostic uncertainty' (30.09%) (Ras et al, 2011). The researchers further reported that in only 36.7% of referrals was a reason stated for the referral. The authors concluded that, as the referrer was unsure of the diagnosis (in 40% of the cases), he/she could therefore not be relied upon to make an appropriate decision as to what level of care was needed.

Furthermore, in a study performed at Pelonomi Hospital, a secondary level referral centre in Bloemfontein, it was reported that the quality of referral letters to the Psychiatry Outpatients Department, despite the existence of a standardised official referral form, was generally poor. Only 6% of the referrals indicated a preliminary diagnosis and less than 20% provided information on previous psychiatric consultations, current psychotropic medication, the outcome of physical examination, and the results of special investigations (Struwig et al, 2009).

In summary, the common reasons for referrals to psychiatric clinics include unexplained physical symptoms and diagnostic uncertainty requiring further assessment and investigation. Both internationally and in South Africa the reason for referral is unclear or not stated in a large proportion of cases. If a psychiatric diagnosis was made it would most often be depression/suicidality, anxiety and/or substance abuse.

1.1.2.3 Post assessment diagnoses and outcomes at the referral site

Following an assessment by the psychiatrist at the referral hospital, the diagnosis often changes from the initial diagnosis, and outcomes then hinge on this.

In the Glasgow study, the most common diagnoses were neurotic, stress-related and somatoform disorders (54.7%) and mood/affective disorders (32.9%), though the authors did not comment on correlation with the referral diagnosis (Sharp et al, 2011). In terms of interventions provided post assessment, the most frequently utilised were cognitive behavioural therapy (56.1%), followed by pharmacotherapy (25.4%).

Bass et al (2002) reported the following as the most frequent diagnoses: somatoform disorders, neurasthenia, depressive disorders and panic disorder. Outcomes included psychologically based treatment (52%), psychoeducation (22%), new medication prescribed (13%) or change of current medication regimen (6%). 63% of patients referred were followed up at the consultation liaison department. Some patients were referred to other services, including their local pain clinic, psychology, physiotherapy, neurology rehabilitation and drug and alcohol services.

According to Babu and Radhika (2014), mood disorders and neurotic, stress-related and somatoform disorders were the most common diagnoses in their outpatient group. Following assessment it was found that 46.28% were referred with the wrong diagnosis. Some psychiatric treatment was started by the referral doctor in 20.75 of cases and in the rest no intervention was done. The interventions which were instituted were generally found to be inadequate.

Chowhan et al (2013) reported that the most common diagnoses in their psychiatric hospital group were bipolar disorder, psychotic disorders and major depressive disorder. In contrast, the most common diagnoses in the general hospital Psychiatry OPD were major depressive disorder, anxiety disorders and parasuicide.

In the other studies from India, the common post assessment diagnoses were: psychotic disorders, anxiety disorders, somatoform disorders, depressive disorders and substance use disorders (Jindal & Hemrajani, 1980; Bhogale et al, 2000; Jhanjee et al, 20011; Keertish et al, 2013). Outcomes in these studies are not stated by the authors.

According to Singh et al (2009) depression was the most common diagnosis, followed by anxiety disorders and substance-related disorders. Özkan et al (1995) noted the most common diagnoses in the outpatient group studied to be depression, somatisation and adjustment disorder with anxiety. Al-Habeeb (2002), reported that mood and anxiety disorders were the commonest diagnoses across all three levels of care, and that schizophrenia was a more frequent diagnosis in primary and secondary levels of health care as opposed to the teaching hospital (tertiary). Outcomes in these studies are also not stated.

Essam et al (1990) reported the most common diagnoses in their outpatient group to be depressive illness and anxiety neurosis, with no psychiatric disorder found in 7.3% of referrals. Outcomes included prescription of psychopharmacologic drugs, psychiatric

outpatient follow-up on discharge and psychotherapy. No psychiatric treatment or follow-up was required in 18.7% of the studied sample. Fourteen percent of patients required admission.

In a United Arab Emirates study psychiatric referrals by general practitioners were tracked over a seven year period: the psychiatrists agreed with the GP diagnosis in 41.7% of cases, but considered diagnosis inaccurate in 35.6% of these cases (Moselhy and Salem, 2009). The most common diagnoses were depressive disorders and anxiety disorders. Prescribed medication was cited in 61% of referrals. The authors' findings suggested a strong need for structured training for general practitioners in the field of psychiatry in order to provide improved care for their patients.

Olukayode Jegede (1978) reported the following common diagnoses: depressive neuroses (33%), anxiety neuroses (23%) and schizophrenia (11%), though outcomes are not stated.

Gangat et al (1987) reported the following common diagnoses: depressive disorders (33.3 %), neuroses (14%) and drug dependence and alcoholism (12.1%), with the fifth commonest diagnostic category being 'no mental disorder' (again suggesting the inappropriateness of referral). Common outcomes after assessment were: admission to the psychiatric ward or hospital, social worker referral or return to original ward (21%).

In the Stikland study mentioned previously (Ras et al, 2011) the most common DSM-IV Axis I diagnoses were major depressive disorder (24.28%), schizophrenia (24.28%), bipolar disorder (17.47%) and substance use disorder (12.62%). Outcomes included admission (28.16%), change in psychotropic medication (23.3%), continuing psychotropic medication as referred (20.39%) and starting of psychotropic medication (18.45%).

In conclusion, the most common diagnoses after specialist psychiatric assessment include anxiety disorders, depressive disorders, somatoforms disorders, schizophrenia and substance-related disorders.

Outcomes following the assessment include: admission, initiating or adjusting pharmacotherapy and referrals to allied professionals, such as psychologists and social workers.

1.1.2.4 Appropriateness of referrals

Most of the published studies are descriptive and very few actually comment on the appropriateness of referral, thus presenting a difficulty in standardising what is considered an appropriate referral. For example, 6.5% of patients referred in the Glasgow study previously discussed were deemed 'inappropriate', though the authors did not elaborate on the criteria used to come to this conclusion (Sharp et al, 2011). However, some studies do allude to several factors that might be significant in this regard.

In their study, Babu and Radhika (2014), quoted unclear or no reason for referral and this was interpreted as constituting poor awareness of psychiatric conditions on the part of referring doctors. The same was suggested by Struwig et al (2009), Ras et al (2011) and Moselhy and Salem (2009).

Other studies reported no psychiatric diagnosis provided by referral source, as well as incorrect diagnosis, also suggesting an inappropriate referral. For example, Ras et al (2011) state that as the referrer was unsure of the diagnosis in 40% of the cases, he/she could therefore not be relied upon to make an appropriate decision as to what level of care was needed. Struwig et al (2009) also comment on the referral professionals' low rate of attempting a psychiatric diagnosis (6%) despite the standardised referral form available at their institution. International studies also make allusion to this dilemma: Babu and Radhika (2014), Jindal and Hemrajani (1980).

Some studies found that following assessment by a specialist psychiatrist a number of patients referred had no psychiatric diagnosis, again suggesting the inappropriateness of referral. For example, Keertish et al (2013) reported that no psychiatric diagnosis was made in a significant amount of referred patients (7.3%). In the study by Essam et al (1990), 7.3% of patients had no psychiatric diagnosis and no psychiatric treatment or follow-up was required in 18.7% of the studied sample. Bass et al (2002) reported that 2.56% of the 900 cases referred had no psychiatric diagnosis and 37% did not require follow-up at the consultation-liaison psychiatry outpatient clinic. According to the available literature the range of patient referral that after assessment is deemed to have no psychiatric diagnosis is 1.2%-7.64% (Babu and Radhika, 2014; Jhanjee et al, 2011; Jindal and Hemrajani, 1980; Singh et al, 2009; Olukayode Jegede, 1978; Gangat et al, 1980).

Further reasons for inappropriateness of referrals include: referral without an attempt to prescribe relevant medication; poor information provided on physical illness, substance abuse and personality disorders/traits; and lack of investigations prior to referral. Ras et al (2011) reported that psychiatric medication was started by the referring doctor in only 29.1% of cases, while Babu and Radhika (2014) give a figure of 20.7%. Ras et al (2011) suggest that because it was unknown whether a patient would respond to first-line treatment, a significant portion of referred patients could have been managed at a primary care level and were therefore inappropriately referred. Jindal and Hemrajani (1980), Babu and Radhika (2014), Struwig et al (2009), and Ras et al (2011) all note that a significant amount of patients were referred without prior investigations being performed. In both the Stikland and Pelonomi studies it was noted that the information on medical conditions and substances in the referrals was inadequate (Ras et al, 2011; Struwig et al, 2009).

It would be reasonable to deduce from all the published literature that factors which make a referral inappropriate include unclear/no referral reason, no referral diagnosis provided, wrong diagnosis provided, no psychiatric diagnosis post-assessment by specialist, no investigations done prior to referral, insufficient information provided on comorbid medical illness/substance use/personality disorders, and no psychotropic medication prescribed prior to referral.

1.2 The need for this study

Chris Hani Baragwanath Academic Hospital is a tertiary level academic institution in Soweto, Johannesburg. The catchment population for the hospital is around 3 million people (*General information: Chris Hani Baragwanath Hospital 2015)*. It is the third largest hospital in the world, occupying around 173 acres, with approximately 3200 beds and about 6760 staff members.

The Adult Psychiatry Outpatients sees about 400 patients per month. The referrals are from: surrounding clinics in the hospital's catchment area; inpatients admitted to other disciplines at CHBAH; other discipline outpatient clinics within CHBAH; private health care practitioners; and other allied mental health professionals, such as psychologists, occupational therapists and social workers.

The department of psychiatry has a policy with regards referrals. However it would appear that actual practice is not aligned with policy, as the referral system may be bypassed by patients for a number of reasons. Because of the large number of referrals and the limited resources at the hospital, there was a need to conduct this study with a view to assessing the appropriateness of current referrals and making recommendations on how to improve the service. Furthermore, it would add to an understanding of the variation in the systems of referral within Gauteng and across different provinces within South Africa.

1.3 Hypothesis

The hypothesis was that the majority of referrals (i.e. more than 50%) to the Psychiatry Outpatients Department at CHBAH are inappropriate for a level 3 hospital, and a significant portion thereof could be managed at a lower level of care.

1.4 Aim of the study

The aim of this study was to conduct a clinical audit of all the referrals to the CHBAH Psychiatry Outpatients Department (OPD), in order to assess the appropriateness (i.e. correctness and suitability) and the quality of these referrals for the level of care provided.

1.5 Study Objectives

To describe, in a group of patients referred to CHBAH psychiatry OPD, the:

1. Socio-demographic characteristics of the study population
2. Sources of referral
3. Reasons for the referrals to the department

4. Diagnoses and interventions prior to referral

5. Diagnoses, interventions and the final outcomes following an assessment by the CHBAH psychiatry outpatients staff

6. Appropriateness of referrals to the CHBAH Psychiatry Outpatients Department

Chapter 2 – Methods

2.1 Study Design

This study was a retrospective record review of adult patients newly referred to the CHBAH Psychiatry OPD during the period of 1 July 2012 to 31 December 2012.

The register at the outpatient clinic was reviewed to determine the names of all eligible patients. As this proved to be inaccurate all medical records of new patients over the period 1 July 2012 to 31 December 2012 were obtained and the appropriate files examined as outlined below.

2.2 Study Population

All consecutive new adult (18 years or older) outpatients over the period stipulated above were included. Inpatient referrals were excluded, as these are often not assessed at the outpatients department only, but also in their respective wards; they are therefore not representative of an ambulatory setting. Referrals from satellite clinics of patients already known to the outpatients department were excluded, as these were not considered new patients. For the purpose of this study the outcome entitled 'follow-up at Psychiatry OPD' included the general OPD, as well as Zamani (the dual diagnosis clinic) and Luthando (the HIV/neuropsychiatry clinic).

2.3 Data Collection

The following information was extracted and recorded in a data collection sheet (Appendix A):

— Demographic data

— Details of referral

— Assessment at CHBAH Psychiatry OPD

2.4 Data Analysis

2.4.1 Sample size calculation

A sample size was calculated based on descriptive analysis of the data. Since mostly proportions will be reported, an estimate was based on the reporting of a 50% proportion (worst-case) with a 5% precision and 5% significance level. The estimated sample size was 384. The actual sample size of 176 allows the reporting of a 50% proportion with only 7.4% precision.

Sample size for prevalence was determined using the formula (Daniel WW, 1999):

$$n = \frac{Z2\,(1 - P)}{d2}$$

where n = sample size,

Z = Z-statistic for the chosen level of confidence,

P = expected prevalence or proportion

d = precision

2.4.2 Statistical Analysis

A qualitative and quantitative analysis of the data was performed using results obtained from the data sheet. The data was entered into an electronic database. Data analysis was carried out using SAS Statistical Analysis Software Version 9.1.3. The analysis was done by the

researcher in collaboration with a biostatistician at the University of the Witwatersrand. Data was analysed in two categories i.e. demographic data and clinical data. Descriptive statistics were computed as mean and frequencies (count and percentages). Descriptive analysis for all variables was presented in tables and graphs. Categorical data were described by frequency and percentage.

Percentage responses in the various categories were calculated with 95% confidence intervals as appropriate. Cross tabulations as appropriate were done and analysed by chi-squared methods.

2.5 Ethics

The study was approved by the University of the Witwatersrand's Human Research Ethics Committee (HREC) (Appendix B). Authorisation to conduct the study and access patients' files was obtained from the CEO of CHBAH (Appendix C).

Written informed consent was not obtained from any patient, as this was a retrospective study and only the patient records were studied. Confidentiality was maintained at all times. To ensure this (and that the patient was not enrolled more than once), the patients' names and hospital numbers were recorded on a separate sheet. These will not be mentioned in any subsequent reports, conference briefings/presentations, or any publications. Only the frequencies and percentages of the data obtained from the patients' records would be reflected in any reports, presentations and/or publications.

Chapter 3 – Results

The study sample consisted of 176 referrals. There were missing data in the categories described below. For the purpose of this study missing data and 'unknowns' were separated. Some files did not have a referral letter, nor was it stated by the assessing Psychiatry OPD registrar in the initial interview or subsequent consultations who had referred the patient, the reason for referral or the diagnosis on referral – this was considered missing data as questions in the data collection sheet were not completed. Questions marked as 'unknown' remained unanswered in the data collection sheet despite there being no missing data.

3.1 Socio-demographic characteristics of the study population

The majority of the patients were female (n= 121; 68.8%). Twenty five percent (n=44) of the patients were in the age group of 18-29 years and 23.9% (n=42) were in the 30-39 years age group. More than half (57.4%; n=101) had completed some form of secondary level of education. There was only one patient with 'no formal education' and two patients who had received 'special education'. Just about half (47.2%; n=83) of the patients were single and over two thirds (70.5%; n=124) were not currently employed (Table 3.1).

Table 3.1 Frequency distribution of socio-demographics characteristics of the study population

Demographic Variable	Category	Study population (n=176)	
		n	%
Age group	18-29 years	44	25.0%
	30-39 years	42	23.9%
	40-49 years	34	19.3%
	50-59 years	30	17.0%
	≥60 years	24	13.6%
	Unknown	2	1.1%
Gender	Male	55	31.3%
	Female	121	68.8%
Marital status	Single	83	47.2%
	Divorced	12	6.8%
	Widowed	13	7.4%
	Married	43	24.4%
	Unknown	25	14.2%
Highest level of education	Primary	12	6.8%
	Secondary	101	57.4%
	Tertiary	16	9.1%
	Unknown	43	24.4%
	Other	4	2.3%
	Special education	*3*	*1.7%*
	No formal education	*1*	*0.6%*
Employment status	Employed	41	23.3%
	Unemployed	124	70.5%
	Unknown	11	6.3%

3.2 Sources of referral

The largest source of referrals was from other disciplines within CHBAH (32.4%; n=57), followed by referrals from state psychiatrists/psychologists in specialised psychiatric clinics and units in other hospitals (27.8%; n=49). Only 15.9% (n=28) of the referrals were from primary health care practitioners and 3.4% (n=6) were from private psychiatrists/ psychologists (Fig 3.1). The source of referral of 13.1% (n=23) of the patients was unknown, for the reasons stated above.

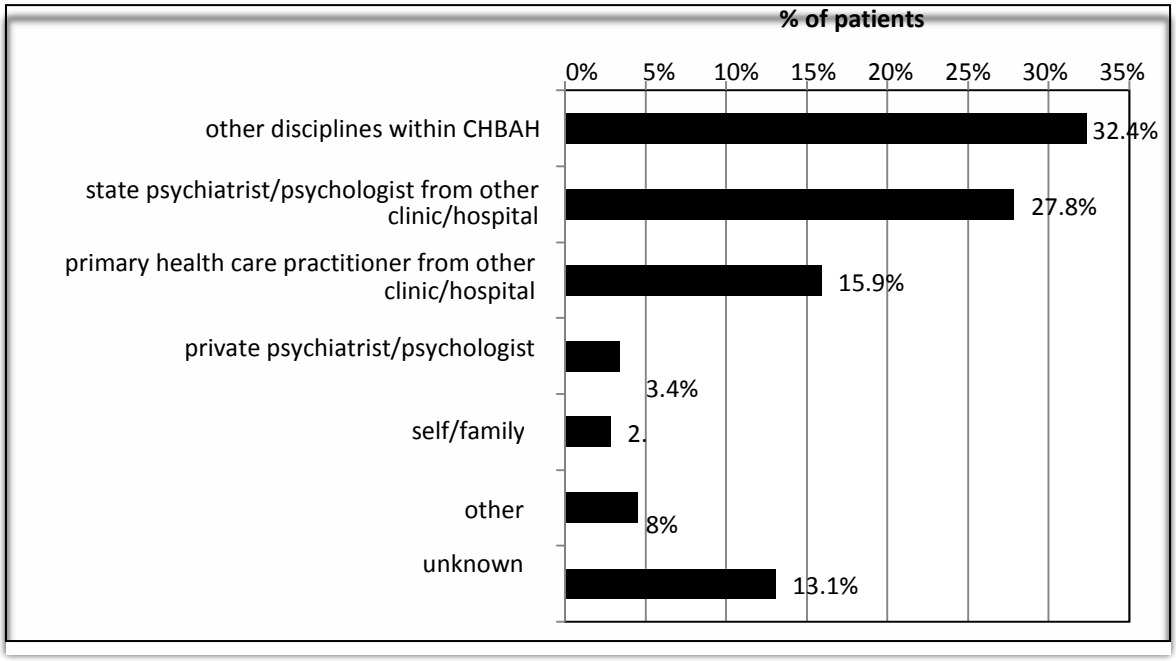


Figure 3.1 Frequency distribution of the source of referral of patients to CHBAH Psychiatry OPD

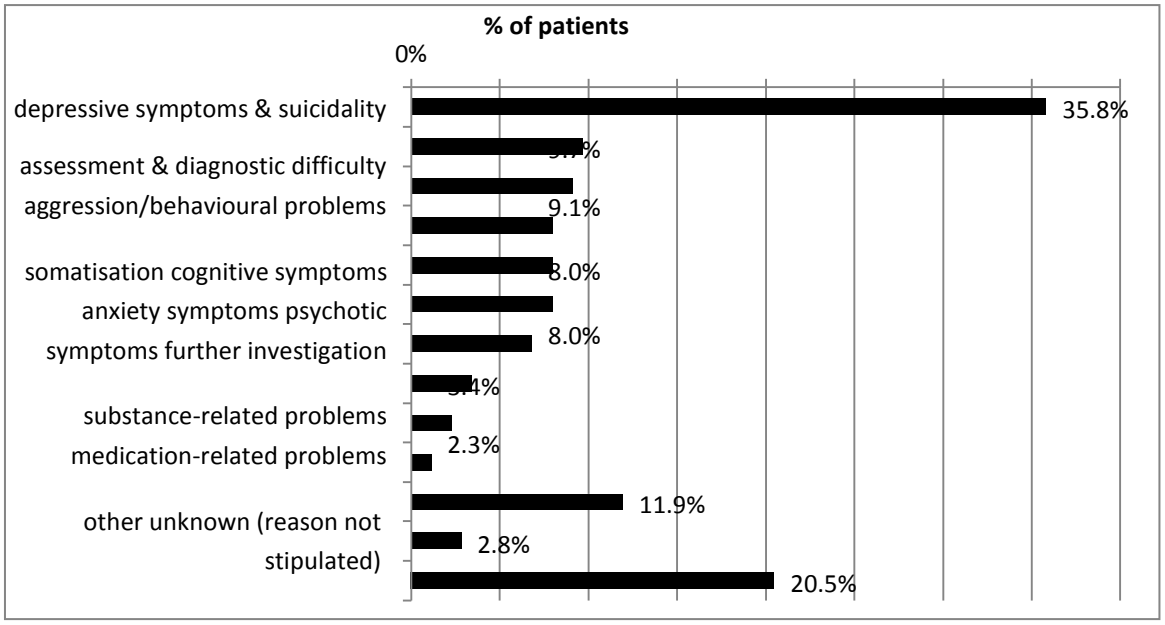
Within the category 'other disciplines at CHBAH', the referrals were as follows: internal medicine and its subspecialties (20.5%; n=36); surgical specialties (4.5%; n=8); obstetrics and gynaecology (2.8%; n=5); orthopaedics (2.8%; n=5); HIV clinics (1.1%; n=2) and paediatrics (0.6%; n=1).

The other sources of referral included occupational therapy (1.7%; n=3), audiology (0.6%; n=1), hospice (0.6%; n=1), old age home (1.1%; n=2) and social worker (0.6%; n=1).

3.3 Reasons for the referrals to the department of psychiatry

The most common reason for referral was ‘depressive symptoms and suicidality’ (35.8%; n=63). 9.7% (n=17) were referred for ‘assessment and diagnostic difficulty’ and 3.4% (n=6) for further investigation. A similar number of patients were referred for ‘psychotic’, ‘anxiety’, ‘somatic’, ‘cognitive’ and ‘aggressive behaviour’ symptoms. Some patients had more than one reason for referral. In 20.5% of cases the data was missing (Fig 3.2).

Figure 3.2 Frequency distribution of the reason for referral of patients to CHBAH Psychiatry OPD



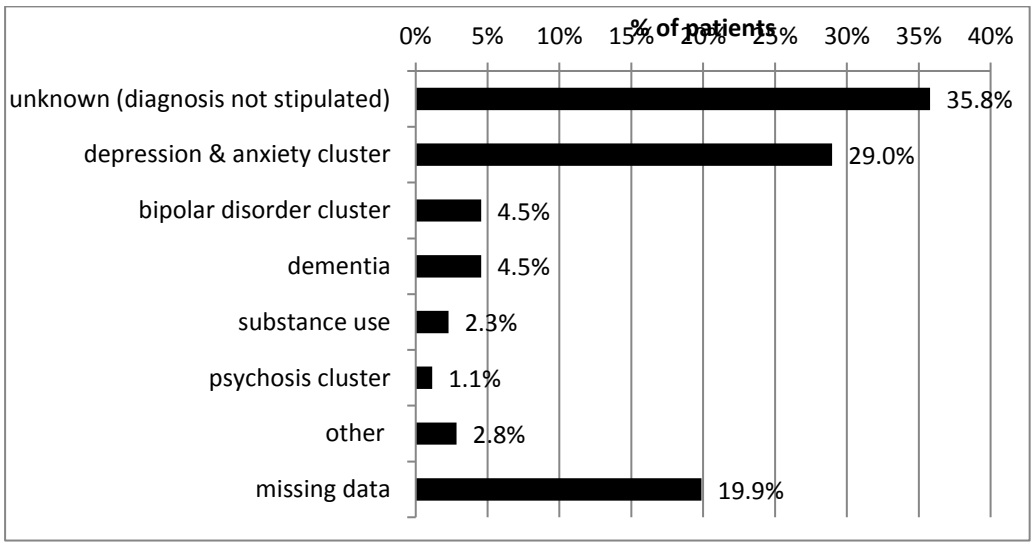
In the category of ‘other reasons for referral’ the following were included: syncopal attacks, medical aid funds exhausted, personality changes, personality disorder (n=2), ‘known psychiatric patient’, bereavement, request for local clinic referral, previous confusion (n=2), intellectual disability, ‘patient has a son with intellectual disability’, ‘family history of bipolar disorder’, previous trauma, ‘chronic late-coming to work’, ‘chronic poor sleep’, the assessment of capacity to consent for sterilisation, transfer from another province, ‘patient prefers to follow up at CHBAH’, ‘patient from CHBAH catchment area’, ‘partner abuse and social problem’ and ‘patient is a doctor’.

3.4 Diagnoses and interventions prior to referral

3.4.1 Diagnosis on referral

The diagnosis was not stated by the referring person for 35.8% (n=63) of the patients. In 19.9% (n= 35) of the patients the data was missing, as the referral letter was not available. The most common diagnosis made was ‘depression and anxiety cluster’ (29.0%; n=51) (Fig 3.3).

Figure 3.3 Frequency distribution of the diagnosis of patients on referral to CHBAH Psychiatry OPD

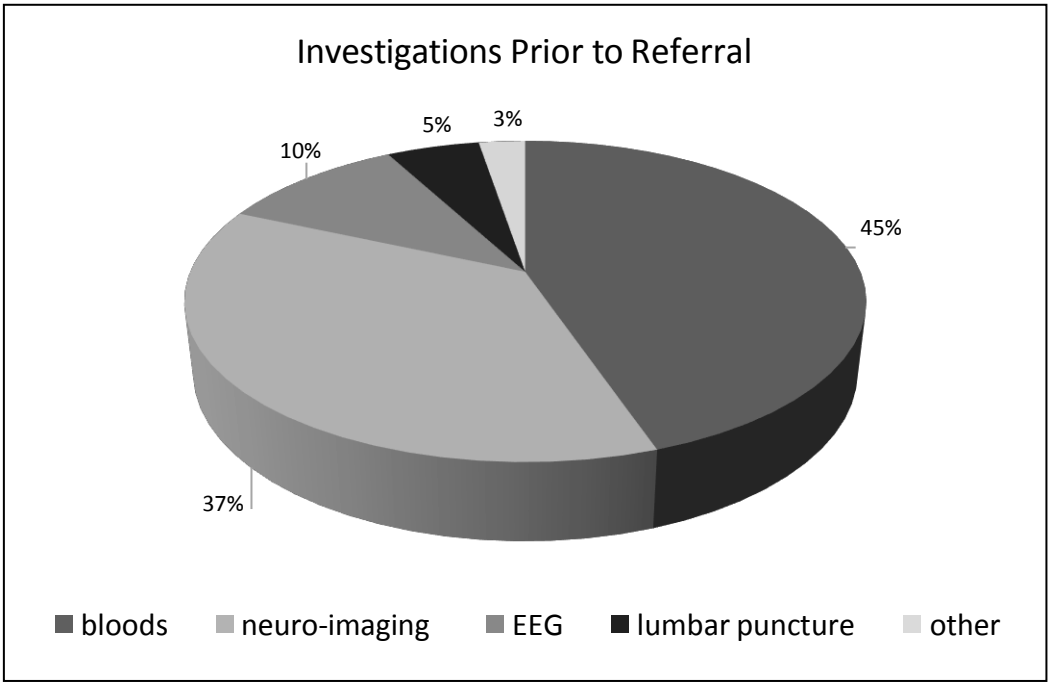


Other diagnoses included intellectual disability (1.7%; n=3) and borderline personality disorder (1.1%; n=2).

3.4.2 Investigations on referral

In 25.6% (n=45) of cases special investigations were reported. Within this group of 45 patients, the most common investigations were blood tests (75.6%; n=131) and neuro-imaging (CT-brain or MRI-brain) (62.2%; n=28) (Fig 3.4).

Figure 3.4 Frequency distribution of reported investigations performed prior to referral of patients to Psychiatry OPD



Other investigations included an electrocardiogram (ECG), an electromyogram (EMG) and X-rays in one patient, and an ECG in another patient.

3.4.3 Treatment on referral

60.8% (n=107) of the patients had received some treatment prior to referral. Within this group of 107 patients, 51.4% (n=55) had received psychotherapy, 36.4% (n=39) had received psychopharmacology, while 12.1% (n=13) had received both. There were no missing data.

3.5 Diagnoses, interventions and final outcomes following an assessment by the CHBAH psychiatry outpatient staff

3.5.1 Investigations at Psychiatry OPD

Following an assessment 54.0% (n = 95) of the patients required special investigations. Within this group of 95 patients, the most common investigations were blood laboratory tests (90.5%; n=86) (Fig 3.5).

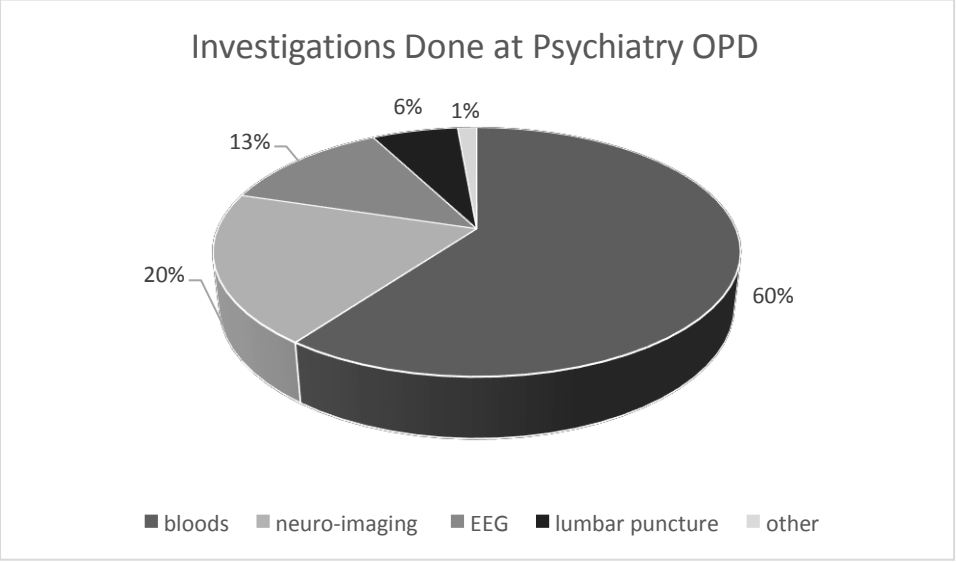


Figure 3.5 Frequency distribution of the investigations performed at CHBAH Psychiatry OPD

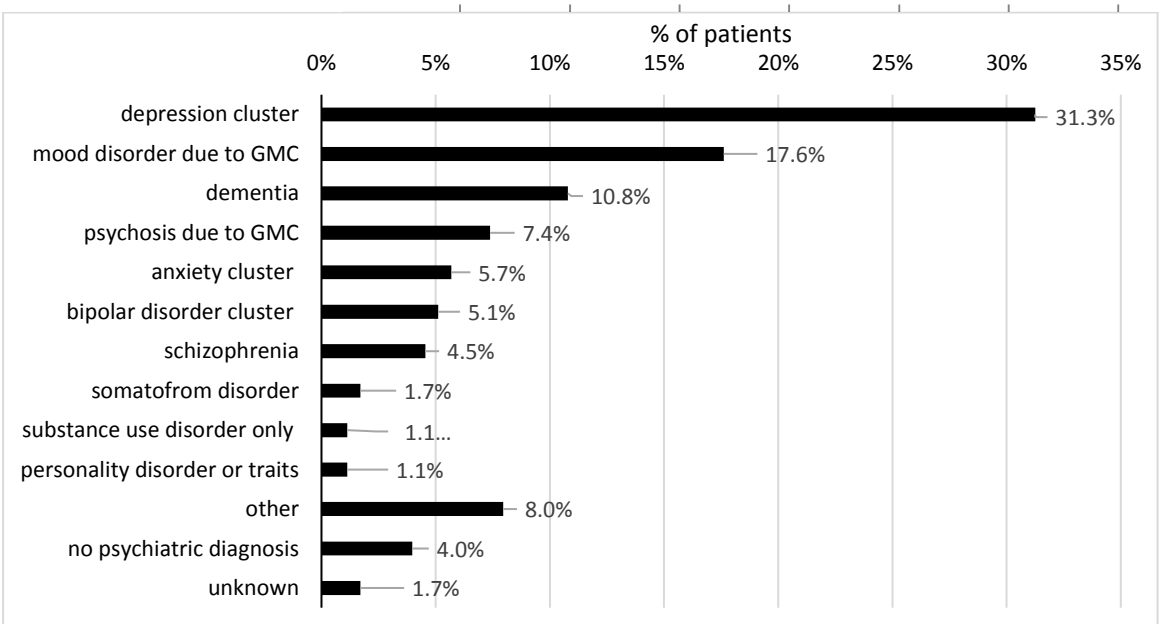
Other investigations included an ECG in one patient and X-rays, a mammogram, an abdominal ultrasound and a pap smear in another patient with suspected malignancy, who was initially referred due to 'cognitive decline'.

3.5.2 Diagnosis at Psychiatry OPD

When recording more than one diagnosis, preference was given to what was thought to be the primary diagnosis.

The most common diagnosis was 'depression cluster' (31.3%; n=55), followed by 'mood disorder due to GMC (general medical condition)' (17.6%; n=31). 4.0% (n=7) of the patients had no psychiatric diagnosis. In 1.7% of cases (n=3) the diagnosis was not stipulated/unknown.

Figure 3.6 Frequency distribution of the diagnosis of patients after assessment at CHBAH Psychiatry OPD



7.4% (n=13) of cases had documented substance use significant enough to be included in the multiaxial diagnostic formulation. The substances of preference were alcohol and cannabis, with only one patient having been referred for heroin withdrawal.

The categories mood disorder due to GMC and psychosis due to the GMC were further analysed in Table 3.2 below.

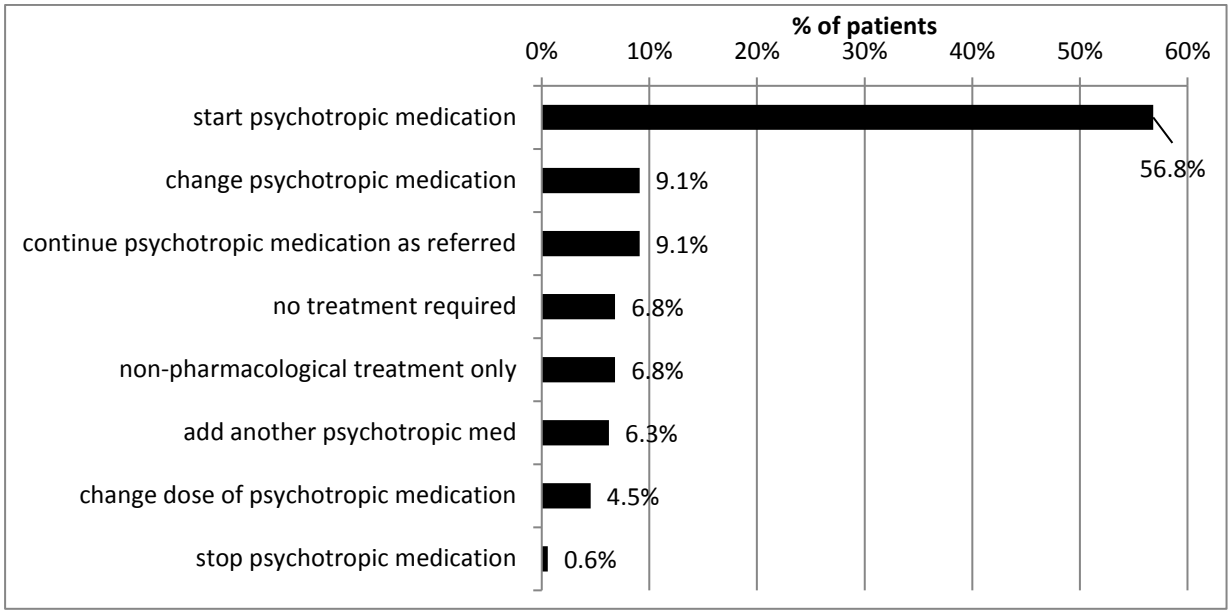
Table 3.2 Frequency distribution of mental illness due to general medical conditions

	n	%
mood disorder due to GMC	31	17.6%
epilepsy	11	6.3%
HIV	16	9.1%
head injury	3	1.7%
cerebrovascular incident	3	1.7%
other	4	2.3%
psychosis due to GMC	13	7.4%
epilepsy	9	5.1%
HIV	3	1.7%
head injury	3	1.7%
cerebrovascular incident	1	0.6%

3.5.3 Treatment at Psychiatry OPD

The most common treatment prescribed by the Psychiatry Department OPD following an assessment was the initiation of psychotropic medication (56.8%; n=100). Approximately 10% (n=16) of patients had their psychotropic medication changed. 6.8% (n=12) of cases did not require any treatment (Fig 3.7).

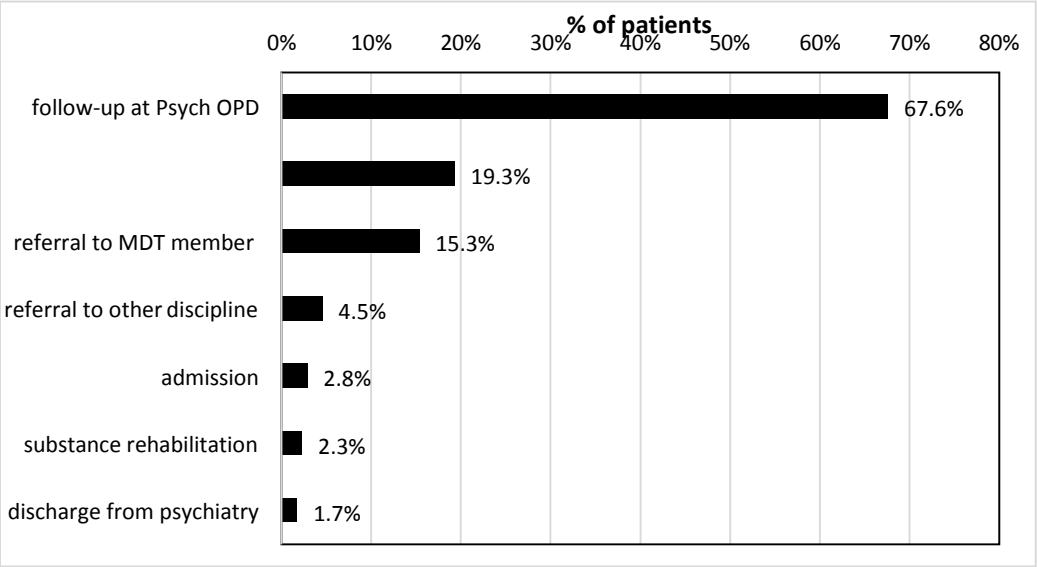
Figure 3.7 Treatment instituted for referred patients at Psychiatry OPD



3.5.4 Outcome following Psychiatry OPD assessment

Some patients had more than one outcome. The most common outcome was to book the patient for a follow-up appointment at CHBAH Psychiatric OPD (68.2%; n=119). 19.3% (n=34) of cases were down-referred. 4.5% (n=8) were referred to other disciplines. 2.8% (n=5) of cases required admission. 2.3% (n=4) were referred onwards for substance rehabilitation. 1.7% (n=3) of cases were discharged from psychiatry (Fig 3.8).

Figure 3.8 Outcomes of patients referred to CHBAH Psychiatry OPD



One patient with suspected malignancy was referred to multiple disciplines: orthopaedics, medicine and the breast clinic (surgery).

3.6 Appropriateness of Referral

For the purpose of this study, a referral was considered as inappropriate if at least two of the following were present:

1. No diagnosis or a wrong diagnosis was made by the referral source
2. No primary treatment was initiated prior to referral
3. No baseline investigations were done prior to referral
4. Inappropriate medication/other treatment modality was initiated prior to referral
5. The outcome after assessment at Psychiatry OPD included a down-referral to a lower level of care, referral to another discipline or discharge from psychiatry.

Patients with multiple medical comorbidities that suggested case complexity were considered appropriate for the level of care provided at CHBAH, regardless of the above points.

The study found that:

a) 39.2% (n=69) of patients had not been initiated on either psychopharmacological or psychotherapeutic treatment prior to referral.

b) 74.4% (n=131) of patients had no reported investigations performed prior to referral.

c) 55.7% (n=98) of the patients did not have a diagnosis at referral. Of the 44.3% (n=78) where a diagnosis was attempted by the referral professional, it was correct in 34.7% (n=61) of patients.

Based on these findings and the above criteria for appropriateness of referrals, only 14.8% of the referrals (n=26) in this study population were deemed to be appropriate.

Chapter 4 – Discussion

4.1 Referrals to CHBAH psychiatric outpatients department

4.1.1 Demographic characteristics

The majority of the patients in this study were female, in the 18-39-year age group, single, unemployed, and had attained at least a secondary level of education. Most mental disorders tend to have their onset in the first three decades of life and early intervention may reduce the severity of the disorder, as well as secondary disorders (McGorry et al, 2011). Consequently, clinicians at the referral sites are more likely to up-refer these younger patients to specialised services; this is the likely explanation for the 49% representation in this study. The predominance of female patients in our study sample is similar to the findings reported in other studies (Ras et al, 2011; World Health Organisation, 2014; Steel et al, 2014). This gender bias may be related to the patterns of help-seeking behaviour, where females tend to be more amenable to seeking medical help as soon as they become ill (World Health Organisation, 2005; Otwombe et al, 2015; van der Hoeven et al, 2012; Öhman et al, 2015; Vives-Cases et al, 2015). The gender bias in mental health is also influenced by its interrelationships with other societal and structural determinants of mental health, namely education, income and employment, as well as social rules and rank (World Health Organisation, 2004 and 2014; van der Hoeven et al, 2012; Omotoso, 2010; Benatar, 2013).

It is also possible that our demographic findings are related to the specific population area of Soweto from which most of the patients in this study hail. Soweto is historically disadvantaged and low-income, with a high unemployment rate (Human Sciences Research Council, 2015). Poverty and low education level are risk factors for the development of mental disorders (Patel and Kleinman, 2003).

Notwithstanding these limitations, one could generalise the demographics characteristics to be similar to most areas of South Africa.

4.1.2 Sources of referral

This study, like most other studies on the subject (Babu & Radhika, 2014; Bass et al, 2004; Chowhan et al, 2013; Gangat et al, 1987; Jhanjee et al, 2011; Keertish et al, 2013; Ras et al, 2011; Sharp et al, 2011), found that patients were referred from diverse sources, including other disciplines within hospitals, state psychiatrists/psychologists from other clinics and hospitals, primary health care practitioners, as well as private sector psychiatrists/psychologists.

The department of internal medicine within CHBAH was responsible for approximately one in five of the total referrals. Similar findings were reported in international published data (Sharp et al, 2011; Bass et al, 2002; Bas and Radhika, 2014; Bhogale et al, 2000; Chowhan et at, 2013; Jhanjee et al, 2011; Keertish et al, 2013; Singh et al, 2009; Jindal & Hemrajani, 1980 and Özkan et al, 1995). Although South African data is scant, a Kwa-Zulu Natal study also reported that a main source of referral was internal medicine (Gangat et al, 1987). Psychiatric symptoms are common in acutely medically ill patents. Furthermore, it is common for patients with mental illness to have comorbid medical illnesses, hence being more likely to present first to the internal medicine department to be treated before being subsequently referred to psychiatry for their mental illness (Summergrad & Kathol, 2014). Such patients may initially be assessed by physicians and medical causes of psychiatric symptoms excluded and treated appropriately before being referred to psychiatric services within the hospital (Tucci et al, 2015).

Referrals from state psychiatrists/psychologists in specialised psychiatric clinics and units in other hospitals were the next common. This may be because at CHBAH patients are often first referent to the department of psychology for a variety of reasons, including depression and suicidality, and after assessment by the psychologist referred to the department of psychiatry for further evaluation and management.

A very small percentage of our patients came from private practitioners (3.4%). This is in contrast to a Western Cape study which reported that 58.3% of their referrals came from private practitioners (Ras et al, 2011). These discrepant findings may be related to the demographic and economic characteristics of the respective groups of patients being fundamentally different. Patients in the Stikland Hospital catchment area may not have

equivalent rates of unemployment compared to those from the current study, and may thus be economically stronger, and by inference more likely to have access to private general and psychiatric care on initial presentation (Patel et al, 2003; Ras et al, 2011; World Health Organisation, 2014; Human Sciences Resource Council, 2015).

4.1.3 Reasons for the referrals

The reasons for referral were diverse; however, the most common ones were symptoms and signs in the depression and anxiety cluster. This is in keeping with published findings from international studies (Sharp et al, 2011; Babu and Radhika, 2014; and Keertish et al, 2013) and South African studies (Gangat et al, 1987; Ras et al, 2011).

Depression is a serious, recurrent disorder that is associated with decreased quality of life and medical morbidity and mortality (Kessler and Bromet, 2013). The World Health Organisation has ranked depression the fourth leading cause of disability, affecting approximately 350 million people worldwide and is expected to become the most common cause of loss of disability-adjusted life years in the world by 2030 (World Health Organisation, 2004). Depression is one of the commonest occurring mental illnesses worldwide. The benchmark WHO study (Psychological Disorders in Primary Care), conducted in 18 countries in the 1980s reported major depressive disorder and generalised anxiety disorder as the most frequent diagnoses (Üstün & Sartorius, 1995). Similar reports emerge from Kessler and Bromet (2013) and the South African SASH studies (Herman et al, 2011). The possible reasons for depression being very common in this study (as well as in South Africa in general) include the social determinants of health such as poverty, unemployment, low education level, insecurity of livelihood, rapid social change and inequality (Patel and Kleinman, 2003; World Health Organisation, 2014; Andersson et al, 2013; Ataguba et al, 2015). Common mental disorders affect the poor and disadvantaged disproportionately. According to a World Health Organisation report on the social determinants of mental health, ‘those lower on the social hierarchy are more likely to experience less favourable economic, social, and environmental conditions throughout life and have access to fewer buffers and supports’ (World Health Organisation, 2014). Therefore it is reasonable that there would be a

high incidence of depression in the low-income, historically impoverished population found in the CHBAH catchment area.

Furthermore, the burden of communicable medical illnesses, such as HIV and TB, also falls on the impoverished members of society. Depression and chronic physical illness have a reciprocal relationship: not only do many chronic illnesses cause higher rates of depression, but depression has been shown to antedate some chronic physical illnesses (Goldberg, 2010). This is significant, considering the high rates of general medical conditions found in this study.

Depression is also associated with significantly elevated risk of early death, not only due to high suicide risk, but also because depression is associated with increased risk of developing a wide range of medical disorders (e.g. cardiovascular diseases), some of which persist and are aggravated by the depressive disorder itself (Kessler, 2012). According to the World Health Organisation, common mental disorders such as depression can be reliably recognised and managed in primary care settings, with key interventions being treatment with generic antidepressant drugs and brief psychotherapy (World Health Organisation, 2008). At its worst, depression can lead to suicide. Over 800 000 people die due to suicide every year. Suicide is the second leading cause of death in 15-29-year-olds (World Health Organisation, 2015), with rates ranging from 11.6-16 per 100 000 inhabitants (World Health Organisation, 2004). South African suicide rates range from 11.5 per 100 000 to as high as 25 per 100 000 of the population (Schlebusch, 2012). In light of the high prevalence of depression and associated morbidity and mortality both internationally and locally, it is understandable that it would be the most common reason for referral.

Psychiatric symptoms are often disguised by somatic symptoms, and there is a high rate of comorbidity between depressive and anxiety disorders and physical complaints (Apostolo et al, 2011). Although, a few studies have reported 'unexplained physical symptoms' or somatic complaints as the most common reason for referral (Bass et al, 2002; Bhogale et al, 2000; Keertish et al, 2013; Essam et al, 1990; and Olukayode Jegede, 1978; Muller et al, 2008), it was relatively uncommon in our population sample (8%). It is possible that these patients were not referred and were being managed at the referral sites. Alternatively, the low referral rates suggest that somatoform disorders are perhaps poorly recognised by primary health care practitioners, and thus patients with these disorders go undetected and not referred (van Ravesteijn, 2009; Gureje et al, 2015). Further, due to the dominant biomedical approach to

health care, primary health care providers may only be identifying and treating the presenting physical complaints (Bhagwanjee et al, 1998; Wittchen et al, 2003; Gureje et al, 2015) and missing the psychiatric disorder.

4.2 Special investigations conducted and treatment initiated prior to referral

This study found that approximately one in four (25.7%) of the patients referred had reportedly undergone special investigation prior to the referral, most commonly blood tests. Laboratory investigations are more accessible at referral sites in comparison to more specialised investigations such as neuroimaging and electroencephalograms. It is therefore unsurprising that this was the commonest investigative modality. The relatively low rate of investigation is of concern, however. Although no exact figures were quoted, both Jindal and Hemrajani (1980) and Babu and Radhika (2014), in their respective studies conducted in India, reported that not all referred cases in their studies were sent with preliminary investigations. Similarly, Culshaw et al (2008), reported that only one in twenty patients had information on investigations in their referrals despite 4 out of 10 patients in the sample presenting with somatic symptoms. Ras et al (2011) reported that special investigations were requested in 33% of their sample after they were referred, and the majority of these could have been performed at PHC level. Struwig et al (2009) reported that only 15.2% of referral letters contained the results of special investigations.

Other researchers have suggested that whilst investigations may have been done, the details of physical examination and laboratory investigations are not routinely included in referral letters to general psychiatry. A systematic review examining the quality of referral letters between primary health care and mental health care revealed that rates of reporting were low for many items, including the reason for referral, clinical history, mental status, physical exam and investigations (Durbin et al, 2012). It is likely that in the setting of this study, as in others, a lack of resources to conduct laboratory and special investigations at the referral source may be accounting for this omission (Petersen and Lund, 2010). Furthermore, some of the referrals were directly from psychologists and other allied professionals and performing investigations is beyond the scope of their practice. Whatever the reason for the failure to perform these investigations, it is worrying as it may have led to the missed diagnoses of

primary or secondary physical illness in patients who present with psychiatric symptoms (Culshaw et al, 2008). This may in turn impact on the diagnosis and further treatment.

60.8% of the patients referred in this study had received some form of treatment intervention prior to referral. These included psychotherapy, psychotropic medication, or a combination thereof. Of note was that only 36.4% of the referrals were commenced on psychotropic medication, a figure which is comparable to that of a Western Cape sample (29.1%) (Ras et al, 2011) but slightly higher than the 20.7% reported in an Indian study (Babu and Radhika, 2014). According to a World Health Organisation study only about half of all cases recognised received some specific intervention, and the majority of these treatments were not considered to be state-of-the-art first-line treatments (Üstün & Sartorius, 1995). Taking into consideration that a large percentage of the referrals were for minor mental illnesses and treatable with primary level medication, one would have expected the referring health care professionals to have attempted to treat the patient. This failure to initiate treatment at the referral site is significant, as these patients could possibly have not required a referral to specialised psychiatric services.

In the case of the referrals in this study possible reasons for the non-initiation of first-line treatment could include failure of psychiatric illness recognition as well as barriers to care at policy and health system level. Over 50% of patients with clinically significant depression are not recognised by the treating primary care physician because of a tendency to focus primarily on medical complaints which may mask the underlying psychiatric illness (Wittchen et al, 2002 and 2003). In addition, from community studies, it appears that for the more than 40% of all patients meeting the diagnostic criteria for depression, a significant amount of time may lapse between first onset of symptoms to interventions being initiated (Wittchen et al, 2002). Moreover, among those recognised, only a fraction appears to receive medication that is deemed appropriate according to expert standard treatment guidelines (Üstün & Sartorius, 1995; Wittchen et al, 2002).

4.3 Post-referral

4.3.1 Diagnosis

Following assessment by the specialised psychiatrists at CHBAH, the diagnosis made by the referring doctor was found to be incorrect in 65.3% of the cases.

International studies report that diagnostic accuracy for common mental disorders ranges from 41.5%-53.6%, depending on the setting and methodology (Babu and Radhika, 2014; Su et al, 2011; Dilts et al, 2003; Al Huthali, 2008). In South Africa common psychiatric disorders (such as depressive and anxiety disorders), although more prevalent and constituting the largest proportion of the community mental-health burden, go largely undetected (Bhagwanjee et al, 1998). Sorsdahl et al (2010), in a study conducted in the Western Cape reported that 55% of patients that met the criteria for a diagnosis of depression/anxiety were missed. Possible reasons for incorrect diagnosis may involve a number of factors, including but not limited to: insufficient time spent with the patient for a more detailed assessment; limited training and clinical skills in psychiatric assessment and diagnosis; reluctance on the part of referring clinicians to assign a label to a patient that may or may not be accurate; lack of appropriate investigations used to guide diagnosis; and over-reliance on specialist input for assessment and further management (Ballanger, 2000; Roberge et al, 2011; Pincus et al, 2001; Wittchen et al, 2003; World Health Organisation, 2008).

The following findings of this study regarding diagnosis merit further discussion:

a) depressive disorders (including those due to GMC) were common

b) anxiety disorders were underrepresented, and

c) very few cases of substance use disorders were diagnosed.

a) Depressive disorders

As discussed previously, depressive disorders are generally reported as the commonest diagnosis made by psychiatric services worldwide and locally (Babu and Radhika, 2014; Chowdhan et al, 2013; Singh et al, 2009; Al-Habeeb, 2002; Essam et al, 1990; Jhanjee et al, 2011; Özkan et al, 1995; Olukayode Jegede, 1978; Gangat et al, 1987; Ras et al, 2011), and the findings of the present study mirror this. Furthermore, a large number of referrals were patients with comorbid medical illnesses from the department of internal medicine. The comorbidities included epilepsy (11.4%), HIV (10.8%) and head injury (3.4%). Depression is one of the most frequent comorbid psychiatric disorders in people with epilepsy: its lifetime prevalence is estimated at between 6% and 30% in population-based studies and up to 50% among patients followed up in tertiary centres (Kanner, 2003). Prevalence rates of psychiatric disorders among HIV-infected patients approach 50%, with estimates of depression lifetime prevalence ranging from 4% to 45% (Basu et al, 2005). Head injury is associated with rates of depression ranging from 17% to 61% (Rapoport, 2012). Thus it is to be expected that depression would be widespread in the population studied.

b) Anxiety disorders

Approximately 6% of the patients were diagnosed with anxiety disorders. This is in contrast to other studies which report anxiety disorders as the commonest diagnosis (Sharp et al, 2011; Bhogale et al, 2000; Keertish et al, 2013). This may be due to the specifics of the population represented, as the studies mentioned took place in Scotland and India. The South African Stress and Health Study also reported the most prevalent national psychiatric conditions to be anxiety disorders (15.8%) (Herman et al, 2009): however, this study sample consisted of national household surveys, whereas the population sample of the present study was a clinical one confined to one hospital based in Southern Gauteng. Apart from the general resource issues at a primary health care level that may have led to under-diagnosis already discussed, there are other possible reasons for this underrepresentation of anxiety disorders. These include patient factors (such as help-seeking behaviour and level of distress associated with symptomatology) and clinician factors (such as clinical skill and experience in prescribing psychotropic medication).

A Canadian study reported high rates of failure of detection of common anxiety disorders in the primary health care setting: namely 71% and 97.8% of patients with generalised anxiety disorder and social anxiety disorder respectively were misdiagnosed (Vermani et al, 2011).

This may be because the majority of these patients attend their primary care practitioners' clinic for treatment of the physical symptoms and the underlying causative anxiety disorders is missed (Allgulander, 2006). It may also be because the patients themselves did not seek treatment for their anxiety, nor did they perceive a need for treatment (Craske et al, 2005), or were deemed by the assessing physician as not impaired enough to be up-referred. According to a British study, patients described psychological problems as being unseen, in stark contrast to medical conditions that could be more readily acknowledged and observed at first hand (Kadam et al, 2001). Many patients believe that other people, including their general practitioner, were not interested in their mood and anxiety difficulties, highlighting the role of stigma associated with psychiatric illness and its role in obstructing help-seeking behaviour (Pincus et al, 2001).

It is also possible that patients with anxiety disorders could also be receiving adequate care at a lower level of care or through other methods, such as psychotherapeutic modalities. However this is very unlikely and generally disputed in the literature (Vermani et al, 2011; Sorsdahl et al, 2010; Apostolo et al, 2011; Craske et al, 2005; Bhagwanjee et al, 1998; Allgulander, 2006; Wittchen et al, 2002; Roberge et al, 2011 and 2015).

c) Substance use disorders

Only 7.4% of the patients in this study had documented substance use, and substance use disorders accounted for 1.1% of total diagnoses. This was lower than expected for the population sample. According to the SASH study, substance use disorders have a 12-month prevalence of 5.8% and more common than depressive disorders in the general population (Herman et al, 2009). This specific finding in our study may be partly explained by the fact that a large number of patients with substance use and related disorders are usually attended to in the emergency department (ED) and often not referred to psychiatry (Jonsson et al, 2013). In a another study from the Western Cape approximately one fifth of patients attending emergency services were screened as meeting criteria for moderate to high risk substance use (Sorsdahl et al, 2015). Alternatively, many individuals with substance abuse problems are not identified in the referral-consultation process (Specker et al, 2009), or may be missed because of denial or minimising of substance-related difficulties that results from verbal self-report techniques utilised for detecting these problems.

4.3.2 Investigations conducted

Following assessment by specialised psychiatric services, over half of the patients required further investigation, which influenced the diagnosis and outcome. The vast majority of these investigations were basic laboratory blood tests, which could easily have been performed at the referral sites. Other studies reported that referred cases were sent without investigations (Jindal and Hemrajani, 1980; Babu and Radhika, 2014; Culshaw et al, 2008; Moselhy and Salem, 2009; Ras et al, 2011; and Struwig et al, 2009), which may lead to missed diagnoses of medical causes for psychiatric symptomatology. This is particularly important in the setting of the present study, where a large number of final diagnoses made were related to general medical conditions. Had the investigations been done prior to referral, it would possibly have impacted on the number and the appropriateness of the referrals.

A fair number of the patients required more specialised investigations, namely CT scans (29.5%), EEGs (18.9%) and lumbar punctures (9.5%). These percentages are much higher when compared to the Western Cape study, where neuroimaging was performed on only 2.9% of patients (Ras et al, 2011). Considering the large number of patients with general medical conditions encountered in the present study (e.g. HIV, epilepsy, head injury and CVI), it is not surprising that the specialist psychiatrists ordered neuroimaging, EEGs and lumbar punctures in order to adequately investigate the patients. It may also be that, unlike in the Western Cape, the referral sources in this study do not have the resources at their sites to do these investigations.

4.3.3 Treatment initiated and outcomes

Just over half of the patients that were referred in this study were initiated on psychotropic medication as the only intervention following an assessment at CHBAH. In most instances these were primary level drugs. Similarly Sharp et al (2011) and Bass et al (2002) also reported that the mainstay of psychiatric interventions following assessment of referrals is psychopharmacotherapy and psychotherapy. Had these interventions been done at referral level, it would probably have reduced the number of referrals.

Following assessment, only 2.8% of patients required admission into the acute inpatient ward at CHBAH; a large number were followed up at CHBAH outpatient department (67.6%) and the rest were either down-referred (19.3%), referred to other disciplines (4.5%), referred for substance rehabilitation (2.3%) or discharged from psychiatry (1.7%). The admission rate is much lower compared to the 28.16% reported by Ras et al (2011) in their study. A possible reason for the low admission rate is that the outpatients referred were not severely ill or impaired enough to warrant admission (vs inpatients, who would more likely be transferred to the psychiatric ward for admission, but were not included in the present study). Of the five patients that required admission, four were actively suicidal and one developed psychotic symptoms on follow up and was also later admitted.

The staff at CHBAH felt obliged to follow up some of the referrals as they had initiated or changed the patient's treatment. This is not dissimilar to the dilemma reported in the study by Ras et al (2011) wherein the authors state that 'many patients received follow-up appointments not based on need for level 2 care but rather on clinicians perhaps feeling ethically obliged to optimise level 1 care before referring the patient on to yet another system.'

4.4 Overall appropriateness of the referrals

The South African National Department of Health has plans to improve the quality and accessibility of referrals to the various service levels (Department of Health, 2003). Part of this plan is to ensure that services at each level develop and implement a comprehensive set of clinical services. In this plan, provincial tertiary/academic hospitals such as CHBAH should receive referrals only from a regional hospital. However, this level of care is often bypassed due to huge demand and overburden, and consequently CHBAH receives referrals from all levels of care i.e. level 1, 2 and 3.

In this study the overall appropriateness of the referral was gauged on: case complexity, the presence and correctness of the referral diagnosis, aptness of investigations conducted and treatment initiated prior to referral (if any), as well as the outcome after assessment at Psychiatry OPD. Case complexity was assessed as appropriate for a tertiary level institution if the patient in question had multiple medical comorbidities and required treatment input from

several medical specialties and allied health professionals. The majority of cases did not have a diagnosis on referral (55.7%), nor were they appropriately investigated (74.4%). Of the cases in which a diagnosis was attempted it was correct in a minority of cases (34.7%). It was thus concluded that 14.8% (n=26) of the referrals to CHBAH psychiatry OPD were appropriate for a tertiary care setting.

Of the 26 cases considered appropriate: five were considered complex and required tertiary care input; eleven were appropriately assessed at the referral site and started on psychotropic medication prior to referral, requiring either medication or dosage change; two were referred from community clinics for more specialised investigation and referred back when these were completed; two was referred from the community clinic with correct diagnoses and on treatment, but required further stabilisation; three were transfers from other tertiary care institutions; one was referred from the department of obstetrics and gynaecology to assess capacity to consent; one was referred from Neurology OPD already on treatment but experiencing extra-pyramidal side effects; and lastly one was referred from the department of psychology still symptomatic after an appropriate trial of psychotherapy and requiring assessment and commencement of psychotropic medication.

Similar findings have been encountered in the South African context. In a Western Cape study examining referral appropriateness between different levels of care, the authors concluded that 22% of transfers could have been avoided if specific resources or training were available at community health care level and more effective provider-to-provider communication (Richards and Jacquet, 2012). Mojaki et al (2010) reported that most patients seen in the outpatients department and casualty at a district hospital in the Free State had bypassed the referral system and more than half of the patients seen at these units could have been managed at the primary health care facilities.

It is evident that inappropriate referrals are not unique to our region only. Petersen and Lund (2011) identified factors as possibly contributing to this, including: inadequate training of primary health care personnel, limited time of primary health care personnel, and under-developed referral pathways. Similarly, Hanlon et al (2010) reported that mental health care services in Sub-Saharan Africa are faced with a number of challenges, which can broadly be grouped in terms of: a) quality of mental health care in primary care settings; b) primary health care workers' views on mental health care and c) specialist community mental health services and service interface problems.

Quality of mental health care services are affected by an erratic supply of medication, low awareness of psychiatric illness, low diagnostic capability, limited availability of psychotherapeutic interventions at lower levels of care, understaffing, poor continuity of care and limited supervision (Hanlon et al, 2010). Health care workers' views on mental illness and mental health care is influenced by inadequate training (Petersen et al, 2009; Lee et al, 1999; Van Deventer et al, 2008); increased stress in new roles associated with integration of mental health into primary care (Lee et al, 1999); and residual negative attitudes towards new roles (World Health Organisation, 2008). Due to these views health care workers may be reluctant to assess and intervene in mental illness, thus increasing the number of referrals to higher levels of care. Significant factors that affect service interface include: a largely biomedical approach; minimal resources available for prevention, promotion and training; time constraints ; lack of cooperation from primary care workers; ambiguous role of community workers; increased referral to regional and not national services; loss to follow-up of patients due to poor communication between hospitals and community care (Hanlon et al, 2010).

The development of community services is a complex process that faces multiple barriers. These barriers may occur at the policy level e.g. (inadequate mental health policies and legislation, insufficient budget allocated to mental health care or limited/absent health insurance for users). Other barriers occur at the level of the health system itself and may include: resource constraints that result in under-investment in community-based services; poor integration of mental health services with the general health system and social services; and inadequate training of staff across systems (World Health Organisation, 2001). In the context of this study it is likely a lack of easy and consistent access to essential psychotropic medication or simply a lack of clinical skill and competency in treating mental illness, as a result poor integration of services, may be some of the system factors that resulted in a large number of the referred patients not being initiated on any treatment (Lund and Fisher, 2003; Petersen and Lund, 2011; Hanlon et al, 2010).

Although many policies support the decentralisation of mental health services and the expansion and enhancement of community-orientated services, it appears that actual implementation has been a great challenge across the African Continent (Alem et al, 2008; Hanlon et al, 2010). According to Mkhize and Kometsi (2008), 'compared to other areas of health, mental health services remain low on the priorities of most governments in low and middle income countries, South Africa included.' Hanlon et al (2010) state that 'mental

health vies for its place amongst other compelling public health priorities and funding for mental health care in the African region remains disproportionately low when compared to the associated burden of mental disorder.' According to a systematic review evaluating the treatment gap in mental health services in South Africa, reductions in tertiary inpatient resources need to simultaneously be accompanied by improved community-based services; savings incurrent from budget cuts in tertiary care facilities need to be transferred to support community-oriented care (Petersen and Lund, 2011).

The findings of the present study provide further evidence that referral pathways are often bypassed with many patients requiring simple interventions being unable to access these at lower levels of care for a variety of reasons. Thus higher levels of care may become overburdened, further impacting on quality of care. Additional resource constrictions may be incurred, which has a ripple effect across all levels of care, often with far-reaching economic consequences. It is evident that the practical implications of policies is faced with a number of challenges; these need to be addressed in order for the health care system to appropriately perform its function.

4.4 Limitations of the study

This study had a number of limitations. Being a retrospective file review, it was reliant on information subject to human error and interpretation, with subsequent missing data. Furthermore, assessments performed at the CHBAH Psychiatry OPD are made by personnel with varying degrees of clinical experience; this may have influenced the diagnoses and management plan, although a consultant psychiatrist was available for supervision on cases.

The file review was conducted for all new patients over a six month period and thus the total sample consisted of 176 patients. Based on the sample size calculation of 384 patients, the power of this study would have been strengthened had the full number of patients been recruited.

Although the sample was representative of the CHBAH catchment area (Soweto and surrounds), it may not be generalisable to other areas of South Africa.

Notwithstanding these limitations we feel that the information obtained from the study is reliable and useful in future planning of services.

Chapter 5 - Conclusion

This study, as is the case in most other similar studies, found that the referrals to the specialised psychiatry OPD at CHBAH were from many diverse sources, including: other disciplines within the hospital, mental health professionals and from other health facilities (including primary health care practitioners from other state health facilities, as well as private sector mental health professionals).

The vast majority of the referrals were deemed to be inappropriate on the grounds that at the referral site either no diagnosis was attempted or the diagnosis was incorrect; no psychopharmacological or psychotherapeutic treatment was initiated; or no investigations were reported to have been performed prior to referral.

Following an assessment by the specialised psychiatrists, laboratory investigations were ordered in a large percentage of cases. The initial diagnoses were often amended; the most common intervention was simply the initiation of psychotropic medication; and the outcome was discharge back to the referral source for out-patient follow up care.

The country's mental health policy objective is the managing of patients with common mental disorders at a primary health care level, in the least restricted environment and as geographically close to their homes as possible (Mental Health Care Act, Department of Health, 2005). It would appear from this study that we have still a long way to go to meet these objectives. It would appear that perhaps there is a lack of knowledge and skill amongst non-mental health professionals in assessing and managing mental health disorders, as well as a lack of resources. It is therefore important that further research be conducted in this area, not only to support our findings but also more specifically designed to determine the factors that may influence or contribute to inappropriate referrals. In this way solutions aimed at various levels and parts of the health care and social system can be addressed simultaneously and consistently.

In the short term and in the interest of quality patient care, it is recommended that:

a) Health managers that at primary health care facilities must ensure that:

    i. there are adequate and appropriate human resources to provide mental health care for common mental health disorders;

ii. psychotropic medication to treat the above is readily available; and

iii. there is access to or the equipment to conduct simple laboratory investigations.

b) Specialist psychiatrists fulfil their role in training and upskilling, supervision and on-site support of general health professionals.

c) Specialised psychiatric services at tertiary hospitals develop clear and simple guidelines for appropriate referrals between the various levels of care and provide training thereof.

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Appendices

APPENDIX A. DATA COLLECTION SHEET

Subject number ☐

Demographic Data

1. Age

1	18-29 years
2	30-39 years
3	40-49 years
4	50-59 years
5	≥60 years
6	unknown

2. Gender

Male	Female
1	2

3. Marital status

1	single
2	divorced
3	widowed
4	married
5	unknown

4. Level of education

1	primary
2	secondary
3	tertiary
4	unknown
5	other (specify)

5. Employment status

Yes	No
1	2

Details of Referral

1. Source of referral

1	self/family
2	primary health care
3	community psychiatry
4	private (specify)
5	psychologist
6	unknown
7	other (specify)

2. Reason for referral

1	depression & suicidality
2	aggression/behavioural problems
3	psychosis
4	anxiety
5	further investigation & management
6	unknown
7	other (specify)

3. Diagnosis

1	depression & anxiety cluster
2	psychosis cluster
3	bipolar disorder cluster
4	substance use
5	unknown
6	other (specify)

4. Investigations done

Yes	No
1	2

5. Treatment

1	pharmacotherapy
2	psychotherapy
3	not stipulated
4	other (specify)

Assessment at CHBAH Psychiatry OPD

1. Investigations

1	bloods
2	imaging & EEG
3	lumbar puncture
4	other (specify)
5	none

2. Diagnosis

1	depression cluster
2	bipolar disorder cluster
3	schizophrenia
4	anxiety cluster
5	substance use disorders (not dual diagnosis)
6	psychosis d/t GMC (specify)
7	axis II diagnosis only
8	no psychiatric diagnosis
9	unknown
10	other (specify)

3. Treatment

1	start psychotropic medication
2	stop psychotropic medication
3	change dose of psychotropic medication
4	change psychotropic medication
5	continue psychotropic medication as referred
6	no treatment required
7	non-pharmacological treatment only
7	not stipulated
8	other (specify)

4. Outcome

1	referral to MDT member (specify)
2	referral to other discipline (specify)
3	substance rehabilitation
4	admission
5	discharge from psychiatry
6	follow-up at Psych OPD
7	down-refer
8	not stipulated
9	other (specify)

APPENDIX B. ETHICS CLEARANCE BY THE HUMAN RESEARCH ETHICS COMMITTEE OF THE UNIVERITY OF THE WITWATERSRAND

R14/49 Dr Zenaida Tenea

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M130413

NAME: (Principal Investigator)	Dr Zenaida Tenea
DEPARTMENT:	Department of Psychiatry Medical School
PROJECT TITLE:	An audit of the Referrals to the Chris Hani Baragwanath Hospital Psychiatry Outpatients Department
DATE CONSIDERED:	26/04/2013
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Prof Yasmien Jeenah
APPROVED BY:	Professor PE Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 26/04/2013

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**.

Z. Tenea — Principal Investigator Signature

6/6/2013 — Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX C. LETTER FROM CEO OF CHRIS HANI BARAGWANATH HOSPITAL GRANTING PERMISSION TO CONDUCT RESEARCH

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

MEDICAL ADVISORY COMMITTEE
CHRIS HANI BARAGWANATH ACADEMIC HOSPITAL

PERMISSION TO CONDUCT RESEARCH

Date: 26 March 2013

TITLE OF PROJECT: An audit of the referrals to the Chris Hani Baragwanath Academic Hospital Psychiatry Outpatients Department

UNIVERSITY: Witwatersrand

Principal Investigator: Dr Z Tenea

Department: Psychiatry

Supervisor (If relevant): Prof FY Jeenah

Permission Head Department (where research conducted): Yes

Date of start of proposed study: June 2013
Date of completion of data collection: August 2013

The Medical Advisory Committee recommends that the said research be conducted at Chris Hani Baragwanath Hospital. The CEO /management of Chris Hani Baragwanath Hospital is accordingly informed and the study is subject to:-

- Permission having been granted by the Committee for Research on Human Subjects of the University of the Witwatersrand.
- the Hospital will not incur extra costs as a result of the research being conducted on its patients within the hospital
- the MAC will be informed of any serious adverse events as soon as they occur
- permission is granted for the duration of the Ethics Committee approval.

.....
Recommended
(On behalf of the MAC)
Date: 26 March 2013

.....
Approved/Not Approved
Hospital Management
Date: 27/03/13

APPENDIX C. LETTER OF APPROVAL OF PROTOCOL

University of the Witwatersrand

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
FACULTY OF HEALTH SCIENCES
ASSESSORS MEETING

CANDIDATE: DR ZENAIDA TENEA STUDENT NO: 0107625H

Date of Assessor Group Meeting: 10 APRIL 2013 School / Department / Division: DEPARTMENT OF NEUROSCIENCES

Yes ☑ No ☐ Is the research question clearly identified and described?

Comments: Aim – shorter to ensure future recommendations. thesis

Yes ☐ No ☐ Not entirely ☑

Is the design of the study and methods the methods used appropriate for the research question being asked?

Comments:
- Chart of cross-sectional or record review (audit)
- Need to motivate why another study is needed. (different centres vs country)
- Clarify how the data will be analysed & what it might mean? Outcome. (? more than 1/2 may be wrongly referred

Is the study feasible within:

iv. the applicant's resources? Yes ☑ No ☐

v. the departments resources? Yes ☑ No ☐

vi. the time frame? Yes ☑ No ☐

Do you recommend:

iii. shortening / lengthening of the protocol? Please specify and explain.

Literature review needs revision – remove repetition

iv. the appointment of a co-supervisor? Yes ~~No~~

Nominee/s :

Overall recommendation regarding the protocol :

v. revision of the protocol to the Supervisor / Head of Department: (**Candidates**: one copy, list of corrections, supervisor approval letter – submit to PG Office) ~~Yes~~ No

vi. revision of the protocol to the satisfaction of the Assessor Group: (**Candidates**: six copies, list of corrections, supervisor approval letter – submit to PG Office) Yes No

vii. revision of the protocol and resubmission of the revised protocol to the next Assessor Group Meeting: (**Candidates**: six copies, list of corrections, supervisor approval letter – submit one copy to PG Office / 5 to school assessor group administrator/ for PhD all six copies to be submitted to the PG Office) Yes No

viii. candidate goes ahead: Yes No

Assessor Names and Signatures :

I CARMICHAEL

J DUMA

J CHELDMAN

John R Dumai

Assessor Group Chair

10/4/13

Date

CANDIDATE: **DR ZENAIDA TENEA** **STUDENT NO: 0107625H**

Umnyango wezempilo no Kuthuthukiswa Komphakathi
Lefapha la Maphelo le Tshebeletso le Ntshetsopele ya Sechaba
Department of Health and Social Development
Departement van Gesondheid en Maatskaplike Ontwikkeling

CHRIS HANI BARAGWANATH HOSPITAL
Department of Psychiatry
Enquiries: Prof F Y JEENAH
Tel. number: +27(011) 933 9239
Fax number: 0866007769
Email: yasmien.jeenah@wits.ac.za

19th April 2013

Prof R Gopal
Chairperson
Neurosciences Postgraduate Assessor Committee

Dear Prof Gopal,

DR Z Tenea: REVISED PROTOCOL

Dr Tenea has amended her protocol and has adequately addressed the issues raised by the committee. I am satisfied with the revised protocol.

Regards

F Y JEENAH
Adj Professor, Chief Specialist
Clinical Head of Psychiatry
Chris Hani Baragwanath Academic Hospital