PATHWAYS TO CARE FOR CLIENTS WITH FIRST EPISODE PSYCHOTIC DISORDERS AT ZOMBA MENTAL HOSPITAL, MALAWI

MSc. (Community Health Nursing) Thesis

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OCTOBER, 2015

Declaration

I, the undersigned hereby declare that this thesis is my own original work which has not been submitted to any other institution for similar purposes. Where other people's work has been used acknowledgements have been made.

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Certificate of Approval

We the undersigned hereby declare that this thesis is the student's original work and effort and has been submitted with our approval.

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Dedication

This work is dedicated to my husband Dokiso and our children Jotham, James and Mayamiko, for your prayers, love and support throughout the time I pursued my studies. May God bless you. I love you all.

Acknowledgements

I would like to thank God Almighty, for the strength and guidance throughout my Academic journey.

My special thanks go to following people:

- My supervisors, Dr Diana Jere and Mr Anthony Sefasi for the motivation, support, and guidance during the whole research process. God bless you.
- The Research Director for Kamuzu College of Nursing, Dr. Maluwa for your timely support and guidance throughout the research process.
- The Lecturers and staff of Kamuzu College of Nursing (Blantyre and Lilongwe Campuses) for the support and guidance rendered to me throughout the entire program.
- Global Fund through National AIDS Commission and David Livingstone Memorial for the sponsorship, Ministry of Health and Zomba Mental Hospital for their support throughout my study period.
- Management and staff of Zomba Mental Hospital for granting me permission to undertake this study in their health facility, and the valuable support they rendered during data collection phase of the study.
- Mr Twikaleghe Mwalwanda of the National Statistical Office, Zomba, for the assistance during data analysis.

- All clients with first episode psychotic disorders who consented to participate in the study. Without you this study would have been impossible. May God bless, guide, and support you.
- My parents, Mr. and Mrs. Gunsalu for the support and instilling in me the spirit of hard work. Without you I would not have reached this far. I am always proud of you and May God bless you.
- My brothers, Digraph, Madalitso and Mwai for all your support. May God bless you abundantly.
- Master of Science students 2013, Lilongwe Campus for their input and advice throughout the study period and all the people who have contributed to the achievement of this program.

Abstract

The aim of this study was to describe the pathways to care taken by clients with first episode psychotic disorders at Zomba Mental Hospital. A quantitative descriptive study was conducted among clients with first episode psychotic disorders at Zomba Mental Hospital (ZMH) in Zomba District, Malawi. Consecutive sampling technique was used to recruit the participants and a total number of 266 clients were interviewed using a structured questionnaire. Data were analyzed using SPSS Version 16.

Findings revealed that 58% of the participants first consulted general practitioners (GPs), 28% consulted traditional healers, 8% consulted religious healers, 4% went straight to ZMH and 2% were first in contact with police. However, 24% of the participants who consulted the general practitioners did not receive any treatment for their symptoms. The median duration before reaching ZMH was 42 weeks and clients who first consulted traditional healers had the longest delay. Gender, symptoms, diagnosis and proximity had a significant statistical association with first seeking help from health professionals.

Conclusion was made that most clients with first episode psychotic disorders seek other pathways before going to ZMH, and that there is significant delay between the onset of symptoms and receipt of appropriate care. It is therefore recommended that mental health professionals should emphasize on mental health awareness campaigns in the communities and working collaboratively with all care providers involved.

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List of Abbreviations

CMD	Common Mental Disorders
COMREC	College of Medicine Research and Ethics Committee
CPD	Continuous Professional Development
DHMT	District Health Management Team
DUP	Duration of Untreated Psychosis
GP	General Practitioner
HMIS	Health Management Information System
ICD – 10	International Classification of Diseases (10^{th} Revision)
KCN	Kamuzu College of Nursing
MOH	Ministry of Health
OPD	Outpatient's Department
PHC	Primary Health Care
SPSS	Statistical Package for Social Sciences
WHO	World Health Organization
ZMH	Zomba Mental Hospital

Operational Definition of Terms

A client is any person who is voluntarily or involuntarily receiving mental health care from any care provider.

Pathways to care are the sequence of contacts or people consulted by clients and their families, in an effort to seek care (Gater et al., 2005).

Psychotic disorders are serious mental disorders characterized by impaired thinking and emotions or loss of contact with reality (Shives, 2005).

Psychotic symptoms typically involve hallucinations, delusions and bizarre behavior.

First episode psychosis is the first time a person experiences a psychotic episode.

Other disturbed behavior includes suspiciousness, decline in self-care, spending a lot more time alone than usual, trouble thinking clearly or concentrating (also described as early signs of psychotic disorders)

General practitioners (GPs) include nurses, clinicians and doctors who are trained in general nursing or medicine and provide general patient care in general health care facilities

Duration of untreated psychosis (DUP) is the period between the onset of psychotic symptoms and the start of appropriate antipsychotic treatment (Farooq, Large, Nielssen, & Waheed, 2009).

CHAPTER ONE

Introduction

Introduction and Background Information

The early phase of psychotic disorders constitutes a critical period for treating psychosis, with the aim of preventing long term impairment and disability (Clarke et al., 2006). Early treatment with antipsychotic drugs is known to improve further development and prognosis of psychotic disorders, while delayed treatment is associated with poor disease outcome (Perkins, Gu, Boteva, & Lieberman, 2005). Despite this evidence, long duration of untreated psychosis (DUP) is one of the greatest challenges facing mental health care globally (Fujisawa, Hashmoto, Masamune- Kaizumi & Otsuka, 2008; Chilare, Banda, Muyawa & Kaminga, 2014). Therefore, understanding the pathways to care for clients with first episode psychotic disorders is important to improve their help seeking behaviors, and the care provided to such clients (Naik, Pattanayak, Gupta, & Pattanayak, 2012). Furthermore, understanding the factors that influence disease recognition and the client's/family member's choice of the pathways may also be helpful in reducing delay in receiving prompt treatment. The idea is based on the fact that proper and timely treatment of first episode psychotic disorders is critical in the recovery, as well as the restoration of the mental, physical and social well-being of the clients (Naik et al., 2012). However, a number of factors including client's health seeking behaviors, severity of symptoms, availability and proximity of mental health services may influence how people with

psychotic disorders may get access to professional mental health care (Fujisawa et al., 2008).

Evidence shows that one in every 4 people suffer from mental health problems at some point in life (WHO & World Organization of Family Doctors (Wonca), 2008), and it is estimated that mental disorders are the fourth most common cause of disability in Malawi after HIV and AIDS, cataracts and Malaria (Bowie, 2006). Furthermore, data from ZMH indicates that psychotic disorders account for most of its admissions, however, most clients with first episode psychotic disorders report at the hospital with chronic symptoms, which affects treatment response and recovery (Zomba Mental Hospital, 2013). Psychotic disorders are one of the most disabling mental disorders that affect three out of every 100 people and are likely to be diagnosed in young adulthood, but can happen to anyone. Because of poor insight clients with first episode psychotic disorders may avoid prompt treatment which may result in prolonged DUP and consequently a poorer long term prognosis, with more relapses (Perkins et al., 2005). As such, family members are very critical in the pathways to care of clients with psychotic disorders, because they are often the ones who recognize early signs of psychosis in their loved ones, and may influence the type of pathways to take in seeking treatment for their relative.

Pathway to mental health care model that was developed by Goldberg and Huxley, proposed that people with mental disorders initiate care by first contacting their general practitioners in primary health care (PHC) settings, who refer them to mental

health professionals; thus the general practitioner (GP) acts as the first contact of care (Fujisawa et al., 2008). However, evidence shows that the way clients with psychotic disorders seek help for their mental health problems in developed countries may differ from pathways to care for clients in developing countries (Gater et al., 2005). Findings from high income countries indicate that (GPs) and mental health practitioners are central in the provision of psychiatric care, and that they are often the first contact of care (Fujisawa et al., 2008). Similarly, in Eastern Europe, Gater et al. (2005) found that most clients with psychotic disorders passed through general practitioners, while others had direct access to professional mental health care, with a few clients passing through native or religious healers. In Malawi, Kauye, Udedi and Mafuta (2014) also found that most clients with psychiatric illness first consulted general practitioners before reaching professional mental health care. On the other hand, in South Africa, Lund et al. (2010) found that most of clients who first consulted general practitioners, often received little or no treatment; as a result their psychotic symptoms remained untreated for a long period of time. Contrary to these earlier findings, in most developing countries, other care providers such as traditional healers and religious healers were found to be more important in this regard (Naqvi, Hussain, Zaman, & Islam, 2009). Other studies that were conducted in Southwest Ethiopia, Nigeria and North China reported that some of the factors that influenced clients with psychotic disorders to first consult traditional and religious healers included: fear of stigma that is attached to psychotic disorders, supernatural beliefs on the cause of the illness, and lack of knowledge that the illness can

be medically treated (Girma & Tesfaye, 2011; Zhang et al., 2013).Contrary to these findings, another study conducted in Ethiopia, reported that majority of clients with first episode psychotic disorders directly contacted the mental hospital than other services because of accessibility of the services (Bekele, Flisher, Alem & Baheretebeb, 2009). In addition, Fujisawa et al. (2008) indicated that apart from general practitioners and psychiatrists, the pathways may also involve such diverse contacts as social services, the police, school counselors and religious counselors. Thus, multi-sectoral collaboration in mental health care is crucial in achieving the objectives of improving access to treatment through early symptom detection and reduction in treatment delay.

From the discussion above, it can be concluded that pathways to care for clients with first episode psychotic disorders are diverse and are influenced by several factors. Nonetheless, little is known about the pathways that clients with psychotic disorders take from onset of symptoms to reach professional mental health care in Malawi. This prompted the researcher to conduct the current study on pathways to care for clients with first episode psychotic disorders, in order to understand the pathways that are taken by these clients to reach ZMH. The results of the proposed study will complement findings of the previous study on pathways to care for clients with psychiatric problems which was conducted in the three psychiatric units of the country. In addition the findings of the study will assist the Ministry of Health to come up with more strategies to improve the health seeking behaviors and the care provided to clients with first episode psychotic disorders. Therefore, a study was conducted at Zomba Mental Hospital which is the only

government psychiatric referral hospital in the country, to investigate the pathways that are taken by clients with first episode psychotic disorders, from onset of symptoms to seek professional mental health care at ZMH.

Overview of Mental Health Services in Malawi

Malawi is a country of ethnic diversity with a population of over 15 million people (NSO & ICF Macro, 2011). Its health services are divided into tertiary, secondary and primary health care services. The country has 3 psychiatric hospitals, these include: ZMH, which is situated in the southern region of the country, Bwaila psychiatric unit in the central region and one mission hospital (St John of God) in the northern region. Mental health services are mainly curative, with no community mental health services to address the mental health needs of the communities.

The study was conducted at ZMH which is the only government referral hospital. The hospital provides inpatient as well as outpatient care to people from across the whole country. This means that most people have to travel long distances to receive specialized care, and when hospitalized are separated from home, family and friends. The country also has a critical shortage of mental health professionals at all levels, and it is estimated that there are only 0.22 psychiatric nurses and less than I psychiatrist per 100, 000 population, which is far much below the WHO requirement (Kauye et al., 2011). Furthermore, the available psychiatric nurses and clinicians are not strategically placed to provide mental health services in their respective primary and secondary care centers.

To address these problems, Malawi government through the Ministry of Health came up with the following strategies: made a commitment to integrate mental health services into primary health care (PHC) and set up community services as outlined in the National Mental Health Policy of 2000; included a mental health component in all health service training curricula, to equip all general nurses and clinicians with knowledge and skills to be able to detect, treat and refer clients with mental health problems; included mental illness as one of the priority diseases to be addressed in the new health sector strategic plan (MOH, 2010) and recently introduced mental health education programs on the radio. However, despite these strategies, very little resources have been put aside by the Ministry of Health and respective health facilities for mental health activities and mental services have also been systematically excluded from Malawi's primary health care services, making it difficult for mental health services to be accessible to most Malawians.

Statement of the Problem

Evidence shows that timely management of symptoms may improve the psychological, physical and social functioning of clients with psychotic disorders (Bekele et al., 2009). Despite this evidence, anecdotal reports from Zomba Mental Hospital indicate that patients with first episode psychotic disorders mostly report at the hospital's Outpatient Department (OPD) with chronic symptoms (Zomba Mental Hospital, 2013). However, little is known about the pathways taken by such clients from onset of

symptoms to reach professional mental health care at ZMH. Therefore, a study was conducted at ZMH to understand the pathways that are taken by clients with first episode psychotic disorders from the onset of symptoms to reach professional mental health care at ZMH. This knowledge will help mental health planners and professionals in developing effective strategies that can facilitate early recognition and management of first episode psychotic disorders.

Significance of the Study

Evidence indicates that early recognition of symptoms provides the best opportunity for early intervention and prevention of psychosis (Uçok, Polat, Genç, Cakir, & Turan, 2004)**.** It further indicates that early recognition and treatment of psychosis may prevent neurotoxicity which induces irreversible brain damage, deterioration and treatment failure which can have serious consequences, including enduring lifelong deficits and disability (Perkins et al., 2005). Therefore, the study will reveal the pathways that are taken by clients with psychotic disorders, from onset of symptoms to reach professional mental health care at ZMH. So that effective strategies can be put in place, to facilitate early recognition and management of psychotic disorders.

Objectives of the Study

Broad objective of the study. The broad objective of this study is to determine the pathways to care for clients with first episode psychotic disorders at ZMH.

Specific objectives of the study. The specific objectives of the study are to:

- Describe the pathways that are taken by patients with psychotic disorders to reach psychiatric care.
- Describe the type of treatment/support that is rendered to the client on each contact on the pathway.
- Estimate the time that is taken by clients with psychotic disorders from the onset of symptoms to reach professional mental health care at ZMH.
- Determine the factors that influence the client's or caregiver's choice of pathways.

Theoretical Framework

The study was guided by the "Pathways to care Model" that was developed by Goldberg and Huxley in 1992 (Gater et al., 2005). It was developed to explain how people with mental illness access mental health care, and the obstacles that are encountered on the pathway. Goldberg and Huxley suggested that clients with mental health problems pass through five service levels and four filters to seek professional mental health care. The filters refer to the behaviors of those with the disorders and the behaviors of the health care practitioners with whom they come into contact. Some of the studies that used this model are: "Pathways to care in Eastern Europe (Gater et al., 2005), and "Who treats whom? An application of the pathways to care model in Australia" (Issakidis & Andrews, 2006).

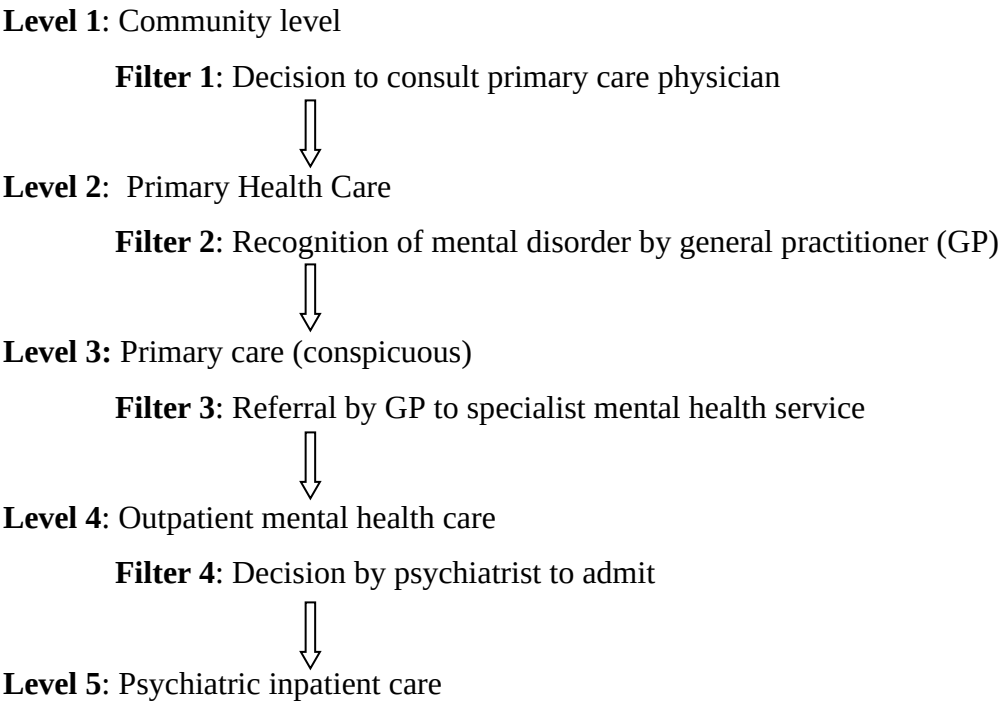


Figure 1: **Goldberg and Huxley Pathways to Mental Health Care Model**

Interpretation of the Model

Level one: The community

1st Filter: Decision to consult primary care physician

The first filter, which deals with identification of mental illness, is present in the community. Some clients remain at this level and do not pass the filter because they do not identify their suffering as illness and do not consult the formal health care system; instead they consult traditional/faith healers. This may be influenced by patient and

illness factors. Beliefs about the causative factors, and the stigma associated with the illness may affect the patient's and caregiver's willingness to access professional mental health care (Gater et al., 2005). Fujisawa et al. (2008) emphasize the fact that severity of symptoms is one of the factors that prompt consultation and who one should consult, although many other factors are involved.

Level Two: Primary Health Care

Filter 2: Recognition of mental disorder by the general practitioner

At this level clients go to PHC facilities where primary care providers are able to detect psychological distress or mental illness. Many clients reach this level but are not filtered through because of their physical symptomatology presentation and lack of skill by PHC providers in identifying psychological distress. Research on GP's perception and knowledge of psychosis have found that most of the times GPs fail to identify early signs of psychosis, instead they focus on frank psychotic symptoms such as hallucinations, delusions and bizarre behavior, which are characteristics of late phase of illness (Fujisawa et al., 2008), as a result, treatment is not initiated on time. Similarly, a study on "Health service utilization by patients with common mental disorders in Zomba, Malawi", revealed that most psychological problems are under- diagnosed by PHC workers (Udedi, Swartz, Stewart, & Kauye, 2013).

Level Three: Primary care (Conspicuous mental morbidity)

Filter 3: Referral by GPs to specialist mental health service

The filter here is whether the client, who had been identified as having a mental health problem in filter 2, is referred for specialized care. Bower and Gilbody (2005) indicate that GPs often fail to refer clients with psychotic symptoms for professional mental health care on time because of their lack of knowledge and skill in identifying early signs of psychotic disorders.

Level Four: Psychiatric Outpatient Care

4th Filter: Decision by psychiatrist to admit the patient

At this level the client passes through level three and is seen in a mental health institution. At this stage, failure to recognize psychosis, failure to engage with the patient and failure to engage in initial treatment may be considered as obstacles in mental health services.

Level Five: Psychiatric in - patient care

These are the clients that had passed through all the levels and are admitted in a mental health institution for a period of time.

Application of the Model

The Goldberg and Huxley pathway to care model guided the formulation of the questionnaire which was used for data collection, and has also guided the presentation and discussion of the study findings.

CHAPTER TWO

Literature Review

Introduction

This section presents the literature reviewed related to pathways to care for clients with first episode psychotic disorders. The literature review provides an understanding of what is known about the topic and the knowledge gaps that exist (Aveyard, 2014). It will provide the readers with background to understand the current knowledge on pathways to care for clients with first episode psychotic disorders and clarifies the significance of the study. This literature review concentrates on the following subtopics: the pathways to care taken by clients with first episode psychotic disorders before reaching professional mental health care; treatment received by clients on the pathways; time taken by clients from onset of symptoms to reach professional mental health care; the factors that influence the client's or caregiver's choice of the pathways and benefits of early treatment of psychotic disorders.

Articles related to pathways to care for clients with first episode psychotic disorders were reviewed. Studies done globally, regionally and locally were also reviewed. Literature review was done using the following search engines; Pub Med, HINARI, Google Scholar and Yahoo. In addition, the World Health Organization (WHO) website was also searched for relevant publications and information. The following search strategies were used; pathways to care for clients with first episode psychotic disorders, help seeking behaviors for clients with first episode psychotic disorders and

treatment delay in patients with first episode psychotic disorders. Search terms such as pathways to care and first episode psychotic disorders; help seeking and first episode psychotic disorders; treatment seeking and first episode psychotic disorders were entered. Some of the published articles were retrieved using reference list of published journal articles. Studies which were done between 2004 and 2015 were retrieved, analyzed, summarized and synthesized. This was done to ensure that a period of ten years was chosen in order to have recent information in relation to pathways to care for clients with first episode psychotic disorders. All articles retrieved were in English language.

Pathways to Care for Clients with Psychotic Disorders

One of the greatest challenges to effective management of mental disorders is the delay in seeking professional mental health care (Gater et al., 2005). Therefore, understanding the pathways to care that are taken by people with mental disorders is important for coming up with strategies to reduce this delay. Pathways to psychiatric care mostly follow three patterns. The first pattern is dominated by the role of primary health care providers whereby GPs are the first contact of care for clients with mental disorders (Temmingh & Oosthuizen, 2008). This pattern is typically seen in developed countries. For example, in a collaborative study which was conducted by Gater et al. (2005) in Eastern Europe, findings indicated that major pathways included general practitioners, followed by direct access to mental health care, with a few clients passing through community nurses and native or religious healers. Similarly, in a study conducted by

Bhui, Ullrich and Coid (2014) in East London, out of 480 clients with first episode psychosis enrolled, 56.5% of the clients first consulted primary care physicians and emergency rooms in general hospital setting. Both studies used a quantitative approach and the WHO encounter form was also used for data collection. The sample size for the former study was 50 participants in eight centres, while the later had a sample size of 480 participants, hence their findings can be generalized to a similar setting. Fujisawa et al. (2008) indicated that in mental health care, primary health care providers are the first contact of care for most clients with mental health problems, therefore, are supposed to treat mild forms of psychiatric symptoms and refer more severe cases to mental health institutions for professional mental health care. However, in Montreal, Canada, a study conducted by Anderson, Fuhrer, Schmitz and Malla (2012) indicated that most clients who were in first contact with primary health care practitioners had longer referral delays and therefore, highlighted the need for targeting primary care providers in interventions aimed at reducing referral delays and further investigations of the role that the primary care system play in early intervention for first episode psychotic disorders, and strategies for supporting service providers in this role.

The second pattern is seen in most developing countries where traditional healers and religious healers play an important role in providing initial care for clients with psychotic disorders (Girma & Tesfaye, 2011). Help-seeking behavior for clients with first episode psychotic disorders in most Asian countries is not different from that in African countries, where most clients with first episode psychotic disorders first consult

traditional and religious healers. In Cambodia, findings of a cross sectional survey conducted by Coton, Poly, Hoyois, Sophal, and Dubois (2008), with the aim of understanding the patterns of health care seeking behavior revealed that other care providers such as traditional healers are more important in the care of clients with mental health problems. Similarly, Kurihara, Kato, Reverger, and Tirta (2006) in Bali, Indonesia, also found that 78% of clients first consulted traditional healers than primary health care practitioners. Likewise, a study conducted by Phang, Marhani and Salina (2010) in Kuala Lumpur, Malasya, found that 48% of the clients first consulted traditional healers, followed by 28% who had direct access to a mental health care institution, and 24% who first consulted the GPs. However, small sample size was the common limitation for both studies since their sample sizes were 50 and 54 respectively; therefore, their findings might not be generalized in other settings. In African countries, a hospital based cross sectional study conducted by Girma and Tesfaye (2011) in Southwest Ethiopia also found that 50% of the clients had first sought care from traditional and religious healers before going to Jimma University Specialized Hospital (JUSH) for professional mental health care. Similarly, findings from a South African study which was conducted by Burns, Jhazbhay, and Emsley (2011) indicated that 38. 5% of the participants were in contact with traditional healers, while only 16% consulted general practitioners before going to Top Hill hospital which is the main psychiatric referral hospital in the province of Kwazulu Natal. Likewise, Adeosun, Adegbohun, Adewumi and Jeje (2013) in Lagos, Nigeria, found that 69% of the participants first consulted traditional and religious

healers, followed by 17.4% who consulted psychiatrists, while 13.8% first consulted general practitioners, before consulting professional mental health practitioners. Furthermore, Aghukwa (2012) in Kano, Nigeria, indicated that 45% of the participants first consulted religious healers before seeking professional mental care and that 59% of the participants attributed their illness to supernatural forces which also affected their choice of the pathways to care.

Contrary to these findings, researchers from other African countries found that general practitioners were the most common first contact of care for clients with first episode psychotic disorders. For example, a study conducted by Lund et al. (2010) in Western Cape, South Africa, revealed that 62% of the 152 clients recruited were first seen at primary care level. Similarly, a cross sectional study conducted by Tomita et al. (2015) in Kwazulu Natal also found that general practitioners were the first point of care for most of the clients with first episode psychotic symptoms and were the strongest link to professional mental health care. Furthermore, in Malawi, a study conducted by Kauye et al. (2014) in the three psychiatric units (ZMH in the southern region, Bwaila in the central region and St John of God in the northern region) found that 41.4% of the participants first consulted general practitioners, followed by 22.7%, 21.1% and 3.1% of the participants who consulted native healers, nurses and the police respectively. First consultation with traditional healers for most of the clients in these studies was attributed to failure in recognizing early psychotic symptoms as mental health problems and where to get appropriate treatment. Furthermore, in most developing countries, religious and

traditional healers tend to be very important in the provision of mental health services because they are easily accessible, therefore, are the first point of care for clients with psychotic disorders in the community, with people accessing specialist care when the efforts of these healers seem to have failed. A common view is that western treatments are effective in curing physical illness, while witchcraft and possession by evil spirits are regarded as common causes of mental illness, which may also be treated by supernatural powers from traditional healers or religious healers (Girma & Tesfaye, 2011). This highlights the need for comprehensive community mental health awareness campaigns and improving accessibility of mental health services to the communities.

The third pattern is seen in countries like Italy, where most clients had direct access to mental health institutions (Volpe et al., 2014) and in Eastern Europe, where out of the eight centres that participated in the collaborative study by Gater et al. (2005), most of the clients in five centres directly consulted psychiatrists in mental health institution. Similarly, in Addis Ababa, Ethiopia, a study conducted by Bekele et al. (2009) found that 41% of clients directly contacted the mental hospital than other care providers. This finding may be attributed to the fact that the study was conducted in urban setting where clients may have good access to mental health services. However, direct access to psychiatric institutions has both advantages and disadvantages. Direct access to mental health institutions may shorten the period between the onset of symptoms and the patient's arrival at mental health services thus reducing the time of untreated psychosis (Sorketti, 2013). On the other hand, direct access may lead to

unnecessary congestion in mental hospitals, thus increasing work overload for professional mental health care providers who are most of the times very few, and the cost of care for the mental health institutions, the clients and their relatives. It is also important to note that apart from the general practitioners, traditional and religious healers and psychiatrists, the pathways may also involve other care providers like the social services, police, school counselors and religious counselors.

Furthermore, evidence also shows that family members have a significant role on the choice of the pathways for clients with first episode psychotic disorders and are usually the first to suggest psychiatric care than previous care providers and clients themselves (Giasuddin et al., 2010; Bekele et al., 2009). A study that involved 360 clients with first episode psychotic disorders which was conducted by Hui et al. (2013) with the aim of examining the predictors for help-seeking duration in adult-onset psychosis in Chinese patients in Hong Kong, found that nearly half of the first help seeking process was initiated by clients relatives. It is further indicated that family members are important in help seeking for clients with mental health problems because usually during the first episode of psychosis, clients may lack insight in their illness, but family members are the ones who may notice change in behavior of their sick relative, therefore may suggest help seeking for the client and who to consult. Thus, multi-sectoral collaboration in care is crucial in achieving the objectives of improving access to treatment through early symptom detection and reduction in treatment delay.

Duration of Untreated Psychosis (DUP)

Literature on pathways to psychiatric care for developing countries indicates that the majority of clients with mental disorders have significant delays in seeking professional mental health care, because individuals prefer to seek other pathways first before going to mental health professionals for treatment (Zhang et al., 2013). Evidence demonstrates that there are mainly three types of delays that are associated with DUP in pathways to mental health care (Fujisawa et al., 2008). These are: help seeking delay (level 1/ filter 1); referral delays (Level 2/filter 2 and level 3/filter 3); and delays in mental health services (Level 4/filter 4 and Level 5). These delays have an impact on the length of time that psychotic symptoms will remain untreated. It is also evident that help seeking delays and referral delays may be responsible for substantial proportion of long duration of untreated psychosis and is associated .with poor disease outcome. Therefore, understanding how and why delays occur may help in developing interventions that may facilitate early interventions.

DUP in developed countries may differ from middle and low income countries. For example, in Eastern Europe, Gater et al. (2005) and in South West France, Cougnard et al. (2004) reported a median duration of untreated psychosis of 3 weeks and 9 weeks respectively, between the onset of first psychotic symptoms and the first contact with mental health care. While a Canadian study reported a comparable duration of untreated psychosis of about 25.1 weeks (Norman, Malla, Verdi, Hassall, & Fazekas, 2004). In these studies GPs were the first contact of care and the source of referral to professional

mental health care for most of the clients. However, a prospective multi – center naturalistic field study conducted in four European countries (Finland, Germany, The Netherlands and England) reported a mean delay of 72.6 weeks and 110.9 weeks between the onset of symptoms to the initial contact of care and the initial contact of care and reaching specialized care respectively (Von Reventlow et al., 2014).

Studies on DUP from most developing countries have found relatively longer DUP than findings from most developed countries (Sorketti, 2013). Girma and Tesfaye (2011) in South West Ethiopia found a mean DUP of 1 year before client's first contact with specialized mental health care. While, findings from a study which was conducted in Mzuzu, Malawi, by Chilare et al. (2014), found a relatively longer DUP of 4.3 years. Low level of education, lack of employment and a diagnosis of schizophrenia were some of the factors that were associated with longer DUP. However, difficulties in accessing mental health services and other factors may be associated with this longer DUP. Furthermore, in an urban setting of India, Zhang et al. (2013) reported a significantly long mean DUP of 5.8years. On average each patient consulted 3.4 care givers with a range of 1 – 10 consultations. In this study, long DUP was mostly associated with stigma attached to mental disorders and general practitioner's lack of adequate knowledge and skills to appropriately identify and treat clients with early signs of mental health problems. Furthermore, the study gives emphasis on the importance of improving general practitioner's knowledge and skills to facilitate early recognition of psychiatric disorders.

First consultation with traditional healers was associated with longer treatment delays (Al Fayez, Lappin, Murray, & Boydell, 2015; Tomita et al., 2015). However, Anderson et al. (2013) reported a long duration between help seeking commencement and referral to a mental hospital even in clients who first consulted general practitioners due to misdiagnosis and poor referral systems in primary health care services. Lund et al. (2010) also highlighted that due to inadequate knowledge of primary health care workers in dealing with people with psychological problems, most clients with early signs of psychotic disorders were not given appropriate treatment. Similarly, in Malawi, Udedi et al. (2013) found that 20.1% of the clients attending primary health care services, had common mental disorders which could not be recognized by the GPs and the clients themselves. As a result, their mental health problems went untreated for a long period of time. The findings highlight the importance of planning for programs to increase the mental health literacy in the general population and the importance of targeting the service providers' ability to detect, engage, treat or refer clients with first episode psychotic disorders.

Treatment Received by Clients on the Pathways

In Eastern Europe, Gater et al. (2005) indicated that in all centres combined; approximately half of the new clients received some sought of treatment by their general practitioners in a form of sedatives or hypnotics. However, 40% of the clients did not receive any treatment by the general practitioners. Similarly, a study conducted by (Lund

et al., 2010) in South Africa found that 26% of the clients who first consulted general practitioners received no treatment. Likewise, a study conducted by Kauye et al. (2014) in Malawi indicated that treatment received by clients before presenting to the mental hospitals included traditional herbs from traditional healers, prayers and holy water from religious healers. Many of the medical practitioners consulted gave treatment for physical illness. The findings further indicated that 57% of the patients who were seen by general practitioners and nurses received no treatment. This was attributed to shortage of antipsychotic drugs in some of the primary and secondary care facilities and highlights the GPs inability to appropriately treat clients with early signs of psychotic disorders. In India, Zhang et al., (2013) and Ethiopia, Girma and Tesfaye (2011) found that depression was the common diagnosis that was given to clients at the mental institution. Contrary to these findings, in Malawi, Kauye et al. (2014) found that schizophrenia was the common diagnosis which was given to clients at the mental hospital and that a diagnosis of schizophrenia was associated with long DUP.

Factors that Influence the Choice of the Pathways

Pathways to care taken by clients with first episode psychotic disorders are likely to be influenced by several community factors such as: community's knowledge about the etiology of mental illness; negative attitudes to mental illness in the community; lack of awareness that the impairment is a medical problem and that there is an effective intervention for it, and fear of stigma (Bekele et al., 2009). Furthermore, Trivedi and

Jilani (2011) add that socio – cultural profile, availability, accessibility and proximity of psychiatric services may also influence the choice of the pathways for clients with first episode psychotic disorders. Similarly, findings from studies that were conducted in Central India, Lahariya, Singhal, Gupta, & Mishra (2010), North China, Zhang et al. (2013) and Nigeria, Aghukwa (2012) reported that majority of patients with psychotic disorders consulted other pathways than go to mental health professionals directly due to stigma, supernatural beliefs on the cause of the illness, and lack of knowledge that the illness can be medically treated. The studies used the WHO encounter form and had large sample sizes of 324, 441 and 219 respectively. This shows that stigma, knowledge and beliefs are critical in the choice of pathways to care for clients with psychotic disorders.

Goldberg and Huxley (2012) added that presentation of symptoms is also very critical in determining the choice of the initial pathways, and that people with severe psychotic symptoms pass more easily through the filters to professional mental health care than do people with mild forms of psychotic disorders. Similarly, Mkize and Uys (2004) indicated that rapid access to mental health services may occur when clients first present with severe forms of psychotic disorders like aggressive or violent behaviors because such clients may be a danger to self or others, so may not be kept in the community. However, in Malaysia, Phang et al. (2010) reported that violent behavior made it difficult for family members to bring patients to psychiatric services in good time. In Italy, Volpe et al. (2014) also found that clinical symptoms influenced the pathways to care, as the majority of clients with psychotic disorders did not receive

treatment on time as compared to clients with anxiety disorders and other neurological disorders. This was due to ambiguous presentation of symptoms which is a common characteristic of early stages of psychotic disorders; as a result, the sufferers, family members and initial care providers could not recognize them as signs of psychotic disorders. This study included 441 patients and caregivers; therefore, its findings may be generalized to other settings.

Benefits of Early Treatment of Psychotic Disorders

Benefits of early treatment of first episode psychosis include reduced morbidity, preservation of psychosocial skills, more rapid recovery and better prognosis (McGorry, Killackey, & Yung, 2008). Early treatment is also associated with greater response to antipsychotic treatment which prevents irreversible brain damage, deterioration and treatment failure which can have serious consequences, including enduring lifelong deficits and disability (Perkins et al., 2005). Conversely, Marshall et al. (2005) found that there was an association between duration of untreated psychosis and poor response to antipsychotic treatment, re- emission of symptoms, overall functioning and quality of life. Similarly, in Singapore, Chong, Mythily, Lum, Chan and McGorry, (2005) and Ireland, Clarke et al. (2006) indicated that delays in providing effective treatment for a patient with psychotic disorders was associated with significant poorer functional and symptomatic outcome. These include more hospitalization, longer periods of inpatient care, slower or less complete recovery and more frequent relapses. Perkins et al. (2005)

further indicated that early treatment is critical because functional outcome may decline substantially even with very short treatment delays of less than a month, with more gradual deterioration of functioning in long DUP. This is consistent with the notion that early interventions may restore the mental, physical and social well being of clients with first episode psychotic disorders (Marshall et al., 2005). As such early treatment of psychotic disorders should be advocated for.

Conclusion

From the literature reviewed, it is evident that several studies on pathways to care for clients with mental disorders have been conducted both in developed and developing countries including Malawi. Several studies on pathways to care for clients with first episode psychotic disorders have also been conducted in other countries. However, findings from these studies may not be applicable to Malawian setting where services and influencing factors to the choice of the pathways are likely to be different. On sampling method, the literature review also revealed that most of these studies used consecutive and convenient sampling methods, limiting the generalizability of the study findings. Furthermore, there is scarcity of studies conducted to understand the pathways to care that are specifically taken by clients with first episode psychotic disorders in Malawi.

CHAPTER THREE

Methodology

Introduction

This section gives an overview of the research process that was followed to investigate the topic under study. It includes an account of the research design, study place, study population, sample size, instrumentation, reliability and validity of the instrument, data collection procedures, data management, data analysis, limitations and ethical considerations.

Research Design

The study used a descriptive quantitative design that employed quantitative data collection and analysis methods. This design was chosen to give information on the pathways to care of clients with psychotic disorders without manipulating the variables. Descriptive design is recommended in areas where little is known such as pathways to care for clients with psychotic disorders in Malawi, hence ideal for this study (Polit & Beck, 2011). This design helped to use statistical analysis for the collected data, as well as to indentify and establish relationships between the research variables. In addition, this design helped to observe and describe the pathways to care that are taken by clients to reach Zomba Mental Hospital. Furthermore, this design was cheap and time serving considering that the researcher was only a student who did not have adequate resources and time to conduct a research study.

Study Setting

The study was conducted at ZMH OPD. This setting was chosen because it is the biggest referral mental hospital in Malawi to suffice an adequate sample size. ZMH is the only government referral mental hospital for the whole country. Clients who visit the hospital are referred from government, Christian Health Association of Malawi (CHAM) health centers, and private clinics, while others make self referrals to the hospital. The hospital provides inpatient as well as outpatient care. Zomba district (Figure 2) is located in the southern region of Malawi and has a population of about 740,593 people (NSO & ICF Macro, 2011). It is bordered by Machinga, Balaka, Phalombe, Chiradzulu and Blantyre districts, and ZMH is located about 3 kilometers South West of Zomba city (Figure 2).

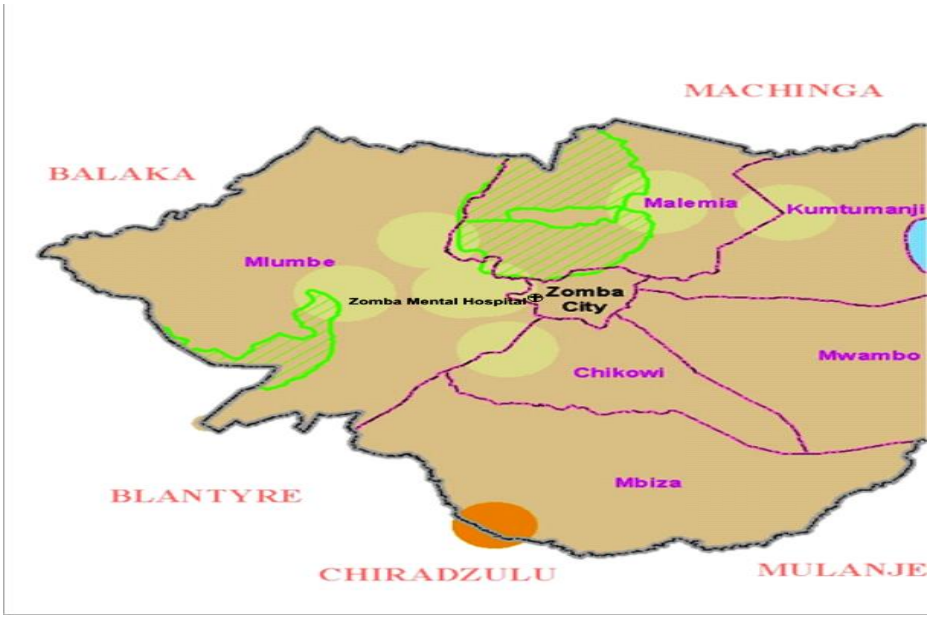


***Figure 2*: Map of Zomba district**

Study Population

The study population included all clients with first episode psychotic disorders attending ZMH OPD during the data collection period. The study considered clients with first episode psychotic disorders because it was hoped that they would be able to trace their pathways from the time of onset of their illness to the time they are seen at ZMH.

Inclusion Criteria

The study included:

- Clients with a diagnosis of first episode psychotic disorder,
- Those who were 18 years and above,
- Those who were stable (those who were able to sit and hold a conversation) and
- Only clients who consented and were willing to participate in this study

Exclusion Criteria

The clients who were excluded from the study included:

- Clients who were below the age of 18 years,
- Those who were not stable enough to participate in the interview, and
- Those who declined the interview.

Study Period

The study was conducted between 2014 and 2015 according to the work plan (Appendix 4)

Sample Size

The study used a sample size of 266 clients and was calculated basing on the estimated number of clients with first episode psychotic disorders who visit ZMH in a month. The sample size was calculated using a formula proposed by (Creswell, 2009) which stipulates that $n= [z^2 (p) (1 – p)]/d^2$ where: n = is the sample size, Z = the value of a normally distributed variate which for a 95% confidence interval takes the value of 1.96, p = the estimated proportion of clients with first episode psychotic disorders at ZMH is at 50% (ZMH, 2010), and d = desired level of precision or allowable error, which in this study was set at 0.06. The sample population of interest was based on clients with first episode psychotic disorders. Therefore, the calculation according to Creswell (2009) was done as follows:

$n= [z^2 (p) (1 – p)]/d^2$

n = [(1.96x1.96) x 0.5x (1-0.5)] / (0.06x0.06)

n= 3.84 x 0.5 x 0.5 / 0.0036

n= 266

Therefore, 266 clients with first episode psychotic disorders were recruited for the study.

Sampling Procedure

A sampling frame is a comprehensive itemized list of every member of the population, which comprises the study population from which a sample is taken (Gerrish, & Lacey, 2010). To select a study sample from the study population, the researcher used consecutive sampling. On daily basis, the researcher recruited consecutive clients who attended ZMH (OPD) and who met the inclusion criteria until the sample size of 266 clients was reached.

Data Collection Instrument

Data collection was done using an interviewer- administered structured questionnaire with close ended questions. The content of the instrument was derived from the "WHO pathways to care encounter form, and questions were formulated based on the Goldberg - Huxley Model, and the question on type of care provider consulted was modified to suit the pathways to care in Malawian context. The tool was made in English (Appendix 3a) but was later translated to Chichewa (Appendix 3b) which is the widely spoken language in the country. The questionnaire had two sections, 1 and 2. Section 1 was used to obtain demographic data, and Section 2 consisted questions that are related to the levels and filters of the pathways to psychiatric care conceptual framework (Gater et al., 2005). Section 2 included the following questions: who realized that client was sick and what were the main symptoms. Who decided that care should be sought? And how long did it take for them to seek care? This addressed the first level as well as the first

filter of the framework which deals with the illness in the community, the identification of the illness, and the decision to consult. Questions for level two and three included asking about the first contact of care, the type of care provider consulted, and whether mental disorder was identified at this level and filter. Who were the provider, and what type of treatment was given? What was the time taken from the onset of symptoms to the first contact with a mental health professional or mental health care, and the duration of the client's first journey to the care provider? The period the client had to wait before being referred to the next level and finally who was the decision maker in all the consultations that were done and ultimately the admission to the mental hospital.

Pretesting of the Data Collection Instrument

Pretesting of the tool was done in order to be familiar with the instrument and to refine the questions, to ensure that appropriate data was collected (Burns & Groove, 2010). In addition, it was done to determine whether the questions were clear, unambiguous and could be understood by participants. The pretesting was carried out at ZMH OPD from 15th to 20th November, 2014, that is, one week before the main study was carried out. Furthermore, the pretesting of the instrument was done to ensure validity and reliability in the instrument.

Validity and Reliability of Data Collection Instrument

Validity

Validity is the degree to which an instrument measures what it is intended to measure (Polit & Beck, 2011). To ensure validity, the study used the WHO pathways to care encounter form which was formulated basing on the Goldberg and Huxley pathway to care model and the specific objectives of this study. It was also reviewed by the research supervisors who are experts in mental health/psychiatric nursing, to ensure accuracy and comprehensiveness of the content. Furthermore, translation of the tool from English to Chichewa was done by experts from the Centre of Language Studies at Chancellor College in Zomba.

Reliability

To ensure reliability of the instrument, the questions were accurate and well-phrased to avoid ambiguity and leading the participants to a particular answer (Appendix 3). The researcher also ensured internal consistency reliability by making sure that the question which was modified measured the same construct. Pretest interviews were also conducted on five clients with first episode psychotic disorders at ZMH rehabilitation ward. The pretesting process was done by the researcher herself for easy identification of problems with the questionnaire. However, the results of the pretesting of instruments were not included in the main study. The outcomes were considered before

commencement of the main study. Pretesting therefore, helped to modify incoherent and difficult questions to the participants as well as questions which were repeated.

Data Collection Procedure

Data collection was done from 24th November, 2014 to 28th January, 2015. The researcher collected data during working hours, thus 7.30 am to 5 pm. On average the hospital sees 5 clients with first episode psychotic disorders. To recruit the participants, the staff working at the OPD introduced the researcher to the clients attending the OPD as they came out of the consultation room. Then the researcher briefed the clients and their caregivers if present about possible study participation. Before recruiting the clients, the researcher verified from their consultation notes if the client had a diagnosis of first episode psychotic disorders, their age was 18 years and above, and if they were able to sit and hold a conversation. Those who met the inclusion criteria were taken to a private room where the participant information sheet was read to them (Appendix 1). This contained information stating the aims of the study, and expectations from individual potential participants. Then the researcher asked the clients who accepted to provide consent, to assent to participate in the study. Clients who met the eligibility criteria had an informed consent administered to them (Appendix 2). Upon understanding the information given, the consenting participants wrote their signature or used a thumb print if unable to sign on the consent form as proof of their voluntary participation in the study. Then a number was written on the consent form and this number also appeared on the

questionnaire used to collect data from the participant. Then the researcher recruited all eligible consenting clients consecutively until the sample size of 266 clients was reached.

The researcher used a structured questionnaire which was initially developed in English (Appendix 3a) and translated into Chichewa (Appendix 3b) because most of the participants were not English literate. Face-to-face interviews in local language (Chichewa) were conducted by the researcher. Face-to-face interview approach was used to collect data guided by the structured questionnaire. This provided the investigator with an opportunity to yield high response rate since the investigator was able to clarify ambiguous questions when appropriate (Joubert & Ehrlich, 2010). The interview took approximately 30 minutes. There was immediate recording of information on the questionnaire as the participants gave the responses and all participants responded to the same questions in exactly the same order.

Data management and Analysis

Data management

Immediately after the interview, the researcher checked the questionnaires to ensure that all the information on the questionnaires had been properly collected and recorded, and checked for completeness of data and internal consistency. The questionnaires were kept in a safe place for confidentiality and safety purposes. In the evening of the same day, the investigator entered data using Census and Survey Processing (CS-Pro) software. This software is widely used due to its in-built features

for first key-in and verification (double entry) modes. In addition, the software has features for field control checks. This is important for consistency and validation checks. Once all data were entered and verified in CS-Pro, it was directly exported to SPSS version 16.0 for cleaning and analysis.

Data analysis

Statistical Package for Social Science version 16.0 was used to analyze the data. Descriptive statistics were computed for all relevant variables from the questionnaires and results were presented as frequencies and percentages. The researcher computed descriptive statistics in the form of frequencies, percentages and measures of central tendency for the data set. The variables were demographic characteristics and factors that influenced the choice of the pathways. Demographic variables included age**,** sex, marital status, educational level, and tribe while factors that influenced the choice of the pathways included the first symptoms presented, distance to the care provider, and the diagnosis given at ZMH. Initially, associations between the choice of the pathways (dependent variable) and each of the potential factors associated with the choice of the pathways (independent variables) were determined using chi-square test at the 5% level of significance (α=0.05). The null hypothesis tested was that 'there was no association between the choice of the pathways and the demographic variables and factors influencing the choice of the pathways. Further analyses were done using logistic

regression analysis at 5%level of significance (α=0.05) to find out which of the factor levels explain the choice of the pathways (dependent variables).

Ethical Consideration

To ensure respect for ethics and respondents' rights, prior to data collection, the researcher submitted the study proposal to College of Medicine Research and Ethics Committee (COMREC) for ethical review and approval. COMREC reviewed and approved the proposal on 13th November, 2014 (Appendix 6). After obtaining the written approval from COMREC, the researcher submitted a copy of the approval certificate and the study proposal to ZMH to obtain a written permission for data collection (Appendix 5). The researcher ensured privacy and confidentiality of study participants throughout the study by collecting data in a private room and by using identifiers, which were sequential numbers assigned at data collection and not actual names of participants**.** Only the researcher accessed the collected information. The completed questionnaires and all documents with participant information were stored in sealed envelopes and placed under lock and key.

Study participation was voluntary and participants were free to withdraw their consent at any time during data collection**.** The researcher respected and observed rights of the participants throughout the research process. This helped to gain respondents' cooperation and acceptance to participate in the study. Prior to data collection, the researcher assured them of absence of physical risks associated with participation in the

study. The researcher informed the participants about the purpose of the study, methods and procedure of data collection and benefits of the study by reading to them the participant information sheet (Appendix 1) to obtain an informed consent. In case of any psychological trauma, the researcher counselled the participants since she is a nurse and has counselling skills. After the participants' evaluation of the potential risks and benefits of participating in the study, those willing to participate in the study got a consent form to sign (Appendix 2).

Dissemination of Study Results

The findings of the study will be presented to the management team of Zomba Mental Hospital, COMREC, Ministry of health, Nurses and Midwives Council of Malawi, Kamuzu College of Nursing (KCN) and other nursing institutions. Written reports will be submitted to the above-mentioned stakeholders. Presentations on the study findings are planned to be conducted at different forums such as research seminars and continuous professional development (CPD) meetings. The findings of this study will be used to write a manuscript, which will be submitted to a peer-reviewed journal and if accepted, they will be available for publication locally and internationally.

CHAPTER FOUR

Presentation of Results

Introduction

This chapter presents the results of the study. A quantitative approach was used for this study. A total of 266 consecutive clients with first episode psychotic disorders were recruited. Clients who were below 18 years of age and those who were not stable enough to participate were not included in the study. Data collection was conducted using face to face interviews guided by a semi structured questionnaire. The data were entered and verified in Census and Survey Processing (CS-Pro) software, before analyzing with SPSS version 16.0.

The Goldberg and Huxley pathways to care model guided the presentation of findings. The objectives of the study were to: describe the pathways taken by clients with first episode psychotic disorders to reach ZMH; describe the type of treatment rendered to the clients on the pathways; estimate the time taken by clients from the onset of symptoms to reach ZMH and determine the factors that influence the client's choice of pathways. The results are presented in five major sections as follows: demographic characteristics of participants, pathways to care taken by clients with first episode psychotic disorders from onset of symptoms to reach ZMH, symptoms presented and type of treatment rendered to the clients on the pathway, the time taken by clients from the onset of symptoms to reach ZMH and the factors that influence the client's or caregiver's choice of the pathways.

Demographic Characteristics of the Participants

The results on the demographic characteristics are reported on the following variables: sex, age, marital status, level of education, occupation and tribe. Study findings indicated that most of the participants (68%; n =180) were male and (32%; n=86) were female. The age of participants ranged from 18 to 84 years and most of the participants (54%; n=144) were in the age range of 18 to 27 years. On marital status, the findings showed that (47%; n =126) of the participants were not married. On level of education, (68%; n = 180) of the participants attended primary school. Fifty seven percent (n = 152) of the participants relied on local farming as their source of income and the Lomwe accounted for the largest population (31%; n = 82) of the participants (Table 1).

Table 1: ***Demographic Characteristics of the Study Participants***

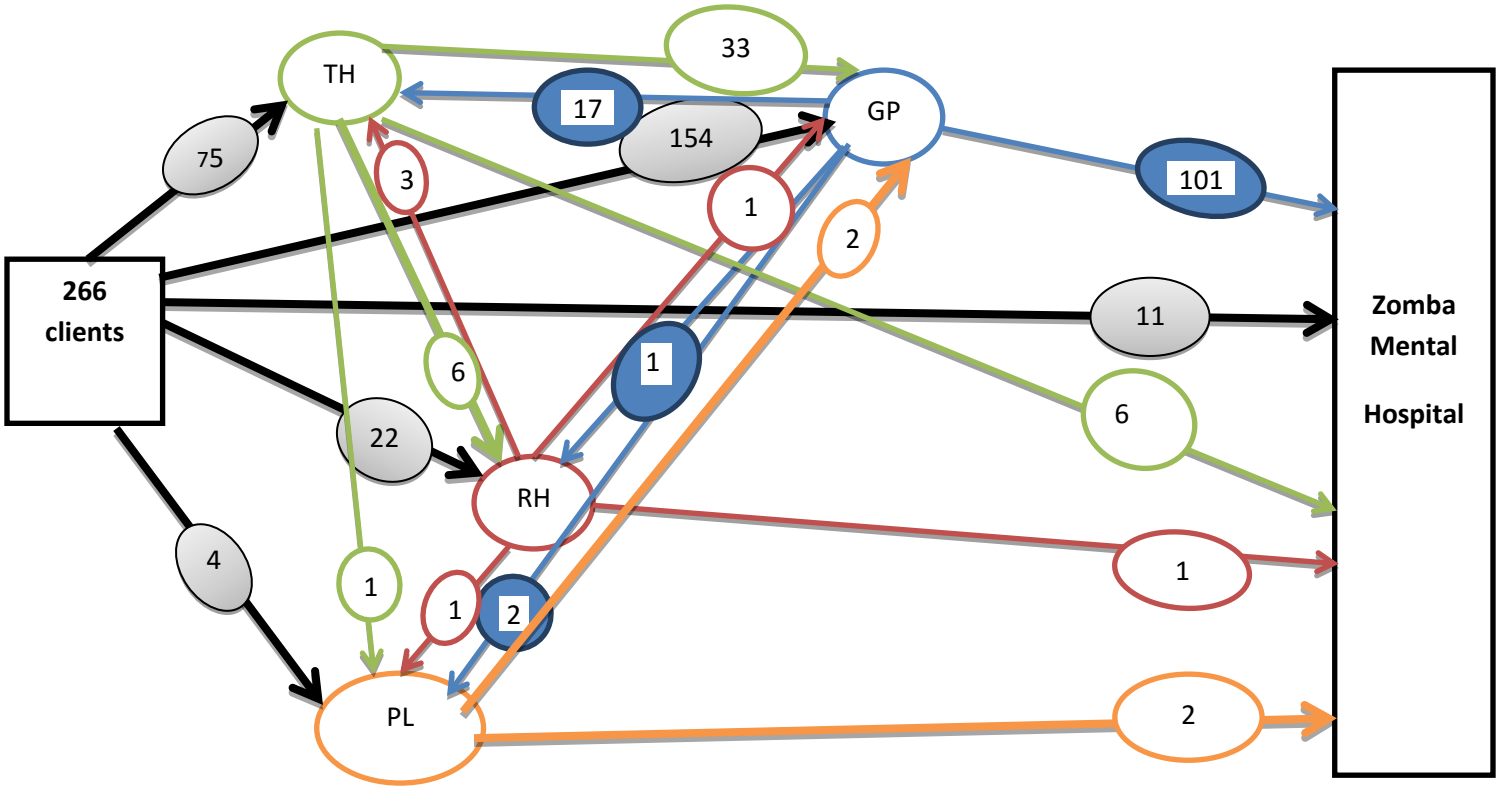
Demographic characteristics	Category	Frequency	Percent
Sex	Male	180	68
	Female	86	32
Age	18 – 27 years	144	54
	28 – 37 years	78	29
	38 – 47 years	27	10
	48 – 57 years	7	3
	58 years and above	10	4
Marital status	Not married	126	47
	Married	96	36
	Separated	35	13
	Divorced	9	4
Education	Primary	180	68
	Secondary	58	22
	Tertiary	9	3
	Never attended school	19	7
Occupation	Local farmer	152	57
	Businessman/woman	78	29
	Employed	27	10
	Other	9	4
Tribe	Lomwe	82	31
	Yao	77	29
	Chewa	27	10
	Ngoni	27	10
	Nyanja	16	6
	Tumbuka	13	5
	Mang’anja	13	5
	Sena	8	3
	Others	3	1
	Total	**266**	**100**

Pathways to Care Taken by Clients from Onset of Symptoms to Reach ZMH

The study findings showed that the total number of care providers consulted by clients with first episode psychotic disorders before reaching ZMH ranged from 1 to 10, meaning that some of the clients only consulted one care provider, while others consulted up to 10 care providers before reaching ZMH. Client's relatives had the primary influence in decision about the type of care provider to be consulted first in the majority (93%; n = 247) of the participants followed by clients themselves (4%; n = 10) and other community members in (4%; n = 9) of the participants.

The first contact for the largest proportion (58%; n = 154) of clients was the general practitioners in primary and secondary health care facilities, followed by (28%; n = 75) of the clients who first consulted traditional healers. Eight percent (n =22) of the participants consulted religious healers, while (4%; n = 11) of the participants went straight to ZMH and the least (2%; n = 4) of the participants were in first contact with the police. On the second contact, (66%; n = 101) of the clients who first consulted general health practitioners were referred to ZMH. While (8%; n = 6) and (5 %; n = 1) of the clients who first consulted traditional healers and religious healers respectively made self referral to ZMH, and (50%; n = 2) of the clients who were first in contact with the police were referred to ZMH and (50%; n = 2) were referred to general health facilities for management. From there most clients proceeded to ZMH via recursive pathways. Recursive pathways were commonly seen with clients who initially

consulted traditional healers, religious healers and health practitioners. The first two contacts that the clients made before reaching ZMH are shown in Figure 3.



GP = General practitioner

TH = Traditional healer

RH = Religious healer

PL = Police

Figure 3: **The First Two Pathways to Care Taken by Clients to Reach ZMH**

Presenting Symptoms on the Initial Contact on the Pathway

Most of the clients (52%; n = 137) presented to the first care provider with other disturbed behavior, followed by aggressive behavior in (20%; n = 53) of the participants and psychotic symptoms in (18%; n = 49) of the participants. Depression, anxiety related symptoms, suicidal attempt, convulsions and other somatic symptoms were also some of the other presenting symptoms presented by the participants. The results are shown in Table 2

Table 2: ***Symptoms Presented on the Initial Contact on the Pathway***

Symptoms presented	Total	General practitioner	Traditional Healer	Religious healer	Police	ZMH
Other disturbed behavior	137(52%)	59(22%)	58(22%)	19(7%)	0 (0%)	1(5%)
Aggressive Behavior	53(20%)	43(16%)	7(3%)	1(.5%)	1(0%)	1(.5%)
Psychotic symptoms	49(18%)	39(15%)	4(2%)	0(0%)	0(0%)	6(2%)
Headache	6(2%)	6(2%)	0(0%)	0(0%)	0(0%)	0(0%)
Alcohol	5(2%)	2(1%)	2(1%)	1(.5%)	0(0%)	0(0%)
Convulsions	3(1%)	2(1%)	0(0%)	0(0%)	0(0%)	1(.5%)
Suicide attempt	3(1%)	0(0%)	0(0%)	0(0%)	3(1%)	0(0%)
Depression	2(1%)	1(0%)	0(0%)	0(0%)	0(0%)	1(.5%)
Anxiety related	3(1%)	0(0%)	3(1%)	0(0%)	0(0%)	0(0%)
Drug related	2(1%)	0	1(0%)	1(0%)	0(0%)	0(0%)
Other somatic symptoms	3(1%)	2(1%)	0(0%)	0 (0%)	0(0%)	1(.5%)
Total	**266(100%)**	**154(58%)**	**75(29%)**	**22(8%)**	**4(1)**	**11(4%)**

The findings further indicate that out of 137 clients who first presented with other disturbed behavior, (43.5%; n = 59) first consulted general practitioners, while (56%; n = 77) consulted traditional and religious healers. While out of 53 clients who first presented with aggressive behaviors, (81%; n = 43) of the clients first consulted general practitioners as compared to 15% who consulted traditional healers, religious healers and (2%; n = 6) in contact with the police. Furthermore, out of 49 clients who first presented with psychotic symptoms (92%; n = 45) first consulted general practitioners and ZMH as compared to (8%; n = 4) who first consulted traditional healers.

Treatment Received by the Clients on the Pathways

Findings from this study indicated that treatment received by clients on the pathways included antipsychotics, anticonvulsants, treatment of physical illness and counseling from health professionals, traditional medicine from traditional healers and prayer from religious healers. However, out of the (58%; n = 154) clients who consulted health practitioners as their first care provider, (24%; n = 63) did not receive any treatment, instead were either referred to ZMH or were sent back home without any treatment. Twenty percent (n = 52) of the participants received antipsychotic treatment, (14%; n = 36) received treatment for physical illness, 2 clients received anticonvulsants and 1 received counseling as indicated in Table 3.

Table 3: ***Treatment Received by Clients on the Initial Pathways to Care***

Care provider	Type of treatment	Frequency	Percent
General practitioner	No treatment	63	24
	Antipsychotics/sedatives	52	20
	Treatment of physical disease	36	14
	Counseling	1	0
	Anticonvulsants	2	1
Traditional healer	Traditional medicine	75	28
Religious healer	Prayers	22	8
ZMH	Antipsychotics	11	4
police	No treatment	4	1
	Total	**266**	**100**

Time Taken by Clients from the Onset of Symptoms to Reach the First Care Provider

Time taken from onset of symptoms to reach the first care provider ranged from <1 week up to 312 weeks, with a mean value of 13weeks (SD = 37.213) and a modal value of < 1 week. The findings further showed that (73%; n = 193) of the participants presented to the first care provider within the first four weeks of experiencing symptoms (Table 4).

Table 4: ***Total Number of Weeks Taken by Clients to Reach the First Care Provider from the Onset of Symptoms***

Number of weeks	**Frequency**	**Percent**
Less than 1 week	101	38
1 to 4 weeks	92	35
5 weeks and above	73	27
Total	**266**	**100**

Time Taken by Clients from the Onset of Symptoms to Reach ZMH

The findings of the study indicated that the time taken from onset of symptoms and arrival at ZMH ranged from <1 week up to 475 weeks, with a mean value of 42weeks (SD = 80.767) and a modal value of < 1 week. However, the findings revealed that only (47%; n = 126) of the clients presented to ZMH within the first 4 weeks of experiencing symptoms while (53%; n = 140) of the participants took 5 weeks or more. The results further indicated that longer mean DUP of 111weeks was seen in clients who first consulted traditional healers than other care providers. The results are summarized in Table 5.

Table 5: ***Time Taken by Clients from the Onset of Symptoms to Reach ZMH***

Number of weeks	**Frequency**	**Percent**
Less than 1 week	64	24
1 to 4 weeks	62	23
5 weeks and above	140	53
Total	**266**	**100**

Duration of the Journey from Home to the Initial Contacts on the Pathways

The study findings indicated that the duration of the journey from home to the first care provider ranged from less than 1 hour to 12 hours with the mean value of 1.86 (SD = 2.183). On average most clients (54%; n = 144) spent an hour or less on the journey to the first care provider. Of all the clients who were seen by general practitioners, (60.6%; n = 100) spent an hour or less on the journey to the GP and ZMH as compared to (32.6%; n = 31) seen by traditional and religious healers.

Table 6: **Duration of the Journey from Home to the First Care Provider**

Duration	**Traditional healer**	**Religious healer**	**General practitioner**	**ZMH**	**Police**	**Total**
< 1 hour	6	14	42	5	2	**69**
1 hour	16	5	53	0	1	**75**
2 hours	17	0	21	2	1	**41**
3 hours	6	0	15	0	0	**21**
4 hours	14	0	5	1	0	**20**
5 hours	3	1	0	0	0	**4**
6 hours	5	2	4	0	0	**11**
7 hours	1	0	1	0	0	**2**
8 hours	1	0	1	0	0	**2**
12 hours	2	0	2	0	0	**4**
Didn't know	4	0	10	3	0	**17**
Total	**75**	**22**	**154**	**11**	**4**	**266**

Factors that Influenced the Choice of the Initial Contact on the Pathways

Pearson Chi – square test at 5% level of significance was used to establish the variables that were significantly correlated with the choice of the initial contact on the pathways.

Association between the initial contact and demographic characteristics. The findings of the study showed that on demographic characteristics, there were no significant association between age ($p = 0.316$), education ($p = 0.984$), occupation ($p = 0.389$) and the choice of the initial contact on the pathways. However, sex was the only demographic variable that had a significant association ($p = 0.047$) with the choice of the initial contact on the pathway. After cross tabulation, the results showed that 60% ($n = 103$) of male clients first consulted health care providers as compared to 53% ($n = 45$) of female clients.

Association between the initial contact and the ICD 10 diagnosis given to the client at ZMH. The common diagnosis given to the clients at ZMH was schizophrenia in 39% ($n = 103$) of the clients, followed by acute transient psychotic disorder, cannabis induced psychosis, psychotic disorder secondary to physical disease and other psychotic disorders. The findings revealed that ICD 10 diagnosis that was given to the clients at ZMH had a strong significant association ($p = 0.000$) with the choice of the initial contact on the pathways.

Association between the initial contact and the duration of the journey from home to the care provider. The study findings also revealed that duration of the journey from home had a significant association ($p = 0.023$) with the initial contact on the pathways. After cross tabulation, results showed that out of the 154 clients who first consulted health practitioners, 69% ($n = 106$) of the clients had a total duration of the journey from home of less than 1 hour.

Association between the initial contact on the pathways and the symptoms that the clients presented to the first care provider. Symptoms that clients presented to the first care provider had a strong significant association ($p = 0.000$) with the choice of the initial contact on the pathways. When all the variables were used as predictors in a logistic regression analysis with the initial contact on the pathway as a response variable, results showed that symptoms presented at the initial contact on the pathways were the significant predictor of the choice of the initial contact on the pathway ($p = 0.000$) as compared to the other variables. The results further revealed that clients who presented with psychotic symptoms were 16 times more likely to first visit a health practitioner. On the other hand, clients who first presented with other disturbed behavior were 6 times less likely to first visit a health practitioner as compared to patients with other symptoms.

Conclusion

The findings from this study have shown that more than half of the participants first

consulted the general practitioners. Other contacts were made with traditional healers, religious healers and the police before visiting ZMH. The treatment received on the pathways included, antipsychotics, traditional medicine, and treatment for physical illness, prayers, anticonvulsants and counseling, while some of the clients did not receive any treatment. The findings further showed that client's relatives were primarily the ones who made decisions on the type of care provider to consult, and that the general practitioner and the police were mainly the care providers who referred clients to ZMH. The mean duration of time taken from onset of symptoms to reach the first care provider was 13 weeks (3.2 months), while the mean duration of time taken from onset of symptoms to reach ZMH was 42 weeks (10.5months). The duration of the journey from home to the first contact on the pathway also ranged from less than an hour to 12 hours, with a mean duration of 48 minutes. Statistically significant association were identified between the choice of the initial contact and sex of the respondents ($p = 0.047$), ICD 10 diagnosis given to the client at ZMH ($p = 0.000$), duration of the journey from home to the initial contact on the pathways ($p = 0.023$), and symptoms presented to the first care provider ($p = 0.000$). After a logistic regression analysis, results showed that symptoms presented to the initial contact were a significant predictor of the choice of the initial contact on the pathways ($p = 0.000$).

CHAPTER FIVE

Discussion of Findings

Introduction

Understanding the pathways that are taken by clients with psychotic disorders prior to admission in mental institutions is important in planning to reduce delays in seeking treatment by improving their help - seeking behaviors, and the care provided to such clients (Fujisawa et al., 2008). Studying the pathways to care may also help in identifying sources of delay in receiving care and suggest possible improvements. Therefore, a study was conducted at ZMH (OPD) with the aim of assessing the pathways to care that are taken by clients with first episode psychotic disorders before they reach ZMH. The discussion focuses on the pathways taken by clients with first episode psychotic disorders to reach ZMH; the type of treatment rendered to the clients on the pathways; the time taken by clients from the onset of symptoms to reach ZMH, and the factors that influence the client's choice of the pathways. The chapter further presents strengths and limitations of the study.

Pathways to Care that were Taken by Clients before Reaching ZMH

The findings of the study suggest that pathways to care for clients with first episode psychotic disorders at ZMH are diverse and the main care providers involved are: general practitioners, traditional healers, religious healers and the police. Similar to

findings from pathways to care studies from South Africa, Lund et al. (2010), North China, Zhang et al. (2013) and Malawi, Kauye et al. (2014) which found that most of participants first consulted general practitioners, in this study, general practitioners were the first contact of care for 58% of the clients. This agrees with the Goldberg and Huxley Pathways to Care Model, which suggested that general practitioners in primary care facilities are supposed to be the first contact of care for clients with mental health problems, and are supposed to identify, treat clients, and only refer clients with severe symptoms for professional mental health care (Fujisawa et al., 2008). However, in Malawi, in most general care settings, mental health care provision is challenged by critical shortage of antipsychotic drugs (Kauye et al., 2014), and the fact that most of the times general practitioners lack adequate knowledge and skill to be able to recognize and treat early signs of psychotic disorders (Udedi et al., 2013). This is of particular concern given that long DUP may result in poor disease outcome. Therefore, strategies need to be put in place to support mental health care provision in general care settings.

Similar to reports from pathways to mental health care studies conducted in Ethiopia by Girma and Tesfaye (2011), Nigeria by Adeosun et al. (2013) and Malawi Kauye et al. (2014) which indicated that a good proportion of clients first consulted traditional and religious healers, in this study, traditional and religious healers were also the first contact of care for 36% of the participants. This shows that traditional and religious healers are also important in the pathways to care for clients with psychotic disorders. In Malawi, first consultation with traditional healers for most clients with

psychotic disorders may be attributed to a number of factors including: cultural beliefs over the origin of their illness, for example, bewitchment or evil spirits, stigma associated with mental illness and failure to recognize early psychotic symptoms as mental health problems and where to get appropriate treatment (Kauye et al., 2011). A common belief is that illness that is caused by witchcraft and possession by evil spirits may also be treated by supernatural powers from traditional healers or religious healers. Furthermore, in Malawi, traditional and religious healers are easily accessible, therefore, are the first point of care for clients with psychotic disorders in the community, with people accessing specialist care when the efforts of these healers seem to have failed.

Furthermore, unlike findings from a study which was conducted in the three psychiatric units in Malawi which indicated that 22.7% of the participants were referred from traditional and religious healers (Kauye et al., 2014), in this study, none of the clients who were seen at ZMH were referred from traditional and religious healers, instead the most source of referral were general practitioners, family members and the police. This therefore, suggests the importance of doing more research in this area. Good collaboration between mental health care providers and traditional and religious healers should also be strengthened.

The findings further indicated that (4%; n = 11) of the clients directly sought care from a mental hospital. Similarly, Kauye et al. (2014) indicated that 11.7% of the clients went straight to the psychiatric units. Furthermore, in Addis Ababa, Ethiopia, a study conducted by Bekele et al. (2009) found that 41% of clients directly contacted the mental

hospital than other care providers. However, this has both its advantages and disadvantages. Direct access to ZMH may shorten the period between the onset of symptoms and the patient's arrival at ZMH, thus reducing the time of untreated psychosis (Sorketti, 2013). On the other hand, direct access may lead to unnecessary congestion at ZMH, thus increasing work overload for professional mental health care providers who are mostly very few, and the cost of care for the mental health institution, the clients and their relatives. It is also important to note that other psychotic symptoms may be secondary to a physical condition (Shives, 2005). Therefore, direct access to ZMH may deny the clients the opportunity to be done thorough physical check up in general hospitals. This is because ZMH does not have facilities like, laboratory and radiology services, but instead rely on Zomba Central Hospital which is approximately 1 kilometer away. As a result some clients may be mismanaged in the process.

In this study, client's relatives had the primary influence in decisions about the type of care provider to be consulted first in 93% of the clients. Similarly, in Italy, Vecchio et al. (2015) reported that relatives were the ones who decided to seek care in 76% of the clients, and in Bangladesh, (Giasuddin, et al., 2010) also reported that clients' relatives had a significant role on the choice of the pathways for clients with mental health problems. This is because family members are the ones who may notice change in behavior of their sick relative in which the patient has limited insight because of the nature of the illness (Hui et al., 2013). However, often times the family members may not understand their relative's illness and where to get appropriate treatment (Birchwood et

al., 2013). As a result, most of them would seek care from other pathways than go to health practitioners for proper management. Therefore, community awareness campaigns on etiology of mental health problems, signs and symptoms, where people can get treatment, advantages of early treatment and effects of long duration of untreated psychosis would help in bridging this gap in knowledge.

In relation to the Goldberg and Huxley pathway to care model, the findings of this study implies that at the first contact of care, 58% of the clients or their relatives were able to identify their psychological distress in the community (Level1/1filtre1) and were able to consult general practitioners at primary or secondary care facilities. On the other hand 38% of the participants did not filter through leve1/filter1 as they were not able to identify their psychological problems and did not consult health practitioners; as a result they consulted traditional or religious healers and others were sent to police, where their symptoms remained untreated for a long period of time. However, for the clients who filtered through level1 /filter1, in some cases at Level 2 and 3/ filter 2 and 3, the GPs were not able to identify psychological distress in time, and others were not filtered through because of their presentation with physical/ambiguous symptoms, and lack of knowledge by the general practitioners to recognize early signs and symptoms of psychotic disorders. As a result, their mental health problems were left untreated for a long period of time.

Symptoms Presented and Treatment Received on the Pathways

Similar to findings from Ethiopia, Bekele et al, (2009), where other disturbed behavior was the common presentation to the first care provider by most of the clients, in this study, other disturbed behavior was the commonest presentation to the first care provider for 52% (n = 137) of the participants, followed by aggressive behavior 23% (n = 53) and psychotic symptoms 18% (n = 49). This had an impact on the choice of the first contact on pathways, as it is indicated in the findings that out of 137 clients who first presented with other disturbed behavior, 43.5% (n = 59) first consulted general practitioners, while 56% (n = 77) consulted traditional and religious healers. While out of 53 clients who first presented with aggressive behaviors, (81% n = 43) of the clients first consulted general practitioners as compared to only 15% who consulted traditional healers, religious healers and 2% (n = 6) and in contact with the police. Furthermore, out of 49 clients who first presented with psychotic symptoms 92% first consulted general practitioners and ZMH as compared to only 8% who first consulted traditional and religious healers. This concurs with findings from South African study conducted by Mkize and Uys (2004) which indicated that there was rapid access to mental health care when first psychotic symptoms are severe, including aggressive and violent behavior, while ambiguous presentation of symptoms made clients to consult other pathways than mental health care due to failure to recognize symptoms as early signs and symptoms of mental illness, as a result, clients had a longer DUP.

The findings further revealed that (1%; n = 3) of the clients who were in first contact with the police presented with suicide attempt. Goldman-Mellor, et al. (2014) highlighted that suicide attempters are more likely to have persistent mental health problems, for example, depression and substance dependence which may need urgent attention by professional mental health professionals. The results further indicated that the clients were detained in police custody for a mean duration of 45 weeks, which may be attributed to lack of knowledge by the police officers to recognize suicide attempt as one of the psychiatric emergencies that need urgent attention. Therefore, police offers need to have mental health training on how to recognize mental health problems in the inmates. Furthermore, community members also need to be educated that suicide attempt is one of the psychiatric emergencies that need immediate mental health intervention

On treatment received on the pathways, the findings indicated that treatment received by clients on the pathways before presenting to ZMH included: antipsychotics, sedatives, treatment for physical disease, counseling, anticonvulsants, traditional herbs from traditional healers and prayers from religious healers. The findings further indicated that 24% of the clients who first consulted health practitioners were initially not given any treatment. Similarly, reports from a study conducted by Lund et al. (2010) in South Africa, found that 36% of the clients who first consulted general practitioners did not receive any treatment for their psychological problems, furthermore, those who received antipsychotics received inadequate doses to be able to appropriately treat their symptoms. Likewise, a study conducted by Kauye et al. (2014) in Malawi indicated that a good

proportion of clients who were first seen by general practitioners and nurses received no treatment. This was attributed to shortage of antipsychotic drugs in some of the primary and secondary care facilities and highlighted the GP's inability to appropriately treat clients with early signs of psychotic disorders. Therefore, recommendations were made to improve general practitioners knowledge and availability of basic antipsychotic drugs in primary and secondary health facilities. Studies also need to be done to ascertain the effectiveness of traditional medicine in treating psychotic disorders.

Time Taken by Clients from Onset of Symptoms to Reach ZMH

The findings of this study established that there was a significant delay of up to 9 years from the onset of symptoms to reach ZMH, with the mean delay of 10.5 months from the onset of symptoms to reach ZMH. This is similar to findings from a study conducted by Lihong et al. (2012) in rural Japan, which also reported a mean delay of 10.5 months, but very much lower than 51.7 months (4.3years) which was reported in a previous Malawian study on duration of untreated psychosis (Chilare et al., 2014). However, this is higher than findings from Eastern Europe in which the median DUP was 3weeks. This signifies the differences in DUP between developing and developed countries, which may be attributed to differences in availability and accessibility of mental health services and other socio – economic factors. Findings from a study which was conducted in Mzuzu, Malawi, by Chilare et al. (2014) found that low level of education, lack of employment and a diagnosis of schizophrenia and difficulties in

accessing mental health services were some of the factors that were associated with longer DUP. On the other hand, good education is associated with positive health seeking behavior, better health and survival (Cutler & Lleras-Muney, 2012). However, in the present study, there was no significant association between education ($p = 0.984$) or occupation ($p = 0.389$) and the choice of the pathways

Furthermore, the findings of the study indicated that rapid access to ZMH occurred when clients presented with aggressive behavior and frank psychotic symptoms, while a long time was taken for clients who presented with ambiguous symptoms like other disturbed behaviors. This is similar to findings from South Africa, Mkize and Uys (2004) and United Kingdom, Brunet, Birchwood, Lester and Thornhill, (2007) who also found that rapid access to mental health services occurred when clients first presented with aggressive or violent behaviors and that delays in receiving appropriate care occurred where clients presented with ambiguous symptoms, which led to diagnostic uncertainties and eventually a long course of appropriate treatment. This is however, contrary to findings from a Malaysian study which indicated that violent behavior made it difficult for family members to bring clients to psychiatric services as a result clients stayed long without receiving treatment, and further highlighted the importance of teaching community members on how to handle clients with aggressive behaviors (Phang et al., 2010). In this study delays to reach ZMH were seen in all pathways; however, longest delays were seen in clients who first contacted traditional healers. Long delays in clients who first consulted traditional healers have also been reported in other studies

from Saudi Arabia, Central India and Malawi (Al Fayez et al., 2015; Lahariya et al., 2010; Chilare et al., 2014). Therefore, a study needs to be conducted to understand the reasons why first consultation with traditional healers is mostly associated with long delay.

Factors that Influenced the Choice of the Pathways

In this study a larger proportion of men (68%) utilized the mental health services at ZMH during the period of data collection, and this is the only demographic variable that had a significant association ($p = 0.047$) with the choice of the pathways. Furthermore, the findings reported that more men had a health care provider as their first contact of care than women. This is similar to other findings on pathways to care studies conducted in United Kingdom (UK), (Cascio, Cell, Preti, Meneghelli and Cocchi, 2012) and Malawi (Kauye et al., 2014). However, findings from Europe and German indicated that more women than men utilized mental health services (Gater et al., 2005; Fridgen et al., 2012) respectively. The present findings might be a reflection of the difference in prevalence of schizophrenia and other psychotic disorders in the two sexes (Ochoa, Usall, Cobo, Labad, & Kulkarni, 2012). While another explaination could be that men with psychotic symptoms usually tend to be more violent and difficult to manage in the community than women, therefore are more likely to be taken to the hospital (Tseliou et al., 2015). However, research needs to be done to examine the factors responsible for this pattern.

Duration of the journey from home was also significantly associated ($p = 0.023$) with the choice of the initial contact on the pathways. A short distance to the nearest health care facility predicted the likelihood of first consultation with a health care practitioner and possibility of quick access to professional mental health services. Similarly, Trivedi and Jilani (2011) found that proximity of residence to the nearest health facility predicted the shortest delay in reaching a mental health care facility. However, other variables such as cultural beliefs on the cause and treatment of mental illness, fear of stigma, availability of psychiatric services and lack of awareness of the existence of psychiatric services among others could be some of the factors that may influence the client's choice of the pathways.

Type of first symptoms presented also had a significant association ($p = 0.000$) with the choice of the initial contact on the pathway. Furthermore, after logistic regression analysis, symptoms were also found to be the strong predictor to the choice of the initial contact on the pathways. This implies that the type of symptoms that the clients first present with, have a greatest influence on the choice of the initial contact on the pathway as compared to other variables like sex, diagnosis and the duration of the journey to the first contact. The results further revealed that clients who presented with aggressive behavior and psychotic symptoms were more likely to first visit a health practitioner and eventually reach ZMH in good time. This may be attributed to the fact that clients who present with aggressive behavior and psychotic symptoms may often be a danger to self and others, therefore it might be difficult to contain them in the

community, therefore, may be taken to the hospital as a way of preventing harm to self and others. Similarly, Mkize and Uys (2004) also reported that clients who first presented with aggressive/violent behaviors had quick access to a mental hospital. On the other hand, clients who first presented with other disturbed behavior were less likely to first visit a health practitioners as compared to patients with other symptoms and eventually also took a long time to reach ZMH. This may be attributed to lack of knowledge by general practitioners and community members to recognize other disturbed behavior as early sign of psychotic disorders. As such communities need to be educated on the early signs of psychotic disorders so that they can be able to recognize them early for early treatment.

Strengths of the study

This was a quantitative study which recruited 266 clients with first episode psychotic disorders at ZMH. The fact that the study was carried out at a mental hospital that provides specialist psychiatric care for the entire country created the opportunity to include such a large number of clients who came from across the country. This is a first study on pathways to care for clients with first episode psychotic disorders at ZMH and in Malawi. However, a similar study titled pathway to care for psychiatric patients was conducted in the three main psychiatric units of the country (Zomba, Lilongwe and Mzuzu), and recruited new referrals regardless of the number of episode. Therefore, the findings of the current study compliment the findings of the previous study.

Furthermore, data collection was done using the pathways to care encounter form that was developed by the WHO and was only modified by researcher to suit Malawian situation. This is a reliable tool since it was validated by the World Health Organization and has been used in several pathways to care studies across the world. Finally, the study used Census and Survey processing software for data entry which ensured consistency and validation of data before analysis.

Limitations of the study

The participant's retrospective recall of symptoms, duration of illness, and the various care providers the patients visited before arriving at ZMH, might subject some of the data to recall bias. However, interviewers made every attempt to elicit accurate information by using different methods that would facilitate recall, such as using landmark events as reference points, checking in the passport book and verifying information from accompanying caregivers. Another limitation is that clients might not have truly acknowledged some of their previous sources of care, especially traditional healers, which might be considered unacceptable in certain social and religious settings. Therefore, the findings on the number of visits to traditional healers could be underestimated. Furthermore, the use quantitative approach only, was a limitation, because the use of in-depth qualitative data could have provided further insights into the pathways to care for clients with first episode psychotic disorders. As a result it could have provided more detailed information than what was elicited through the semi

structured questionnaire of the quantitative method used. Use of consecutive sampling also limits the generalizability of the study findings.

Conclusion

This cross sectional study was aimed at assessing the pathways to care that are taken by clients with first episode psychotic disorders at ZMH. The findings of the study have shown that like findings from other developed and developing countries, the majority of patients attending ZMH during the period of the study consulted other pathways before reaching ZMH. The study has also identified some of the factors that influence the choice of the pathways. A descriptive quantitative design was used, and the Goldberg and Huxley Model guided the formulation of the data collection instrument, presentation and discussion of the findings. A structured interview guide was used to interview 266 clients with first episode psychotic disorders. A pre – test was done using similar subjects to those of the actual study to validate the instrument. Since the study involved human subjects, appropriate measures were taken to safeguard the rights of the participants. The study population comprised of clients with first episode psychotic disorders at ZMH OPD. Consecutive sampling was used to choose the sample.

The major findings of the study were as follows: The pathways included: general practitioners in primary and secondary care facilities, traditional and religious healers and the police. General practitioners were the initial contact for most of the participants. On average clients took 42 weeks to reach ZMH from the onset of symptoms, and pathways

involving traditional healers, took a longest time to reach ZMH. Client's sex, diagnosis given to the client at ZMH and duration of the journey to the care provider influenced the choice of the pathways for the participants. Type of symptoms presented by clients at the initial contact on the pathways was a strong predictor of the choice of the pathways. The need for incorporating efficient and effective community based programs, upgrading GPs knowledge on management of mental health problems, collaboration with various service providers involved in the pathway to care, and availability of mental health services, were the major recommendations for this study.

Recommendations

Basing on findings of this study, the following recommendations have been proposed to nursing management, nursing practice, and nursing education:

Nursing management.

- Nursing managers through the district management teams (DHMT) to allocate adequate mental health resources including psychotropic drugs in primary and secondary care settings.
- Nursing managers to appropriately deploy psychiatric nurses in the facilities to be able to provide psychiatric services.
- Nursing managers through the DHMT to support nurses to do more research on pathways to care for clients with mental health problems.

Nursing practice.

- Psychiatric nurses to develop community based programs that are well coordinated with secondary and tertiary levels of care.
- Psychiatric nurses to strengthen multisectoral collaboration with: general practitioners, traditional healers, religious healers, social workers, the police etc. are made aware of mental health problems.
- Psychiatric nurses to conduct community awareness campaigns on mental health issues; including the importance of early detection and treatment of symptoms.
- Psychiatric nurses to introduce community mental health programs for the youths where they can learn mental health issues and how to promote their mental health.
- Nurses in primary care setting to strengthen integration of mental health education in their daily messages in primary care settings.

Nursing education.

- Nursing colleges to train more nurses who specialize in mental health and psychiatric care so that adequate personnel are deployed in all levels of health care.
- General nursing colleges should improve their curricular to include adequate information how to identify and treat clients with mental health problems. More emphasis should also be put on community mental health and how promote the mental health of the communities. Furthermore, to increase number of hours for clinical practice so that the students have adequate knowledge and skill in how

manage clients with mental health problems improve their mental health content, so that general practitioners graduate with adequate mental health knowledge.

Areas for Further Research

- Role of general practitioners, traditional healers, religious healers and the police in providing mental health care.
- Effectiveness of traditional medicine in treating psychotic disorders
- Reasons why individuals first consult other care provider other than health workers when they first become mentally sick.
- Reasons why more men than women patronize mental health services.
- More research also need to be done on pathways to care for clients with first episode psychotic disorders.

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Appendices

Appendix 1 (a): Information Sheet-English Version

Good morning/Good afternoon

My name is Ditress Nyirongo, Registered Psychiatric Nurse Midwife, currently pursuing a Master of Science Degree course in Community Health Nursing at Kamuzu College of Nursing. Part of the requirement towards this course is to conduct a research study. The title of the study is "Pathways to care for clients with first episode psychotic disorders at Zomba Mental Hospital".

Purpose of the study

The purpose of the study is to determine the pathways to care for clients with first episode psychotic disorders from the onset of symptoms to seeking professional mental health care.

Procedure

If you agree to take part in the study, you will be interviewed individually and the interview will take almost 30 minutes.

Risks

The study is expected to have no physical risks/harm and you are urged to feel free to express yourself during the interview.

Benefits

There is no immediate benefit in participating in this study, only that in future, the study findings may help in improving the care provided to clients with first episode psychotic disorders in the country.

Confidentiality

All information to be collected from you shall be kept safe and will only be accessible by the investigator. Your information will be identified with codes and not by name. Publications will also be in general instead of having names..

Voluntary Participation

You are free to participate, to refuse, or not to answer any question that you do not want, or withdraw at any time during the interview in the study. Participation in this study is voluntary and there is no penalty for refusing to take part. You are free to take part or withdraw at any time you feel like without giving reasons. If you agree to take part in the study you will be asked to sign a consent form.

For any questions

In case of any questions, you may contact the following people: Ditress Nyirongo, Kamuzu College of Nursing, Private Bag 1, Lilongwe. You can also reach her through a cell phone number 0888851224 or email address: ditnyirongo@yahoo.com. Dr. D. Jere (Research supervisor) of Kamuzu College of Nursing who can be reached through her

email address: nankhoma21@gmail.com or mobile phone number: 0994056476. Or you can contact COMREC secretariat, College of Medicine, Private Bag 360, Chichiri, Blantyre 3, phone: 01877245/01877291 or through this email address: Comrec@medcol.mw

Thank you very much.

Appendix 1 (b): Information Sheet-Chichewa Version

Mwadzuka bwanji/Mwaswera bwanji

Dzina langa ndine Ditress Nyirongo. Ndine m'modzi mwa ophunzira za unamwino ku sukulu yaukachenjede ya Kamuzu College of Nursing. Ndikuchita kafukufuku, ndipo mutu wa kafukufuku ameneyu ndi njira zopezera chithandizo zimene anthu amene ali ndi zizindikiro za misala koyamba amatenga.

Cholinga cha kafukufukuyi

Cholinga cha kafukufuku ameneyu ndikufuna kudziwa za njira zimene anthu amene ali ndi zizindikiro za misala koyamba amatenga kuyambira pamene ayamba kuwona zizindikiro mpaka pamene amalandila chithandizo choyenera cha matendawa.

Ndondomeko ya kafukufuku

Mukalola kutenga nawo mbali mukafukufukuyu mudzafunsidwa mafunso aliyense payekha payekha. Mafunsowa adzitenga nthawi yokwana pafupifupi mphindi makumi atatu kwa wina aliyense otenga nawo gawo.

Zovuta za kafukufukuyu

Pa nthawi yakafukufukuyi, sipakuyembekezeka zovuta kapena kuvulala kwina kuli konse, kotero muli omasuka kuyankha mafunso onse amene mufunsidwe bwinobwino mosaopa.

Ubwino wa kafukufuyu

Palibe ubwino umene inuyo mukhale mukuupeza panthawi ya kafukufukuyi, koma mtsogolomu zotsatira zake zizatithandiza kupititsa patsogolo chisamaliro cha anthu amene ali ndizizindikiro za matenda a misala koyamba.

Kusungiridwa chimsimsi

Dziwani kuti uthenga wonse otengedwa nthawi yakafukufukuyu, usungidwa mwachinsinsi ndiponso pamafunso sipalembedwa dzina lanu koma nambala yokha.

Kutenga nawo mbali mukafukufuku mwakufuna

Muli omasuka kukana, kapena kusayankha mafunso ena amene mungafunsidwe mkati mwa kafukufukuyi ngakhalenso kusiya kumene ngakhale mutayamba kale kuyankha ena mwamafunso amene ali mukafukufukuyi. Padzakhala palibe chilango chilichonse choperekedwa kwa inuyo, kapena chokhudza chisamaliro chanu mukakana kapena kusiya kutenga nawo gawo. Ngati mwavomera kutenga nawo mbali mukafukufukuyu mudzapemphedwa kusayinira chilolezo.

Komwe mungafunse mafunso

Ngati muli ndi mafunso, mukulimbikitsidwa kufunsa kwa Anthu awa: Ditress Nyirongo, Private Bag 1, Lilongwe. Mukhozanso kuyimba foni ya m'manja pa nambala iyi: 088851224 ngakhalenso kudzera pa email address iyi: ditnyirongo@yahoo.com. Mungathenso kulankhulana ndi a Dr. D. Jere (oyang'anira za kafukufukuyi) apa Kamuzu College of Nursing kudzera pa email address iyi: nankhoma21@gmail.com, kapena pa foni ya m'manja iyi 0994056476. Kapena kufunsa ku COMREC secretariat pa keyala iyi:

Wapampando wa COMREC, College of Medicine, Private Bag 360, Chichiri, Blantyre 3.

phone: 01877245/01877291, kapena kuwalembera pa email Address iyi:

Comrec@medcol.mw

Zikomo Kwambiri.

Appendix 2 (a): Informed Consent Form-English Version

Code Number_____

I have read and understood the information on the purpose of the study, procedure, and the risks and benefits of the study, and my questions have been answered to my satisfaction. I know that I will not have to suffer any injury or harm during the research process. I understand that I will not have immediate benefit. I understand that the information given will be kept confidentially and will only be accessible to the researcher or those people directly concerned with this study and have been assured that any publications or research dissemination will not bear any names. I am aware that I am at liberty to withdraw from the study at any time should I want to do so. I have been given the opportunity to ask questions that I might have, regarding the procedure and I know who to contact for more information.

I hereby give consent by signing this form to participate in the study, and allow the investigator to use data obtained from me. I voluntarily agree take part in the study.

_____	_____	_____
Participant's signature	Participant's thumb print	Date
_____		_____
Interviewer's signature		Date

Appendix 2 (b): Informed Consent Form-Chichewa Version

Nambala ya mtengambali_____

Ndawerenga ndipo ndafotokozeredwa momveka bwino za cholinga, ndondomeko, zovuta ndi ubwino wa kafukufukuyu. Ndatsimikidziridwa kuti ndidzasungiridwa chinsinsi, komanso kuti dzina langa silidzakhalapo pena pali ponse mukafukufukuyu, ndipo mmalo mwake padzakhala nambala. Ndikudziwa kuti sindikuyenera kuvutika kapena kuvulala mukafukufukuyu. Ndamvetsanso kuti palibe phindu lirilonse lamsanga mukafukufukuyu, ndipo ndili omasuka kukana ngakhalenso kusiya mkati mwa zokambirana mukafukufukuyu.

Mafunso anga onse ayankhidwa mogwira mtima, komanso ndikudziwa kumene ndingakadandaule kapena kufunsa mafunso.

Ndasankha mwaufulu ndi mosaumiridzidwa kutengapo mbali mkafukufukyi.

_____	_____	_____
Sayini la otenga mbali mkafukufuku	Chidindo cha otenga mbali mukafukufuku	Tsiku

_____	_____
Sayini ya ofunsa mafunso	Tsiku

Appendix 3a: Structured Questionnaire for Pathways to Care – English Version

Section 1: Demographic Characteristics

i. Participant's number [ ][ ][ ] 1

ii. How old are you? [ ][ ] 2

iii. Sex of the respondent [ ] 3

Response	**Code**
Male	1
Female	2

iv. What is your marital status? [ ] 4

Response	**Code**
Married	1
Divorced	2
Single	3
Separated	4

v. What is your highest level of education? ☐ 5

Response	**Code**
Illiterate	1
Primary	2
Secondary	3
Tertiary	4

vi. What is your occupation? ☐ 6

Response	**Code**
Employed	1
Business man/woman	2
Farmer	3

vii. What is your tribe? ☐ 7

Response	**Code**
Yao	1
Chewa	2
Tumbuka	3

Lomwe 4

Ngoni 5

Sena 6

Other….. (Specify) 9

Section 2a: The First Decision to Seek Care

i.When did your illness begin?

Date, month and year …… /-----/-----/-----/

(Check in the passport book to verify)

ii. a)When the illness began how long did it take for you to consult the first care provider?

Weeks…… | | | | 8

If less than a week, code as 000

Don't know 999

b).When did you consult the first care provider? Date, month and year /-----/------/------/

(Check in the passport book to verify).

iii. Who did you consult first? | | | 9

Response	**Code**
Traditional healer	01
Religious healer	02
Health Surveillance assistant	03
General practitioner	04
Community nurse	05
Psychiatric nurse	06
Psychiatric clinician	07
Social worker	08
Court of law	09
Police	10
Other….. (Specify)	88

iv. Who suggested that you should seek care? | | 10

Response	**Code**
Client	1

Family member 2

Other (Specify) 3

Don't know 9

v. What problem did you present? ……. | | 11

……. | | 11

……. | | 11

……. | | 11

Psychological & Behavioral Symptoms	Code	Somatic Symptoms	Code
Depression related	01	Headache	10
Anxiety related	02	Abdominal pain	11
Psychotic symptoms	03	Back/chest pain	12
Convulsions	04	Weakness	13
Suicide attempt	05	Fever	17
Aggressive behavior	06	Dizziness	18
Other disturbed behavior	07	Sleep disturbance	19

Alcohol related problems	08	Cough	20
Drug related problems	09	Other somatic symptoms	21
Other (Specify)	88		
Don't know	99		

vi. What type of treatment did you receive? | | | 12

Main Treatment	**Code**
No treatment	01
Treatment of physical illness	02
Counseling	03
Prayer/spiritual support	04
Traditional medicine	05
Sedatives	06
Anticonvulsants	07
Antidepressants	08
Antipsychotics	09
Other (Specify)	88

Don’t know 99

vii. What was the duration of your journey to the first care provider……hours

…… | | | | 13

If less than 1 hour code as 000

Don’t know 999

Section 2b:

I. The Second Care Provider

i. Who did you consult second? …… | | | 14

Coded in the same way as section 2a, (box 9)

If the patient has reached the mental health services at the previous care provider then the pathway has ended, and all the boxes in the section should be coded 0.

ii. How long did it take for you to consult the second care provider from when the first care provider was consulted? Weeks …….. | | | 15

Coded in the same way as section 2a (box 8).

(**Check in the passport book date, month and year when they consulted the first care provider to verify the time taken) /-----/-----/-----/**

iii. Who referred you to the second care provider? …… ☐ 16

Response	**Code**
First care provider	1
Patient	2
Other (Specify)	8
Don't know	9

iv. What problem did you present? …….. ☐☐ 17

Coded in the same way as section 2a (box 11)

v. What type of treatment did you receive? ☐☐ 18

Coded in the same as section 2a (box 12)

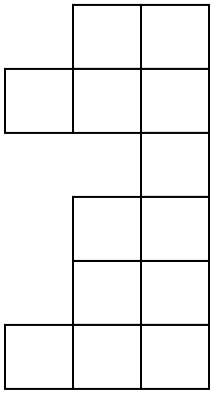
vi. What was the duration of your journey to the care provider? …hours

…… ☐☐☐ 19

Coded in the same way as section 2a (box 13).

II. <u>The Third Care Provider</u>

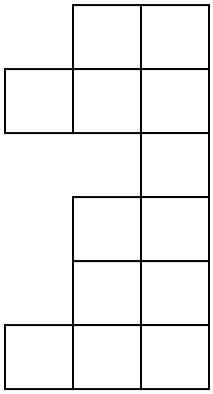
Coded as section 2b above (boxes 14-19)



20
21
22
23
24
25

III. <u>The Forth Care Provider</u>

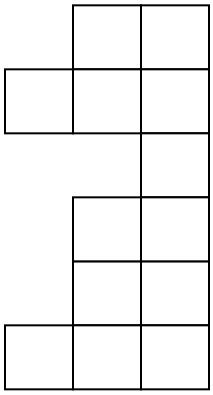
Coded as section 2b above (boxes 14-19)



26
27
28
29
30
31

IV. <u>The Fifth Care Provider</u>

Coded as section 2b above (boxes 14-19)

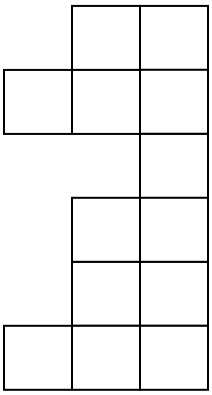


32
33
34
35
36
37

V. <u>The Sixth Care Provider</u>

Coded as section 2b above (boxes 14-19)

.

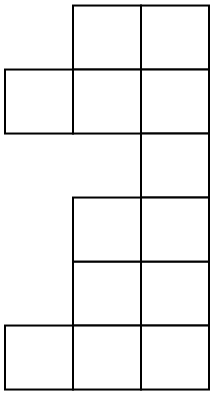


38
39
40
41
42
43

VI. <u>The Seventh Care Provider</u>

Coded as section 2b above (boxes 14-19)

.



44
45
46
47
48
49

VII. <u>The Eighth Care Provider</u>

Coded as section 2b above (boxes 14-19)

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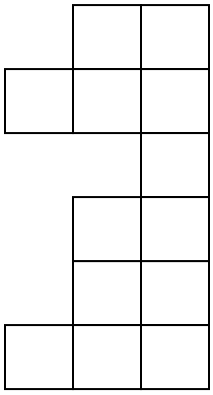

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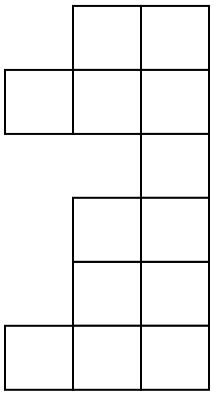
VIII. <u>The Nineth Care Provider</u>

Coded as section 2b above (boxes 14-19)



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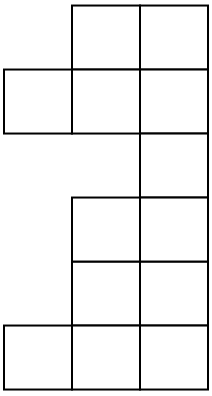
IX. <u>The Tenth Care Provider</u>

Coded as section 2b above (boxes 14-19)



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<u>Section 2c: Mental Health Professional's ICD – 10 diagnosis</u>

i. First diagnosis …… 68

ii. Second diagnosis (if any) …… 69

If there is no second diagnosis the code in box 69 is 0000

Compiled by: …….. (Initials) Date: … …. Coded by: …… (Initials) Date……

Appendix 3(b): Mafunso Okhudza Njira Zopezera Chithandizo – Mafunso a m'Chichewa

Gawo 1. Zizindikiro za Atengambali/Ofunsidwa mafunso

i.Nambala ya Mtengambali | | | | 1

ii.Muli ndi zaka zingati? | | | 2

iii.Chibadwidwe | | 3

Yankho	**Nambala**
Mwamuna	1
Mkazi	2

iv. Kodi muli pa banja kapena ayi? | | 4

Yankho	**Nambala**
Pabanja	1
Banja linatha	2
Sali pabanja	3
Anapatukana	4

v.Maphunziro anu munafika pati? | | 5

Yankho	**Nambala**
Sanaphunzire	1
Pulayimale	2
Sekondale	3
Koleji	4

vi.Mumagwira ntchito yanji? ☐ 6

Yankho	**Nambala**
Yolembedwa	1
Yabizinesi	2
Mlimi	3

vii. Ndinu a mtundu wanji? ☐ 7

Yankho	**Nambala**
Yao	1
Chewa	2
Tumbuka	3
Lomwe	4

Ngoni 5

Sena 6

Wina….. (Tchulani) 9

Gawo 2a. Maganizo oyamba Ofunafuna Thandizo

i. Kodi matenda anu anayamba liti? …… (Tsiku, mwezi ndi chaka) /------/------/-----/

(Tsimikizani poyang'ana mu passport book)

ii.a) Kodi matenda atayamba, zinatenga nthawi yayitali bwanji kuti mukalandire thandizo loyamba?

Sabata ……..…… | | | | 8

Ngati sabata sinakwane, lembani 000

Sakudziwa 999

b).Ndi liti limene munalandira thandizo loyamba? Date, mwezi ndi chaka /-----/-----/-----/

(Tsimikizani poyang'ana mu health passport book)

iii.Kodi thandizo loyamba munalandira kwandani ? | | | 9

Yankho	**Nambala**
Sing'anga	01

Munthu wachipembedzo 02

Mlangizi wa za umoyo 03

Dokotala wa matenda osiyanasiyana 04

Namwino wa kudera 05

Namwino wa za misala 06

Kiliniko Ofesala wa za misala 07

Wogwira ntchito za chisamaliro cha anthu 08

Khoti la malamulo 09

Apolisi 10

Ena….. (Tchulani) 88

iii.Ndani anaganiza zoti mukalandire thandizo? ☐ 10

Yankho	**Nambala**
Wodwala	1
Wakubanja	2
Ena (Tchulani)	3

Sakudziwa 9

iv. Kodi vuto lalikulu linali chiyani? …..…… | | | 11

…… | | | 11

……. | | | 11

…… | | | 11

Zizindikiro za M'malingaliro	Nambala	Zizindikiro za M'thupi	Nambala
Kukhumudwa	01	Kupweteka kwa Mutu	10
Nkhawa	02	Kupweteka M'mimba	11
Zizindikiro za Misala	03	Kupweteka msana/pachifuwa	12
Njirinjiri/chifufu	04	Kufooka	13
Kufuna kudzipha	05	Kutentha thupi	17
Khalidwe lolusa	06	Chizungulire	18
Khalidwe lina losokonekera	07	Kukanika kugona	19
Mavuto okhudza zoledzeretsa	08	Chifuwa	20
Mavuto okhudza mankhwala ozunguza bongo	09	Zizindikiro zina za m'thupi	21

Zina (Tchulani) 88 Sakudziwa 99

vi.Munalandira thandizo lotani? | | | | 12

Thandizo lalikulu	**Nambala**
Sanalandire thandizo	01
Thandizo la matenda a m'thupi	02
Uphungu	03
Mapemphero/Chilimbukitso mu uzimu	04
Mankhwala achikuda	05
Mankhwala opha ululu	06
Mankhawala ochepetsa njirinjiri	07
Mankhwala ochepetsa nkhawa/kukhumudwa	08
Mankhawala ochepetsa misala	09
Ena (Tchulani)	88
Sakudziwa	99

vii. Ulendo wokalandira thandizo unakutengerani nthawi yaitali bwanji?

Maola …… | | | | 13

Ngati ola silinathe lembani 000

Sakudziwa 999

Gawo 2b:

I. Mthandizi Wachiwiri

i.Kodi thandizo lachiwiri munalandira kwa ndani ? …… | | | 14

Lembani ngati mu Gawo 2a, (bokosi la 9)

Ngati wodwala anafika polandira thandizo kuchipatala cha matenda a mu ubongo/maganizo mugawo 2a ndiye kuti zonse zathera pomwepa ndipo mabokosi onse otsatira alembedwe 0.

ii.a) Munatenga nthawi yayitali bwanji kuti muonane ndi nthandizi wachiwiri kuchokera pamene munaonana ndi mthandizi oyamba? Weeks …… | | | | 15

Lembani ngati mu Gawo 2a, (bokosi la 8).

iii. Ndani anaganiza zoti mukalandire thandizo kwa mthandizi wachiwiriyu? … | | 16

Yankho	**Nambala**
Mthandzizi woyamba	1
Wodwala	2
Ena (Tchulani)	8
Sakudziwa	9

iv.Kodi vuto lalikulu lomwe munali nalo ndi lotani? …… …… 17

Lembani ngati mu Gawo 2a (bokosi la 11)

v. Ndi thandizo lotani limene munalandira? 18

Lembani ngati mu Gawo 2a (bokosi la 12)

vi. Ulendo wokalandira thandizo unatalika bwanji? Maola…… 19

Lembani ngati mu Gawo 2a (bokosi la 13).

II. Mthandizi wachitatu

Lembani ngati mugawo 2b (bokosi14-19) 20

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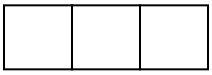
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III. <u>Mthandizi wachinayi</u>

Lembani ngati mugawo 2b (bokosi14-19)

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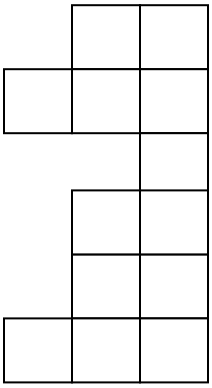
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IV. <u>Mthandizi wachisanu</u>

Lembani ngati mugawo 2b (bokosi14-19)

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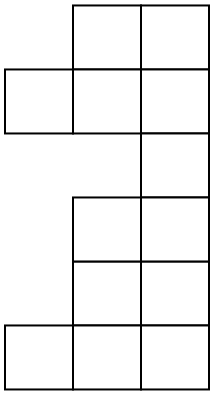
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V. <u>Mthandizi wachisanu ndi chimodzi</u>

Lembani ngati mugawo 2b (bokosi14-19)

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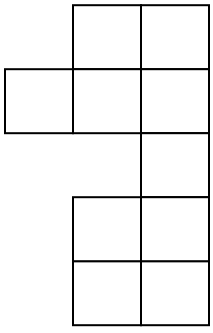
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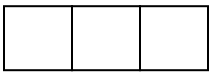

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VI. <u>Mthandizi wachisanu ndi chiwiri</u>

Lembani ngati mugawo 2b (bokosi14-19)

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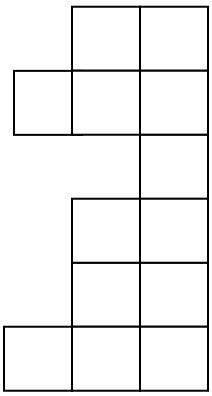

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VII. <u>Mthandizi wachisanu ndichitatu</u>

Lembani ngati mugawo 2b (bokosi14-19)

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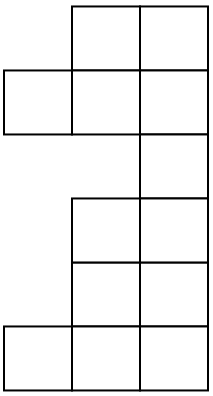

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VIII. <u>Mthandizi wachisanu ndi chinayi</u>

Lembani ngati mugawo 2b (bokosi14-19)

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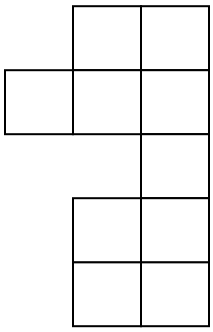

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IX. <u>Mthandizi wakhumi</u>

Lembani ngati mugawo 2b (bokosi14-19)

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<u>Gawo 2c: Nthenda (Mental Health Professional's ICD – 10 diagnosis)</u>

i. Nthenda yoyamba ……

				68

ii. Nthenda yachiwiri (ngati ilipo)……

				69

Ngati palibe, lembani 0000 mu bokosi 69

Compiled by :……(Initials) Date:…… Coded by: …… (Initials) Date……

Study Timeline: (April 2014 – October 2015)

Activity	**April to June**	**June to Nov**	**Nov to Jan**	**Feb to Mar**	**Mar to Jun**	**Jul**	**Aug to Oct**
Proposal writing	■						
Submission to COMREC		■					
Data collection			■				
Data entry				■			
Data analysis				■			
Report Writing					■		
Submission of report to internal and external examiners						■	
Defense and dissemination of findings							■

Kamuzu College of Nursing,

Private Bag 1,

Lilongwe.

26th June, 2014

The Director of Mental Health Services,

Zomba Mental Hospital,

P O. Box 38,

Zomba.

Dear Sir,

Application for Permission to Conduct a Research Study in your Facilities.

I write to request for permission to conduct a research study in the rehabilitation wards and the Out Patient's Department (OPD) of your facility. The title of the study is "Pathways to care for clients with first episode psychotic symptoms at Zomba Mental Hospital".

I am currently a student at Kamuzu College of Nursing pursuing a Master of Science Degree course in Community Health Nursing. In partial fulfillment of this course, I am required to conduct a research study on any topic related to the field. The results of the study will be used to understand the pathways to care taken by clients with psychotic symptoms in order to improve mental health care in Malawi.

Your consideration will be greatly appreciated.

Yours faithfully

Ditress Nyirongo.

(Student Researcher)

CERTIFICATE OF ETHICS APPROVAL

This is to certify that the College of Medicine Research and Ethics Committee (COMREC) has reviewed and approved a study entitled:

P.07/14/1606 – Pathways to care for clients with first episode psychotic disorders at Zomba Mental Hospital by Ditress Nyirongo

On 13 November 2014

As you proceed with the implementation of your study, we would like you to adhere to international ethical guidelines, national guidelines and all requirements by COMREC as indicated on the next page

Dr. V. Mwapasa- Chairperson (COMREC)

Approved by
College of Medicine
13 NOV 2014
(COMREC)
Research and Ethics Committee

13/11/14
Date