# Missed opportunities to address mental health of people living with HIV in Zomba, Malawi: A cross-sectional clinic survey

By

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## DECLARATION

I, **HARRY HENRY KAWIYA**, hereby state that the work presented in this study is innovative work **(apart from that where acknowledgements indicate otherwise)** and that it has never been submitted at any other university, institution or tertiary education, or examining body for academic purposes.

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I do not forget the **Almighty God** for the gift of life and making it possible for me to finish this course. God you had all the powers to give this chance of school to somebody else (Deuteronomy 8: 11-20).

## DEDICATION

I devote this study to my late parents and my elder siblings who have been supportive to me during my hard times

## ABSTRACT

**Background.** Common mental disorders (CMDs), including depression and anxiety disorders, and risky alcohol use are highly prevalent among people living with HIV. Yet, many studies have found that most people who suffer from mental disorders do not receive treatment, especially in low-income countries. Given people living with HIV frequent health services, this represents a missed opportunity for identification and treatment that could improve physical and mental health outcomes. The aim of this study was to identify missed opportunities to address mental health of people living with HIV in Malawi.

Four types of missed opportunities were operationalised for this study. The first two address missed opportunities for screening or identification For missed opportunity #1, a respondent had to screen positive for mental health problem (depression/anxiety or alcohol use ; and in any of their visits to the clinic in the past 12 months, the clinical officer or nurse did not ask about their mental health. Missed opportunity definition #2 was a more nuanced missed opportunity for identification of probable mental health problems. A respondent had to be undetected for mental health problems; and in any of his or her visits to the clinic in the past 12 months, the clinical officer or nurse did not ask about his or her mental health and s/he wanted to receive advice or treatment about his or her mental health problems. The second to definitions address missed opportunities for treatment. For missed opportunity definition #3, a respondent had to screen positive for mental health problem and if in any of his or her visits to the clinic in the past 12 months, and s/he did not receive advice or treatment. For missed opportunity definition #4, a more nuanced missed opportunity for the treatment of probable mental health problem: a respondent had to screen positive for a mental health problem; s/he wanted to receive advice or treatment about his or her mental health problems/alcohol use; and in any of their visits to the clinic in the past 12 months, s/he did not receive treatment for a mental disorder/risky alcohol use.

**Methods.** A a random of participants receiving HIV care were approached while they were waiting for their consultation at three ART clinics namely: Tisungane, Matawale and Domasi. Those who consented to participants were interviewed in a private room. The Self-Reporting Questionnaire-20 (SRQ-20) and the Alcohol Use Disorders Identification Test (AUDIT) were used to detect probable cases of CMDs and clients consuming alcohol at risky levels. Following

administration of the SRQ-20 and AUDIT, participants were asked if clinical officers (COs) or nurses inquired about their feelings (sad or worried) or alcohol consumption during their routine visits to ART clinics, thus eliciting data on identification by healthcare workers or identification of CMD symptoms. The participants were also asked whether advice or treatment was recommended and whether they would have liked to receive advice or treatment regarding their feelings or risky alcohol use. Descriptive statistics were utilized to calculate prevalence estimates of missed opportunities and multiple logistic regression models were used to determine the factors associated with missed opportunities for mental health service provision.

**Results.** The study had 382 participants. The proportion of participants who screened at risk was 77 (20.2%) for probable CMDs and 16 (4.2%) for risky alcohol use. The proportion of participants who screened at risk for any mental health problem (depression, anxiety and risky alcohol use) was 87 (22.8%). Participants who were asked by clinical officers and nurses about CMD symptoms and alcohol use were 92 (24.1%) and 89 (23.3%) respectively. Of the entire sample, 351 (91.9%) participants wanted to receive advice or treatment and 26 (29.9%) received advice or treatment. Missed opportunities to address the mental health of people living with HIV were found to be as follows: definition #1, 40 participants (46.0%); definition #2, 35 participants (40.2%); definition #3, 87 participants (100%) and definition #4, 66 participants (75.9%). After adjusting for other variables in the model female gender was significantly associated with missed opportunity definition #1. After adjusting for other variables in the model female participants were more likely to meet criteria for missed opportunity definition #2 than male participants. Furthermore, older participants were less likely to meet criteria for missed opportunity definition #2 compared to younger participants. Participants who were employed were less likely to meet criteria for missed opportunity definition #2. In the same vein, participants who were spending less were less likely to meet criteria for missed opportunity definition #2. Given all participants met criteria, we were unable to develop logistic regression models. There were no significant associations for missed opportunity definition #4.

**Conclusion.** Approximately one fifth of the sample recruited screened at risk for CMDs and most clients wanted to receive advice or treatment. Despite over 40% of the participants reporting being asked about CMD symptoms, PHC workers did not provide advice or treatments to 75.9% of clients. There is need to advocate for screening of mental health problems including alcohol use and treatment in all ART clinics in Malawi.

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## LIST OF ABBREVIATIONS

| | |
|---|---|
| ART | Antiretroviral Therapy |
| AUDIT | Alcohol Use Disorders Identification Test |
| CMD | Common Mental Disorder |
| CO | Clinical Officer |
| DHSS | Director of Health and Social Services |
| HAART | Highly active antiretroviral therapy |
| MO | Missed opportunity |
| PHC | Primary Health Care |
| SRQ-20 | Self-Reporting Questionnaire |
| WHO | World Health Organisation |
| ZCH | Zomba Central Hospital |
| ZMH | Zomba Mental Hospital |

# CHAPTER 1: INTRODUCTION

Common mental disorders (depression and anxiety) are highly prevalent among people living with HIV[1]. A systematic review that included 23 quantitative studies published between 1994 and 2008 that was looking at mental health of people living with HIV in Africa reported that about half of the people who were sampled had some form of mental health problem [2]. Depression was a frequently reported mental disorder among people living with HIV [2]. A study that was done in South Africa found an overall prevalence of depression and alcohol abuse of 14% and 7%, respectively, among people living with HIV [3].

Despite this high prevalence, many studies have found substantial evidence that many people who suffer from mental illness, including those living with HIV, do not receive treatment for mental health problems. A systematic review of community-based psychiatric epidemiological surveys that were published since 1980 reported that 56.3% of participants among general population who had met conditions for major depression and 57.5% of study participants who had met criteria for general anxiety disorder did not receive treatment. [4]. The treatment gap was also large among those who had met criteria for alcohol abuse and dependence, as 78.1% of participants with this disorder did not receive treatment. Similar findings were reported by the World Mental Health (WMH) surveys that were conducted in 21 countries of WMH. The WMH survey found that, of the 27.6% of study participants who had received any treatment for mental illness, more than 90% did not receive satisfactory treatment [5].

One of the primary contributors to the many people who suffer from mental illness not to receive satisfactory treatment is shortage of trained health workers [6]. In order to address this problem, the strategy of integrating mental healthcare into general primary care settings through task-sharing has been widely advocated [7]. Task-sharing can be defined as providing an opportunity for non-mental healthcare workers to perform the tasks of a specialist mental healthcare worker through appropriate training and supervision [8]. Many countries have employed the World Health Organisation (WHO) mental health Gap Action Programme Intervention Guide (mhGAP-IG) to assist them in integrating mental health into general primary services in this way. For instance, in Nigeria, the mhGAP-IG was started in eight local areas for a period of 18 months and the project reported improvement in knowledge and skills of non-specialist healthcare

workers [9]. Similarly, Epilepsy services through mhGAP were also successfully implemented in rural China [9].

In Malawi, several government health documents have highlighted mental health as an integral part of healthcare system. For example, the Health Sector Strategic Plan I and II (HSSP I and II) for Malawi incorporated mental health within non-communicable diseases [10]. Despite HSSP I and II officially recognising the importance of addressing mental disorders, study findings point to poor detection rates. For example, a study conducted in Malawi that sampled 323 clients attending a general primary health care (PHC) clinic found that 20.1% of clients met the criteria for probable CMD, yet no one was identified by PHC staff [11]. Despite that some local studies have reported poor screening of mental health problems among primary healthcare workers, two local studies reported improvement in knowledge after training. For example, a study that was evaluating mhGAP training for primary healthcare workers in Mulanje, Malawi found significant improvement in knowledge from mean scores of 11.8 on a knowledge scale prior to training to 15.1 soon after training[12]. Similarly, another local study that was looking at training of PHC workers in mental health and its impact on diagnoses of CMDs in primary care found a significant improvement on detection rate by primary healthcare workers from 0% to 9.2% [13].

The definition of missed opportunities utilized in most studies has centred on failure to receive services despite meeting the criteria for a mental disorder [14]. For instance, a study that was done in South Africa used two definitions of missed opportunities. The first definition was when a client was at risk for mental illness but a doctor or a nurse did not assess the client during their visit to the clinic [14]. The second definition for missed opportunity was defined if clients had met definition one, and the client had indicated whether s/he needed information about mental illness [14]. Similarly, a study that was looking at missed opportunities to screen for risky alcohol use in women's health settings defined missed opportunity as failure of healthcare provider to ask or screen for risky alcohol use and offer brief intervention on alcohol use [15]. In this study a missed opportunity was defined as follows: if, during any of their visits to the ART clinic in the last twelve months, the clinical officer or nurse asked the client about his or her feelings, such as 'sadness or worrying' or alcohol use to determine whether the respondent was screened or enquired.

There is no routine screening or enquiry of mental health problems of people living with HIV. Furthermore, mental health problems are not addressed during their routine visit to antiretroviral therapy (ART) clinics. Yet, an investigation into the missed opportunities to address the mental health of people living with HIV during routine ART visits in Zomba Malawi could provide valuable insight into the magnitude of mental health needs, and potential for further intervention.

### 1.2 Aims and objectives

This study primarily aims to determine the missed opportunities to address the mental health of people living with HIV during routine antiretroviral therapy clinic visits in Zomba, Malawi.

### 1.3 Specific objectives

- To estimate the prevalence of probable common mental disorders (depression and anxiety disorder) and risky alcohol use among people living with HIV attending three ART clinics in Zomba, Malawi.
- To determine missed opportunities to address the mental health needs of people living with HIV attending ART clinics in Zomba, Malawi.
- To investigate the factors associated with missed opportunities to address the mental health needs of people living with HIV attending ART clinics in Zomba, Malawi.

# CHAPTER 2 LITERATURE REVIEW

## 2.1 Introduction

The literature review will begin by discussing the global and local prevalence of probable common mental disorders (CMDs), namely depression, anxiety and risky alcohol use, among the general population, and then will focus on the prevalence of CMDs among people living with HIV specifically. The mental health treatment gap will then be highlighted and barriers to mental health services will be discussed. It will then proceed to a discussion of the detection rates of mental disorders by general healthcare workers and missed opportunities in addressing mental health needs.

## 2.2 Prevalence of mental disorders

Numerous studies have examined the prevalence of CMDs in high-income countries (HICs) and low and middle-income countries (LMICs) [16]. The WHO World Mental Health (WMH) Surveys that were conducted in 28 countries found lifetime and 12-month DSM-IV disorder prevalence estimates between 18.1–36.1% and 9.8–19.1% respectively [16]. An epidemiological study of mental disorders that was conducted in 6 European countries found that lifetime history of any mood disorder, anxiety disorder and any alcohol use disorder was 14.0%, 13.6% and 5.2%, respectively [17]. Furthermore, the same study found that participants who had reported anxiety disorder, any mood disorder and any alcohol disorder in the past year was 6.0%, 4.2% and 1.0%, respectively [17]. However, the most common mental disorders reported in this study were major depression and specific phobia [17].

Studies that have been done in LMICs investigating the prevalence of CMDs have reported high prevalence of CMDs. In South Africa a nationally representative study reported lifetime and 12-month prevalence for CMDs was 30.3% and 16.7% respectively [18]. A population-based epidemiological survey that was conducted in a rural area of Kenya reported a point prevalence of CMDs to be 10.8% [19]. Another Kenyan study that was looking for prevalence, types and comorbidity of mental disorders found prevalence of major depressive disorder and generalised anxiety disorder to be 26.3% and 9.3% respectively [20]. There was low prevalence of CMDs in a cross-sectional community study that was conducted in Eastern Ethiopia that had sampled 968

participants. This Ethiopian study found prevalence of CMDs among adults to be 14.9% [21]. A review of 12 studies for prevalence and risk factors for depression that was conducted in Ethiopia found that five studies that had used CIDI to collect data reported pooled prevalence of depression to be 6.8% [22]. Lifetime and 12-month prevalence of CMDs in the Nigerian survey of Mental Health and Well-Being were lower than those reported in South Africa, where lifetime and 12-month prevalence was found to be 12.1% and 5.8% respectively [23].

In Malawi, although there have not been any nationally representative or community studies focusing on the prevalence of CMDs, a few studies have been conducted in primary healthcare (PHC) facilities. One study was done in all 18 PHC facilities in one of the 28 districts of Malawi found that the prevalence of probable CMDs was 28.8% [13]. Another local study that was conducted in two PHC clinics found slightly lower prevalence compared to the one was conducted in 18 PHC facilities. The other local study found prevalence of probable CMDs to be 20.1% [11].

### 2.3 Prevalence of CMDs among PLWHA

Despite the range of prevalence reported across settings, research has found that certain populations are consistently at higher risk of developing mental disorders, and people living with HIV are reported to be at higher risk than general populations without HIV[2].Worldwide, several studies have been done investigating the occurrence of CMDs among people living with HIV receiving care in ART settings. A systematic review that included 23 quantitative studies on the mental health of PLWHAs adults in Africa, published between 1994 and 2008, found that prevalence of mental disorders among people living with HIV ranged from 44.0% to 58.0%, with depression being the most commonly reported disorder ranging from 20.0% to 35.0% [2].

Another Sub-Saharan African systematic review that included 105 papers published after 2005 on mental health among people who are living with HIV found a prevalence of any mental disorder of 19.0% [24]. However, a systematic review and meta-analysis of epidemiology of depression that reviewed 19 Eastern Africa studies among people living with HIV found high prevalence of depression compared to systematic review that was conducted in Sub-Saharan

African. The systematic review of Eastern African found pooled prevalence of depression at 38.0% [25].

A few studies conducted in Africa have investigated the prevalence of depression and anxiety specifically among people living with HIV (see table 1). For example, a study that was done in South Africa found the overall prevalence of these mental disorders among people living with HIV was 43.7% [26]. A study that was done in Nigeria among people living with HIV found a 12-month prevalence of depression of 28.2% [27]. However, a low prevalence of depression was reported in another Nigerian study that was conducted among clients attending HIV clinics. The study found the prevalence of depressive episodes and anxiety disorders to be at 14.9% and 8.1%, respectively [28]. A higher prevalence of probable depression was found among those that were newly diagnosed with HIV in Cameroon, estimated at 63.0% [29]. Furthermore, a Zimbabwean study reported prevalence of probable CMDs, and depression was high among people living with HIV compared to those that were not living with HIV. The study found prevalence of CMDs and depression among people living with HIV at 67.9% and 68.5% versus 51.4% and 47.2 % among those that were not living with HIV respectively [30]. A study that was done in Ethiopia found that 41.2% and 32.4% of people living with HIV had depression and anxiety, respectively, and 24.5% had comorbid depression and anxiety [28].

Some studies conducted in Africa have also reported high alcohol use disorder among people living with HIV. A study that was conducted in South Africa that surveyed 136 people living with HIV found 33.0% of participants screened positive for an alcohol use disorder [31]. Findings from the Nigerian study on alcohol use among 1118 people living with HIV in three HIV treatment clinics reported a much lower 12-month prevalence compared to results from South African study: harmful alcohol use, alcohol abuse and alcohol dependence was estimated to be at 7.8%, 7.0% and 2.2% respectively [29].

In Malawi, very few research studies have been done on the prevalence of probable CMDs and alcohol use among PLWHAs. The first study done was in the city of Mzuzu in the northern part of Malawi, where the prevalence of psychological distress among PLWHAs who were receiving care in ART clinics was found to be 14.4% [32]. Another study done in one of the main HIV

clinics in Lilongwe the capital city of Malawi, found prevalence of probable depression to be at 12.0% [33]. The overall prevalence of alcohol abuse among people living with HIV in Malawi urban areas was found to be as high as 31.0% [34].

**Table 1 Published Studies on CMDs among people living with HIV**

| Published Paper | Year | Country | Type of CMD | Sample size | Sampling Methods | Tools used to measure CMD | Prevalence found |
|---|---|---|---|---|---|---|---|
| Alcohol use disorder and associated factors among human immunodeficiency virus infected patients | 2018 | Ethiopia | Alcohol use | 527 | Systematic sampling | AUDIT | 14.7% |
| Depression, suicidality, and alcohol use disorder among people living with HIV/AIDS in Nigeria | 2017 | Nigeria | Depression & Alcohol use | 1187 | Stratified random sampling | WHO World Mental Health CIDI | 28.2%/ 7.8% |
| Depression and alcohol use disorder at antiretroviral therapy initiation led to disengagement from care in South Africa | 2017 | South Africa | Depression & Alcohol | 136 | Sequential | HADS/CAGE | 33.0%/33.0% |
| Prevalence and correlates of probable common mental disorders in a population with high prevalence of HIV in Zimbabwe | 2016 | Zimbabwe | Depression | 264 | Systematic random | SSQ-14/PHQ-9 | 68.5% |
| Prevalence and correlates of depression and anxiety among patients with HIV on-follow up at Alert Hospital, Addis Ababa, Ethiopia | 2016 | Ethiopia | Depression/ Anxiety | 307 | Systematic sampling | HADS | 24.5% |
| Alcohol Consumption among HIV-Infected Persons in a Large Urban HIV Clinic in Kampala Uganda | 2015 | Uganda | Alcohol use | 725 | Systematic sampling | AUDIT | 18.6% |
| Prevalence and correlates of depressive symptoms in HIV-positive patients: a cross-sectional study | 2013 | Cameroon | Depression | 100 | Convenient & consecutive | PHQ-9/CAGE | 63.0% |
| Prevalence and correlates of probable depression diagnosis and suicidal ideation among patients receiving HIV care in Lilongwe Malawi | 2013 | Malawi | Depression | 206 | Every third client | PHQ-9 | 12.0% |
| Factors associated with depressive symptoms in people living with HIV attending antiretroviral clinic | 2012 | Ethiopia | Depression | 390 | | CES-D | 76.7% |
| Prevalence and Predictors of Depression in People living with HIV/AIDS Attending an Outpatient Clinic in Nigeria | 2011 | Nigeria | Depression | 130 | Consecutive patient | SCID | 23.1% |
| The prevalence of psychological distress and associated factors among people living with Aids attending antiretroviral therapy clinics in Mzuzu, Malawi | 2006 | Malawi | Depression | 438 | Systematic sampling | SRQ-20 | 14.1% |

## 2.4 Mental health treatment gap

Many studies have found substantial evidence pointing to a massive treatment gap for mental disorders in all countries where studies have been conducted. Despite the high prevalence of depression, anxiety and risky alcohol use among people living with HIV, many clients who would benefit from mental health services, do not receive evidence based care [1].

The WMH surveys conducted in 21 countries found that, among the 9.8% individuals who reported a 12-month DSM-IV anxiety disorder, 72.7% did not receive treatment, and more than 90.2% did not receive adequate treatment [5]. It was interesting to note that World Mental Health survey found that, within the European Union, the Netherlands had the highest number of clients who did not receive treatment, estimated at 49.8% [35]. A Japanese study reported that 21.9% of participants who had a 12-month mental disorder did not seek treatment [36]. The same study found that 63.0% of individuals suffering from severe mental disorders did not receive treatment [36]. A study that was examining the prevalence of mental disorders in LMIC and unmet needs for treatment found that 76.3 to 85.4% of people who had mental illness did not receive any mental healthcare treatment [35].

A few studies that have been conducted among the adult general population in Africa explored the treatment gap. A nationwide representative survey done in South Africa found that only 25.2% of individuals who had suffered from mental disorder, according to the Diagnostic Statistical Manual 4$^{th}$ edition (DSM-IV), went to receive treatment within the previous 12 months [37]. A study that was conducted in Nigeria found that of the 12.1.0% of participants who had a DSM-IV mental disorder, only 8.0% received any treatment in the preceding 12 months [23]. Similarly, low rates of people with mental disorders who received effective treatment were found in Cameroon. The Cameroonian study found that only 12% of study participants reported to have received helpful or effective treatment for depression, despite experiencing symptoms [38]. Furthermore, the study found healthcare workers had not spoken to more than 60.0% of clients about depression [38]. Although the data is limited on treatment for mental disorders, similar findings have been found in Malawi. The prevalence of CMDs in Malawi is estimated at 10.0 to 20.0%, and most of these clients are often missed or not treated in the general healthcare setting [10]. A study that was conducted

at one of the PHC clinics in Zomba in Southern Malawi found that no client received treatment for CMDs despite the study reporting 20.1% prevalence of probable CMDs [11]. Another local study reported a prevalence of depression at 30.3% but no client received treatment from PHC workers [39]. Thus, the evidence suggests that many people with probable CMDs do not access evidence-based treatment, and this despite availability of effective treatment. No studies have been conducted on mental health treatment gap among people living with HIV in Malawi.

Studies have found that few people living with HIV who have mental disorders and abuse alcohol receive treatment, and those who do receive treatment do not receive adequate treatment. A study that was conducted in Iran found more than 58.0% of people living with HIV who had mental disorders did not use mental health services [40]. Furthermore, for those that had received treatment, 53.0% did not receive adequate mental health treatment [40]. Another study which investigated the utilization of mental health and substance abuse treatment for people living with HIV in the United States of America (USA) found 67.0% of participants did not receive concurrent treatment for either mental disorder or substance abuse [41].

Despite most studies reporting few people receive treatment for mental illness among people living with HIV, a survey which looked at screening and management of mental disorders and substance use disorders in HIV treatment centres in the Caribbean, Central and South America, Asia-Pacific and sub-Saharan African countries reported high mental health services provision in the ART clinics . The survey found 70.0% of study sites managed depression on site [42]. The survey also found availability of selective reuptake inhibitors, benzodiazepine and other medications for management of psychiatric illness was at 52.0%, 81.0% and 71.0% respectively [42]. In the same vein a study that was looking for service priority and unmet services reported almost complete service provision on alcohol anonymous services [43]. The study found service provision at 97.8%[43] .

### 2.5 Barriers to provision of mental health services

Several barriers have been documented in the literature which hinder clients from accessing treatment for mental disorders. This section will focus on the following: 1) mental health

policies; 2) mental health financing and budget allocation; 3) shortage of human resources for mental health; and 4) stigma associated with mental disorders in the general population including healthcare workers.

### 2.5.1 Mental health policies

According to WHO, mental health policy is very important in the provision of mental health services. If mental health policy is clearly written and explained, it can help to coordinate important provision of services to ensure that treatment and care is offered to clients who require it, and can help avoid fragmentation in mental health care [9]. Developing a mental health policy is also a vital step in mobilizing financial and human resources for mental health. WHO Mental Health Atlas Survey 2017 found only 72.0% of member states had stand-alone policy or plan for mental health; 43.0% had no standalone mental health law [9]. Furthermore, the Mental Health Atlas 2017 reported that more than 60.0% of all WHO Member States have not developed or updated their law for mental health in line with international and regional human rights instruments [44]. A review of mental health policies from Commonwealth countries found less than half of Commonwealth countries had no mental health policy, and only 25.0% of countries had adopted mental health policy after 2011 [45]. A study that evaluated the WHO Assessment Instrument for Mental Health Systems in four countries, namely Iraq, Japan, the Philippines and former Yugoslav Republic of Macedonia, found that only former Yugoslav Republic of Macedonia did not have a mental health policy [46]. Despite the availability of mental health policy in countries, most of client care is in-patient and mostly concentrated in cities. For example, in Philippines 77.0% of in-patient beds are in the city [46].

It is interesting to note that the general health policy of Ministry of Health in Malawi does not specifically mention mental health issues [47]. However, recently some developments in mental health have taken place in Ministry of Health in Malawi. For example, mental health policy has been revised though it is yet to be launched. Since Malawi was using outdated mental health policy with no accompanying plan to implement the policy, it is not surprising that most people with mental disorders in Malawi are not accessing the care they need. This new mental health policy has not yet been launched officially. Secondly, initially mental

health was not included in the essential health package (EHP), but the Health Sector Strategic Plan II has addressed this gap [10]. Thirdly, development and launch of alcohol policy. Fourthly, the College of medicine which is under the University of Malawi is now offering a MMED for psychiatry. Furthermore, St. John of God College of Health Sciences is offering specialised degree courses in mental health for clinical officers and nurses. However, despite these developments, there are still some challenges that are affecting mental health services in Malawi. For example, there is no establishment of counsellors in ministry of health. Shortage of mental health specialists including psychiatrists in Malawi remains a problem. Malawi has three psychiatrists currently working in public hospitals. Mental health services have not been fully integrated into general primary care.

### 2.5.2 Mental health financing and budget

Some studies have found that even when there is a policy and plan for mental health, budget and financing is inadequate. A study whose aim was to describe the status quo regarding federal budgets and financing of mental health care at the country level found only 68.0% of 191 countries had a specified budget for mental health [48]. Furthermore, Mental Health Atlas 2017 found that average global mental health expenditure per capita is US$ 2.5, which was less than 2% of whole budget for health [44]. The Mental health action plan 2013-2020 reported that, annually, less than US$2 is spent on one person who has mental illness globally and as low as US$.25 per person in low-income countries specifically [49]. Similar findings were reported in another study for mental disorders among adults in LMICs. This study did a selective review of studies that were conducted since 2001 in low-income countries (LICs). The study found that most LICs invest less than 1.0% in mental health out of the total budget for health [50]. In a study evaluating WHO-AIMS across four countries, Philippine's budget was the lowest, estimated at 0.02% of total health budget[46]. Another study found that money spent on mental health by government in most countries is far less than what is required [51]. Information regarding mental health programmes and indicators for resources from 89 countries found 32.0% had no budget specifically for mental health [48]. Furthermore, 36.0% of countries were spending less than 1.0% of the whole health budget on mental health [48]. This study further found that resources for mental health

services in countries that are very poor spend a very small percentage of their overall health budgets on mental health [48].

In Malawi, financing and expenditure for mental health services is not different from other LMICs. Mental health expenditure by government in Malawi is 1.0% of the total budget for ministry of health [47]. This budget mostly goes to specialised services especially for the tertiary service's mental hospital. Malawi Health Sector Strategic Plan II (HSSP) does not clearly show specific funding allocated for primary mental healthcare. Primary mental healthcare funding is within general healthcare and mostly directed towards procurement of basic medicine [10]. This small percentage of the budget spending on mental health services is a form of structural stigma, defined as a lack of policies, legislations that help to defend rights of people with mental disorders [52].

### 2.5.3 Stigma associated with mental disorders

Although many frameworks are described in the literature conceptualizing stigma, the framework developed by Thornicroft and colleagues is commonly used in global mental health [53]. Stigma is and described as being a broad umbrella term that includes three components: problems of knowledge, problems of attitudes and discrimination [53]. These components can be utilized when describing both public and self-stigma. Self-stigma refers to a person's individualised negative beliefs about himself or herself [54], also referred to as the reactions of people who belong to a denounced group and turn the stigmatizing attitudes against themselves. On the other hand, public stigma can be defined as reactions of the public towards a certain group of people due to a negative belief [54].

Most of the research investigating knowledge of mental illness stems from the work of Anthony Jorm on mental health literacy (MHL). Jorm defines MHL as "knowledge and beliefs about mental illness that help their recognition, prevention and management" [55]. Globally studies have found that the public has poor MHL towards mental disorders. Severe mental disorders, for example schizophrenia, are more often seen as an expression of mental disorders than other conditions such as depressive episodes and substance use disorders [56]. For instance, a systematic review of 33 nationwide studies and 29 local and provincial

studies, mostly from Europe, found 69.0–88.0% of participants knew schizophrenia symptoms compared to 26.0– 69.0% who knew depression symptoms and 16.0-49.0% symptoms of alcoholism [56].

Several studies have investigated the attitudes of the general community and healthcare workers towards people who have mental disorders. For example, a study that was done in South Africa found that the community held more stigmatizing attitudes towards clients with severe mental disorders, for example, schizophrenia compared to those that have neurotic like disorders, for example, post-traumatic stress disorder (PTSD) [57]. Similarly, stigma was also found in study that was conducted in Nigeria. This Nigerian study was investigating social distance among community members towards people with mental disorders. This study found that 14.5% of participants had low intimacy towards people with mental disorders [56]. Similarly, another community study that was conducted in Nigeria found more than 96.0% of participants believed people with mental disorders were dangerous [58]. A cross-sectional survey in 27 countries with 732 participants, found that 47.0% had met discrimination in friendship making or keeping [59]. Interestingly 43.0% of participants experienced this stigma from their family members [59].

To the author's knowledge, there is only one published study and another conference published article that have been done in Malawi on the attitude towards people with mental disorders. One of these studies sampled 65 PHC workers in one of the nine central region districts of the country and used a stratified sampling technique to recruit different cadres of healthcare workers; these included nurses, clinical officers and medical assistants. All completed a self-report questionnaire, and 58.5% of participants reported a negative attitude towards people who had mental illness [60]. The second study was a cross-sectional survey which was conducted in general in Blantyre. This study adapted world psychiatric association program to reduce stigma and discrimination because of schizophrenia questionnaire to collect data. The study sampled 210 participants and found that more than 95.7% of participants attributed mental disorders to alcohol and illicit drug use [61]. Furthermore, newspaper article 2015 by Jarson Malowa reported high stigma among

community members towards people who have been discharged from the psychiatric hospital.

The implications of community and self-stigma have also been investigated and reported in the literature. For example, studies have reported poor help-seeking behaviour among people living, diminished sense of personal recovery, poor adherence to medication and poor psychosocial treatment attendance [52, 62-66].

### 2.5.4 Scarcity of human resources in mental health

Scarcity of trained mental healthcare workers is another barrier that people who have mental disorders face in accessing mental health services. In 2008, WHO in collaboration with PERFAR and UNAIDS reported insufficient numbers of expert psychiatric healthcare workers in low and middle-income (LMICs) countries to meet the demand for services [7]. There were similar findings from another study that found all LICs and close to 60.0% of the middle-income countries had insufficient professionals to deliver core package of mental health interventions [6]. The Mental health action plan 2013-2020 reported that inadequate numbers of specialised and non-specialised healthcare workers providing care to clients who have mental health disorders in LMICs, where on average, one psychiatrist serves more than 200 000 people [49]. Similarly, the WHO Atlas 2017 report indicates that the average number of psychiatrists per 100 000 globally in 2011, 2014 and 2017 was 1.3, 0.3 and 1.3 respectively [44]. A study that was conducted in South Africa found that the government 0.3 psychiatrists per 100 000 population [67]. Another South African study found that more than 60% of study sites did not employ a psychiatric nurse, and a population of 17 million was served by only 116 mental health nurses [68].

Despite most studies reporting a shortage of human resources in LMICs, there is some evidence that HIV services have more mental health resources than general healthcare facilities. One study spanning 95 sites from 29 LMICs, including 59 sites within Sub-Saharan Africa, found that 23.0% of study sites had a healthcare worker who was trained in mental health at an HIV clinic; 50.0% of these were physicians [42].

Specialised psychiatric healthcare services in Malawi are offered by psychiatrists, psychiatric clinical officers and psychiatric nurses (mental health nurses) [69]. Currently Malawi has

three psychiatrists, 50 mental health clinicians and 86 psychiatric nurses. Despite this increase of healthcare workers who provide mental services to people experiencing mental health problems, shortage is still a big challenge in Malawi. For example, Zomba mental hospital the only public psychiatric referral hospital with bed capacity of has only one psychiatrist and five mental health clinicians [70]. The challenges faced due to few specialised psychiatric healthcare workers was also identified by WHO in 2008, when WHO identified Malawi as one of the countries in Sub-Saharan Africa which had insufficient human resource for people who have mental disorders [9]. The shortage of mental healthcare workers actively doing mental health activities in Malawi is worsened by general shortage of healthcare workers [10]. Psychiatric nurses are frequently redistributed to general medical and surgical services, resulting in reduced delivery of psychiatric healthcare services in PHC and secondary healthcare [71]. The Ministry of Health in Malawi has 8457 (33.0%) vacant places for healthcare workers [10].

### 2.6 Integrating mental health into primary healthcare settings

Given the numerous barriers to the provision of high-quality mental health services globally and in Malawi specifically, the integration of mental health into general primary and community health services using a task-sharing approach is widely advocated. There are many benefits to integrating mental healthcare services into general healthcare services. In the first instance, this approach has been found to increase access to mental healthcare treatment for people who have mental disorders. For example, integration increases the opportunity to access services for those who otherwise would have little opportunity to access services [72]. Furthermore, the integration of mental healthcare services into general healthcare services can reduce stigma towards clients who have mental disorders. Several clients have both physical and psychological conditions (comorbid conditions) because PHC clinics are not specialised clinics for a disease therefore stigma is reduced if care is received from PHC workers. Integration reduces duration of the illness for the client with mental disorder since clients are not managed far from their homes. Clients do not have to walk long distance to access specialised mental health services thereby access health services early hence reducing duration of illness. Integrating mental health into general care services also can protect human rights of clients through prevention of admission to a psychiatric hospital

where their human rights might be abused. In the case of CMDs there may be better health outcomes for people if treated in PHC because PHC workers can provide care at a more appropriate level than in psychiatric hospitals. Integration of mental healthcare services into PHC reduces isolation of clients from their relative. Psychiatric hospitals are usually allocated far from client's homes, therefore contributing to isolation. Clients can easily access mental healthcare services close to their home if services are integrated. Integration reduces some cost on part of client and guardians. For example, cost of transport is reduced since PHC facilities usually are close to client homes. Finally, integration of services improves human resource capacity for mental health. Since globally there are a lot of people suffer from mental disorders with few specialised mental healthcare workers integration makes sense for them to access treatment and care [73].

To assist countries in integrating mental health services into general primary healthcare settings, the WHO Mental Health Gap Action Programme (mhGAP) proposed extension of services for mental, neurological and substance use disorders for countries, especially for LMICs [74]. The practical solution to improve access to care is through healthcare facilities that are already close to them, using a task-shifting strategy. Task sharing in mental healthcare is seen as a potential method for addressing the scarcity of healthcare workers and improving access to effective treatment [75]. Task-sharing in mental health can be defined as providing an opportunity for non-specialist mental healthcare workers to perform the tasks usually performed by a specialist mental healthcare worker, with training and ongoing supervision from the specialist [8].

Task-sharing is not a new concept in healthcare; it has been useful in other healthcare areas like HIV/AIDS care service, such as in Malawi and Uganda [8]. There are four levels of task-sharing, namely: *Task sharing I:* This involves extending the practice level of non-physician clinicians to adopt some tasks formerly undertaken by more qualified healthcare workers (e.g. medical doctors). *Task sharing II:* Extending the practice of non-specialised nurses and midwives to allow them to adopt some tasks formerly undertaken by qualified healthcare workers (e.g. non-physician clinicians and medical doctors). *Task sharing III:* Extending the practice of community health workers, allowing them to do some tasks

formerly undertaken by qualified healthcare workers (e.g. nurses and midwives, non-physician clinicians and medical doctors). *Task sharing IV:* People who have mental disorders are trained in self -management, adopt some tasks connected to their own care that would formerly have been done by healthcare workers[8].

Findings from studies show that task-sharing has already been adopted in different healthcare services and has shown improvement in access to care. A systematic review of task sharing for HIV treatment and care in Africa found that nurses who were trained in prescribing and dispensing medication had increased uptake of antiretroviral therapy (ART) for up to 20 000 clients in rural clinics [75]. A substantial increase in accessing ART was also reported in Zambia after intensive training in task-sharing, without compromising quality of care [75].

A systematic review of 182 articles on task-sharing to improve mental health care in rural and other low-resource settings found that 23.0 to 71.0% of community healthcare workers (CHWs) were involved in mental health delivery system through community outreach clinics [76]. Evidence from studies show that it improves outcome of clients through use of non-specialist healthcare workers. A systematic review that reviewed 38 studies from seven low income and 15 from middle income countries reported a rise in the number of adults who recovered from depression or anxiety, or both, 2-6 months after starting treatment from non-specialist healthcare workers (NSHWs) and other professionals with health roles [77]. This impact extends to perinatal mothers: in a cluster randomised controlled trial that was conducted in India, investigators reported an improvement in recovery from CMD among patients attending public primary care facilities accessing care provided by trained lay counsellors [78].

Research suggests that it is feasible and acceptable to integrate mental health into primary healthcare services using a task sharing approach. For example, a study investigating the acceptability and feasibility of using non-specialist health workers to deliver mental health care within primary healthcare found that it was suitable and achievable in five LMICs in Africa and Asia [79]. The acceptability and feasibility were also found in an Ethiopian study. The Ethiopia study found that 66.9% of PHC workers who had participated in this study

expressed interest in delivering mental healthcare [80]. Similarly, a study that was conducted in Cambodia among healthcare workers reported that 81.3% of participants supported integrating mental health services into PHC [81]. Nepalese study reported that all 24 primary healthcare workers who participated in three focus groups stated that integrating mental health into primary care setting would be ideal [82]. A Nigerian study reported that the integration of mental health care within PHC was suitable and possible for non-specialist healthcare workers, and significant improvement in case identification by healthcare workers was seen after training [83].

To integrate mental health into primary healthcare services, in 2010 a pilot project focusing on integrating mental health in the activities of community healthcare workers who are popularly known as Health Surveillance Assistants (HSAs) in Malawi was instituted [84]. An evaluation of the project reported that more than 98.0% of HSAs felt more equipped to provide mental health services after training [84]. Training included how to respond to people threatening to commit suicide and treatment monitoring of people with mental health problems. Similarly, another Malawian study that specifically evaluated knowledge gain among primary healthcare workers after participating in mhGAP training reported that knowledge had significantly increased after training [12].

### 2.7 Detection rate

Despite the global movement for integrating mental health into primary healthcare services, detection and treatment of mental disorders among general facilities remains low. For example, the general practitioners in Gaza Strip detected only 11.6% of patients with mental disorders [85]. Likewise, the general out-patient clinic doctors in Nigeria did not identify more than 93% of cases while fieldworkers using the General Health Questionnaire (GHQ-12) to screen for mental disorder symptoms identified 46.6% of cases [86]. The non-detection rate was worse in an Ethiopian study that found over 98.0% of cases with probable depression on the Patient Health Questionnaire (PHQ-9) screening tool were not detected by clinicians [87]. It has been argued that lack of skill, tools and inadequate time to assess clients contribute to under-recognition of mental disorders in primary care settings [88].

The majority of PHC workers in Malawi have difficulties in detecting probable CMDs among clients receiving care in PHC clinics. Some studies conducted in PHC clinics in Malawi found almost 0% detection rated of probable CMDs [11]. Likewise, a study which was looking at impact of training PHC workers in mental health found detection rate of anxiety and depression at baseline was 0% [13]. There was significant improvement in detection of depression and anxiety after training to 9.2% [13]. Health Sector Strategic Plan II for Malawi also reported that the majority of people with mental disorders, especially CMDs, who seek healthcare services in PHC facilities are misdiagnosed with a physical diagnosis due to the presenting physical symptoms [10]. In Malawi, the integration of mental health services into general healthcare services is still in progress, despite recommendations from WHO to integrate services. If the mental health needs of clients are not detected or identified and treated at PHC and ART clinics, the treatment gap for mental disorders would remain the same by not increasing coverage. However, if client mental health needs are not identified by the PHC worker, this could be considered a missed opportunity to provide services.

### 2.8 Missed Opportunity

For this study, a missed opportunity is defined as PHC workers not screening for or identifying mental health problems in a client at risk for mental health problems during routine visits to ART clinic. Additionally, a missed opportunity is also defined as when a client had indicated that s/he wanted to receive advice or treatment for CMDs or risky alcohol use but did not receive advice or treatment. Although many studies have investigated missed opportunities in various healthcare settings, only a few studies have focused specifically on missed opportunities for mental health services. For example, in the USA, Hettema and colleagues investigated missed opportunities for screening, brief interventions and referral to treatment (SBIRT) for risky alcohol use in women's health settings [15]. They found that among women who reported drinking alcohol, 30.0% were not assessed on the quantity of their alcohol consumption [15]. In the same study, 82.0% of women who were risky drinkers were not advised to cut down their drinking by health care provider [15]. Similarly, a study conducted among 880 individuals in the USA found that 65.0% of those

with a drinking problem reported having had a medical visit, 76.0% of which did not see their drinking problem being addressed during the medical visit [89].

In addition to missed opportunities to address alcohol use, a study conducted in South Africa investigated missed opportunities to address patient mental health needs in community clinics within Cape Town using stratified, cluster random sampling with 2618 participants [14]. This South African study had two definitions of missed opportunity. The first definition referred to a missed intervention, whereas the second definition referred to the situation where a client wanted information about health but did not receive an information [14]. The study found that 25.0% of participants met the criterion for first definition, while 46.0% of participants met criterion for the second definition [14].

In Malawi, although missed opportunities have not been investigated specifically using the definitions described by these authors, there is evidence that there are high levels of service utilisation in general services by patients with probable CMDs but that these often go undetected and untreated. This is even though Malawi's 2001 mental health policy advocates for the integration of mental healthcare into primary, secondary and tertiary levels [90]. The policy states that integration is to be done through formulation and organization of appropriate training for different levels of service providers. The aim is to improve awareness and skills for mental health service delivery [90]. Observation at Zomba Mental Hospital (ZMH), which is the only public referral mental hospital, has shown that PHC workers do not routinely screening all clients including ART clients during their routine visit. Clients with a mental disorder or a history of mental disorder are started on an Efavirenz-contained regimen, which is contraindicated to them (unpublished data from ZMH). However, a study that was conducted at two clinics in Lilongwe district reported the successful implementation of a screening process for depression among people living with HIV [91]. This study found that 88.3 to 93.2% of newly diagnosed clients with HIV had been screened for depression at each clinic respectively [91].

In conclusion, high prevalence of mental illness, and CMDs more specifically, has been reported among people living with HIV in the international literature and in studies

conducted in Malawi. However, many people living with HIV with a CMD go without being screened or identified. The present study therefore extended on the work, which was conducted in Malawi to address this gap, by investigating the mental health of people living with HIV which are usually not addressed by PHC workers during ART clients' routine clinic visits.

### 2.9 Rationale/justification of the research project

Many global studies have found a high prevalence of mental disorders in the general population and among PLWHA. Similarly, several studies among primary care and HIV/AIDS care clinics in Malawi have found a high prevalence of probable CMDs without being screened or identified despite frequent visits to PHC settings. These findings point to missed opportunities to offer mental health care to people living with HIV/AIDS. Some studies have investigated missed opportunities in various health fields namely: alcohol use disorder, general mental health. The findings from these studies show that PHC workers do no take this occasion to offer real diagnostic services. No published study in Malawi has looked at missed opportunities to address mental health of PLWHA receiving care in ART clinics. Therefore, this study focused on investigating missed opportunities to address the mental health of people living with HIV attending ART clinics in Zomba, Malawi.

# CHAPTER 3 METHODOLOGY

## 3.1 Introduction

This chapter covers the methods that were applied to investigate missed opportunities to address mental health needs of people living with HIV in Malawi. The chapter includes sections on research design, study setting, population, inclusion and exclusion criteria, sampling technique, study procedure, measurements, data collection methods, analysis strategy and ethical considerations.

## 3.2 Research Design

A descriptive cross-sectional clinic survey was used to address the study's objectives.

## 3.3 Study Setting

The study was conducted in the Zomba district which is predominantly rural. However, part of Zomba district includes Zomba City, which is one of four cities in Malawi (See Figure 1 for a map of Zomba District). In Malawi there are five administrative health zones, namely North, Central-East, Central-West, South-East and South-West. Zomba district is in south-east health zone which comprises six districts. According to the preliminary 2018 Malawi population and housing census, Zomba district has a population of 746,724 people and Zomba City has a population of 105,013[92]. More than half of the population (51.8%) is 18 years old or younger. Zomba district has a population density of 316 persons per square kilometre while Zomba City has a population density of 2,511 persons per square kilometre. The intercensal growth rate for Zomba city is 2.5%. The main ethnic groups are Mang'anja/Nyanja, Yao and Lomwe. Chinyanja is the native language spoken by most of the inhabitants, although other languages such as Chiyao and Chilomwe are also spoken. The most common religions are Christianity (78%) and Islam (20%).

In 2005, Malawi scaled up provision of ART services into primary healthcare centres that are staffed by primary healthcare workers (Clinical Officers, Nursing Officers, Nurse Midwife Technicians and Medical Assistants). Furthermore, a health facility can start offering ART when at least two primary healthcare workers have passed the two-week initial training on Clinical Management of HIV in children and adults [93]. Health services in Zomba district

are offered by public, private-for-profit (PFP) and private not-for-profit (PNFP) sectors. There is a total of 37 health facilities in Zomba district. Fourteen of these are primary healthcare facilities and two are tertiary hospitals: Zomba Central Hospital (ZCH), which is a referral hospital for physical diseases, and Zomba Mental Hospital (ZMH), the only public mental referral hospital in Malawi. All 37 health facilities offer ART. A convenient sample of three ART clinics, namely Tisungane, Matawale and Domasi ART clinics, was selected as study setting for this study, based on the clinics' high average attendance rates. Tisungane ART clinic is operated under Zomba Central Hospital. Tisungane and Matawale ART clinics are located within Zomba City while Domasi is on the out-skit of Zomba City. On average, Tisungane clinic attends to 750 clients per week. Furthermore, Tisungane ART clinic offers services from 7.00am to 7.00pm from Monday to Friday. Matawale ART clinic, which falls under Zomba District Health Office, attends to 350 clients per week on average. Matawale clinic is within Zomba City which is situated about 10 km from Tisungane. Domasi ART clinic, which is also under Zomba District Health Office, attends to 250 clients per week on average. Domasi ART clinic is on the outskirts of Zomba City, and mainly provides care to rural clients. However, clients are not restricted to attend to their nearest ART clinic. Clients are free to attend ART clinic where they feel that their confidentiality and privacy will be maintained.

**Fig 1 Map of Zomba District**

### 3.4 Study population and sample

The study population were people living with HIV receiving ART in Zomba, Malawi, at either Tisungane, Matawale or Domasi ART clinics. Tisungane is under Zomba Central Hospital while Matawale and Domasi are under Zomba District Health Office. The inclusion criteria for individuals who participated in this study were: (1) Documented HIV positive test result (2) age 18 or older seeking or receiving treatment in one of the three HIV treatment centres involved in this study. The exclusion criteria were: (1) clients that had a serious medical condition requiring immediate attention by clinician or had been diagnosed with a severe mental illness and (2) did not consent to participate in the study.

### 3.5 Sampling procedure

The study used random sampling technique to identify and recruit participants. This sampling technique reduces the chance of systematic bias, minimizes the chance of sampling biases, produces a more representative sample and inferences drawn from the sample are more likely to be generalisable to the population [94]. A list of clients booked for a day was drawn from the clinic then random sampling using a computer was done to identify participants. All identity numbers for clients on a day were entered into computer then command was made to randomly select identity numbers of participants on a day and site. Sampled clients were known through patient ART cards that are kept at the clinic.

Potential participants were approached while waiting for their appointment with the healthcare worker. These potential participants were informed that a research study was being carried out to investigate the mental health of people living with HIV receiving care at each ART clinic. Those who were willing and available to participate were interviewed immediately after their appointment with the primary healthcare worker. They were escorted into a private room where the study was explained in more detail and the process of informed consent was completed (See Appendix A). The research assistants conducting the interview were experienced Psychiatric Clinical Officers.

### 3.6 Sample Size

The confidence interval that was acceptable was set to 5%, and standard error estimated at 2.55. Despite no previous study having been conducted on missed opportunity to address the

mental health for people living with HIV in Malawi, a similar study was conducted in South Africa in 2010 [14]. This South African study found missed opportunity at 46%, therefore, the current study used the previous findings to estimate the sample size required for the current study [95].

$$\mathbf{N} = \frac{P\,(100\%-P)}{(SE)^2}$$

N= Required sample size

P= Findings of previous similar study

SE= the standard error of the mean

With P= 46% and SE=2.55

we have

$$\mathbf{N} = \frac{46\%\,(100\%-46\%)}{(2.55)^2}$$

$$N = \frac{2484}{6.50}$$

N = 382.15384 (or 382 rounded upwards)

### 3.7 Measures

The survey used a self-reporting questionnaire which was completed by those who could read and write. Those that could not to read and write, reading and marking of research questions was done by research assistants during the interview. See Appendix H.

Socio-demographic data included in the survey were age, sex, marital status, residential area, education status, employment status and other socioeconomic indicators, such as monthly income and expenditure (in Malawian Kwacha). HIV-related measures included number of visits to ART clinics in the past 12 months and year when they tested for HIV.

The following measures were also included in this survey: 1) The Self-Reporting Questionnaire (SRQ-20) to measure probable CMD; 2) The Alcohol Use Identification Test

(AUDIT) to measure risky alcohol use; and 3) specific questions to obtain information on missed opportunities.

### *3.7.1 The SRQ-20*

SRQ-20 was used to identify cases of probable CMD. It has 20 items and was developed by the WHO to screen for probable CMDs in primary health care and community level healthcare in developing countries. This tool has been translated to Chichewa and validated in Malawi [96]. The cut-off point for probable CMDs is 8. This means those who score 8 and above are considered to have a probable CMDs and a score of 7 and below are considered to not have a CMDs. The sensitivity and specificity at 7/8 were 59.2 and 85.4. (See Appendix H for English version and Appendix N for Chichewa version).

### *3.7.2 The AUDIT Questionnaire*

AUDIT was used to measure risky alcohol use. This screening tool has 10 questions. It has been found to provide an accurate measure of risky alcohol use across gender, age, and cultures [97]. It identifies hazardous and harmful alcohol use, as well as possible alcohol dependence. A score of 8 or more indicates the likelihood of hazardous use and a score of 20 or more is suggestive of alcohol dependence. The Chichewa version of AUDIT questionnaire was adopted. A version which was being validated in a study titled Adaptation and validation of alcohol use disorder and identification test: prevalence of comorbid alcohol use disorder and selected chronic non-communicable diseases by Beatrice Lydia Mwagomba with University of St Andrews. The study is not yet published. Manuscript will be submitted for validation in April this year for publication. (See Appendix J for English version and Appendix P for Chichewa version).

### *3.7.3 Missed Opportunities*

Missed opportunity questions used in the present study were adapted from those used in a previous study in South Africa to elicit missed opportunities for PLWHA [14]. Following each of the scales on CMDs and alcohol use, participants were asked if they had been asked about their feelings or consumption of alcohol during their routine visit to ART clinics

(referred to as screening or identification). For example, 1) whether in their visits to the clinic in the past 12 months, the Clinical Officer or Nurse asked them about their feelings, such as feeling unhappy or worrying ( to determine whether respondent was screened or identified for CMDs) ; 2) whether in their visits to the clinic in the past 12 months, Clinical Officer or Nurse asked them about alcohol use (to determine whether respondent was screened or identified for risky alcohol use); 3) whether a diagnosis was given to them; 4) whether advice or treatment was recommended (to determine whether respondent received advice or treatment); 5) whether they were referred to mental health specialist; and 6) whether they would have liked to receive advice or treatment regarding their feelings or alcohol use. See Appendix I for English version and Appendix Q for Chichewa version.

Four types of missed opportunities were operationalised for this study. The first two missed opportunities are about screening/identification and the second two address missed opportunities for treatment.

**Definition 1. Missed opportunity for identification of probable depression/anxiety/risky alcohol use:** A respondent screened at risk for a mental disorder (probable common mental disorders /risky alcohol use); and in any of their visits to the clinic in the past 12 months, the clinical officer or nurse did not ask about their mental health (specifically probable common mental disorders /risky alcohol use).

**Definition 2. Missed opportunity for identification of probable depression/anxiety/risky alcohol use when a respondent wanted to receive advice or treatment about their mental health problems/risky alcohol use.** A respondent's mental disorder (probable common mental disorders /alcohol abuse) was undetected; and in any of their visits to the clinic in the past 12 months, the clinical officer or nurse did not ask about their mental health (specifically probable common mental disorders /risky alcohol use); and s/he wanted to receive advice or treatment about their mental health problems/alcohol use.

**Definition 3. Missed opportunity for treatment of probable depression/anxiety/risky alcohol use:** A respondent screened positive for mental disorder (probable common mental

disorders /alcohol abuse); and in any of their visits to the clinic in the past 12 months, s/he did not receive advice or treatment for a mental disorder.

**Definition 4. A more nuanced missed opportunity for the treatment of probable depression/anxiety/alcohol use disorder when a respondent wanted to receive advice or treatment about their mental health problems/risky alcohol use:** A respondent screened positive for a mental disorder (probable common mental disorders or risky alcohol use); and s/he wanted to receive advice or treatment about their mental health problems or alcohol use; and in any of their visits to the clinic in the past 12 months, s/he did not receive treatment for a mental disorder or risky alcohol use.

### 3.8 Data Analysis

Statistical Product and Service Solution (SPSS) version 25 was used to analyse data to address research objectives of the study. Descriptive statistics (means, standard deviations and frequency analysis) were presented. After adding scores for each participant, determination of mental health problems (CMDs and risky alcohol use) was done according to the SRQ and AUDIT cut off scores, the variables were dichotomized for presence or absence of CMDs and risky alcohol use. Unadjusted and adjusted associations between clinical, social and demographic characteristics (independent variables) and the four definitions of missed opportunities (dependent variables) were explored through multiple logistic regression. The results of the regression models were reported as odds ratios (ORs) with 95% confidence intervals [98]. Significance was set at $p<0.05$.

### 3.9 Ethical considerations

Appropriate procedures for ethical research was followed accordingly by the researcher, in accordance with the Declaration of Helsinki. The proposal was submitted to the University of Cape Town Human Research Ethics Committee (HREC) in South Africa and National Health Sciences Research Committee in Malawi. This was confirmed by letters of approval from the ethical committees to conduct the study. Approval to conduct the study was sought from the Director of Health and Social Services (DHSS) of Zomba District and Director of Zomba

Central Hospital (See Appendix B and E). Thereafter permission was sought from the In-Charges of Domasi, Matawale and Tisungane ART clinics (See Appendix C, D and F).

### 3.10 Voluntary participation

Subjects were at liberty to participate or not and their refusal to take part did not affect the care they receive in any way, instead he/she continued receive the services as usual.

### 3.11 Consent

Informed written consent was obtained from the study participants before commencement of administering the questionnaire (See Appendix A). Participants were given adequate information regarding the aims and benefit of the study and then each was free to give an informed consent before answering the questionnaire. Information sheets were provided to the participants and these were available in both English and Chichewa; participants were given a choice whether to take the English or Chichewa version. For the participants who were unable to read and write, information was read to and they used their thumbprint to mark consents.

### 3.12 Confidentiality

Confidentiality of the participants was upheld such that their answers were treated with confidentiality. Participant's responses and identity were not revealed to anybody else. Anonymity was also upheld through writing code numbers on the questionnaires instead of names. Questionnaires were administered in private rooms at the health facilities. The completed questionnaires were kept in a lockable room accessible only to the researcher. Research assistants were trained on confidentiality and research ethics in general Data prepared for analysis was anonymised. See Appendix A.

### 3.13 Risks and benefits to participants

The risks and benefits of participation were explained to participants in the study information sheet (Appendix A). Effort was made to keep potential participants for as short a time as possible. The study did not involve any invasive procedures. Clients who met the criteria for

depression, anxiety disorder and wanted some help were referred to the local Psychiatric Clinical Officers.

# CHAPTER 4 RESULTS

## 4.1 Introduction

This chapter presents the results of the study. It will first describe the characteristics of the study participants. It will then focus on the prevalence of mental health problems (depression, anxiety and risky alcohol use), then the prevalence of missed opportunities for treatment, and finally factors associated with missed opportunity to address the mental health of PLWHAs attending ART clinics in Zomba Malawi. Data were collected from mid-March to end-April 2019.

## 4.2 Socio-demographic characteristics of the participants

The socio-demographic details of participants are provided in Table 2. The study had 382 participants in total. Of these participants, the majority were women (N=247, 64.7%) with an average age of 41 years (sd 10.4). Most of the participants were married (N=253, 66.2%) and had completed primary school education (N=210, 55%). Most of participants were residing in the rural communities (N=247, 64.7%) with 75% of participants earning their income through employment and business. The mean monthly income of all participants was $52.6 (sd 64.6) which was equivalent to MK38,924 (Malawian Kwacha) with the monthly income ranging from $0.3-$402.1 (MK222-MK297,554). The monthly mean expenditure of participants was $44.1 (sd 57.5) per month and close to 90% participants were spending less than $100 in a month. The study participants had been living with HIV between 0-276 months with an average of 85 months (sd 59.0). The number of clinic visits to collect antiretroviral therapy in the past 12 months ranged from 1-14 clinic visits with mean 5.1 visits (sd 2.3). On the other hand, clinic visits for HIV-related complaints in the past 12 months ranged from 1-12 clinic visits with mean 4.5 visits (sd 1.9).

**Table 2 Socio-demographic characteristics of the participants**

| | **Total Sample (N=382)** | **Males (N=135)** | **Females (N=247)** | |
|---|---|---|---|---|
| | **N, %** | **N, %** | **N, %** | **p-value** |
| **Age** (m, sd) | 41.4, 10.4 | 44.3, 10.9 | 39.9, 9.6 | <0.001* |
| **Education** | | | | 0.14 |
| Completed primary school | 210 (55) | 81 (60.0) | 129 (52.2) | |
| No primary school primary | 172 (45) | 54 (40.0) | 118 (47.8) | |
| **Marital status** | | | | <0.001* |
| Married | 253 (66.2) | 113(83.7) | 140(56.7) | |
| Single | 129 (33.8) | 22 (16.3) | 107 (43.3) | |
| **Residential area** | | | | 0.95 |
| Urban | 135 (35.3) | 48 (35.6) | 87 (35.2) | |
| Rural | 247 (64.7) | 87 (64.4) | 160 (64.8) | |
| **Employment** | | | | <0.001* |
| Employed | 283 (74.1) | 115 (85.2) | 168 (68.0) | |
| Not employed | 99 (25.9) | 20 (14.8) | 79 (32.0) | |
| **Months living with HIV (m, sd)** | 85.1, 59.0 | 84.2, 59.9 | 85.6, 58.6 | 0.834 |
| **Monthly income in $ (m, sd)** | 52.6, 64.6 | 61.7, 67.1 | 47.7, 62.9 | 0.04* |
| **Monthly expenditure in $ (m, sd)** | 44.1, 57.5 | 56.3, 61.7 | 37.4, 54.0 | 0.002* |
| **No. of clinic visits- collect ART (m, sd)** | 5.1, 2.3 | 5.3, 2.4 | 5.0, 2.3 | 0.27 |
| **No. of clinic visits-HIV complaints (m, sd)** | 4.5, 1.9 | 4.7, 2.0 | 4.4, 1.8 | 0.13 |

### 4.3 Mental health characteristics among participants

This section describes the findings of the study regarding the mental health characteristics of participants. The cut-off score for the self-reporting questionnaire-20 (SRQ-20) to detect probable common mental disorders (depression and anxiety) was 8 and over. Using this cut-off score, 77 study participants (20.2%) screened positive. More female participants 63/77 (81.8%) compared to 14/77 (18.2%) for male participants screened positive for probable CMDs. The AUDIT was used to identify risky alcohol use among people living with

HIV/AIDS. In this study, AUDIT was dichotomised into two. A score of 0-7 indicated low risk while a score of 8 and above indicated risky alcohol use. The overall risky alcohol use among PLWHV was reported 4.2% of participants and was higher among male participants 11/16 (68.8%) compared to female participants 5/16 (31.2%).

**Table 3: Proportion of respondents who screened positive, who were asked, who wanted advice or treatment and who received advice or treatment for mental health problems**

| | **Total sample** N= 382 | **Male** N= 135 | **Female** N= 247 |
|---|---|---|---|
| | N (%) | N (%) | N (%) |
| **Screened at risk** | | | |
| CMDs | 77 (20.2) | 14 (3.7) | 63 (16.5) |
| Alcohol use | 16 (4.2) | 11 (2.9) | 5 (1.3) |
| Any mental health problem | 87 (22.8) | 23 (17.0) | 64 (25.9) |
| **Participants who were asked** | | | |
| CMDs | 92 (24.1) | 43 (11.3) | 49 (12.8) |
| Alcohol use | 89 (23.3) | 33 (8.6) | 56 (14.7) |
| Any mental health problem | 47 (28.5) | 18 (25.7) | 29 (30.5) |
| **Participants who wanted advice** | | | |
| CMDs | 316 (82.7) | 115 (30.1) | 201 (52.6) |
| Alcohol use | 190 (49.7) | 74 (19.4) | 116 (30.4) |
| Any mental health problem | 79 (22.3) | 22 (16.7) | 57 (25.7) |
| **Received advice or treatment** | | | |
| CMDs | 11 (2.9) | 5 (1.3) | 6 (1.5) |
| Alcohol use | 15 (3.9) | 10 (2.6) | 5 (1.3) |
| Any mental health problem | 12 (46.2) | 6 (40.0) | 6 (54.5) |

Participants who were found to be at risk for probable CMDs and alcohol use were 77 and 16 respectively. Among 16 participants who were using alcohol at risk level, 10 participants were at risk for both probable CMDs and alcohol use. Therefore, 87participants had mental health problems. Participants who were asked about their feelings and alcohol use were 92 and 89 respectively. Among those that were asked about their feelings and alcohol use, 47 participants had mental health problems. Participants who wanted advice for their feelings and alcohol use were 316 and 190 respectively. Among those who wanted to respective advice for feelings and alcohol use, participants had mental health problems. Participants

who had received advice or treatment from PHC workers for probable CMDs and risky alcohol use were 11 and 15 respectively. Among those that had received advice or treatment from PHC workers for probable CMDs and risky alcohol use, 12participants had mental health problems.

### 4.4 Missed opportunities

As previously described in Chapter 3, four definitions of missed opportunities were operationalised for this study. The first two missed opportunities are about screening/identification and the second two address missed opportunities for advice or treatment. See table 4.

**Table 4 Missed Opportunities**

| | **Total Sample** |
|---|---|
| | N (%) |
| Missed opportunity definition #1 | 40 (46.0) |
| Missed opportunity definition #2 | 35 (40.2) |
| Missed opportunity definition #3 | 87 (100.0) |
| Missed opportunity definition #4 | 66 (75.9) |

#### 4.4.1 Missed opportunities for mental health identification/screening

For missed opportunity #1, a respondent had to screen positive for mental health problems; and in any of their visits to the clinic in the past 12 months, the clinical officer or nurse did not ask about their mental health. This study found 46% (N=40) fulfilled missed opportunity #1. Unadjusted associations between sociodemographic and clinical related variables are reported in Table 5. Those variables that were significant in the unadjusted (or nearing significance) were included in a multiple logistic regression analysis. After adjusting for these variables gender was significantly associated with missed opportunity definition #1.

**Table 5: Unadjusted and Adjusted Associations between socio-demographics and Missed Opportunity Definition #1**

| | Yes, % N= 40 (46) | No, % N= 47 (54) | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|---|
| **Gender** | | | | |
| Male | 5 (12.5) | 18 (38.3) | 1.00 | 1.00 |
| Female | 35 (87.5) | 29 (61.7) | 4.35 (1.44-13.14) * | 4.44(1.43-13.74) * |
| **Age m (sd)** | 37.68 (8.58) | 41.47 (9.51) | 0.95 (0.91-1.00) | 0.97 (0.93-1.00) |
| **Marital status** | | | | |
| Not married | 15 (37.5) | 22 (46.8) | 1.00 | |
| Married | 25 (62.5) | 25 (53.2) | 1.47 (0.62-3.46) | |
| **Residential area** | | | | |
| Urban | 11 (27.5) | 19 (38.3) | 1.00 | |
| Rural | 19 (72.5) | 28 (61.7) | 1.79 (0.72-4.43) | |
| **Employment** | | | | |
| Not employed | 15 (37.5) | 10 (21.3) | 1.00 | |
| Employed | 25 (62.5) | 37 (78.7) | 0.45 (0.17-1.16) | |
| **Education** | | | | |
| Not educated | 19 (47.5) | 18 (40.4) | 1.00 | |
| Educated | 21 (52.5) | 29 (59.6) | 0.69 (0.29-1.61) | |
| **Months living with HIV (m, sd)** | 95.25 (61.94) | 80.77 (65.14) | 1.01 (0.99-1.01) | |
| **Monthly income in $ (m, sd)** | 54.24 (75.70) | 67.00 (76.30) | 1.01 (1.00-100) | |
| **Monthly expenditure in $ (m, sd)** | 34.82 (43.82) | 54.96 (60.22) | 0.99 (0.98-1.01) | |
| **No. of clinic visits: ART collection (m, sd)** | 4.98 (2.24) | 6.02 (4.83) | 0.91 (0.79-1.06) | |
| **No. of clinic visits -HIV complaints (m, sd)** | 4.30 (1.95) | 4.70 (2.25) | 0.91 (0.74-1.12) | |

***= p<0.05**

Missed opportunity definition #2 was a more nuanced missed opportunity for identification of probable mental health problems. A respondent had to be undetected for mental health problems; and in any of his or her visits to the clinic in the past 12 months, the clinical officer or nurse did not ask about his or her mental health and s/he wanted to receive advice or treatment about his or her mental health problems. This study found 40.2% (N=35) of participants who screened at risk for mental health problems had fulfilled missed opportunity definition #2. Unadjusted associations between sociodemographic and clinical related variables and missed opportunity definition #2 are reported in Table 6. Gender (OR=4.46, 95% CI 1.37-14.59) and age (OR=0.94, 95% CI 0.89-0.99) were significant in the unadjusted associations. Employment (OR=0.40, 95% CI 0.16-1.04) and monthly expenditure (OR=0.99, 95% CI 0.98-1.00) were close to significance. These were included in the multiple logistic regression analysis. After adjusting for these variables in the model, female gender (OR =3.94, 95% CI 1.10-14.09), age (OR = 0.96, 95% CI 0.92-1.00), employment (OR=0.30,

95% CI 0.10-0.91) and monthly expenditure (OR=0.98, 95% CI 0.96-1.00) were significantly associated with missed opportunity definition #2. Female participants were more likely to meet criteria for missed opportunity definition #2 than male participants. Furthermore, older participants were less likely to meet criteria for missed opportunity definition #2 compared to younger participants. Participants who were employed were less likely to meet criteria for missed opportunity definition #2. In the same vein, participants who were spending less were more likely criteria for missed opportunity definition #2.

**Table 6: Unadjusted and Adjusted Associations between socio-demographics and Missed Opportunity #2**

| Variable | Yes N= 35 | No N= 52 | Unadjusted OR (95% CI) | Adjusted OR (95% CI) |
|---|---|---|---|---|
| **Gender** | | | | |
| Male | 19 (36.5) | 4 (11.4) | 1.00 | 1.00 |
| Female | 33 (63.5) | 31 88.6) | 4.46 (1.37-14.59) * | 3.94 (1.10-14.09) * |
| **Age m (sd)** | 41.73 (9.25) | 42.22(10.92) | 0.94 (0.89-0.99) * | 0.92 (0.87-0.98) * |
| **Marital status** | | | | |
| Not married | 25 (48.1) | 51 (30.2) | 1.00 | |
| Married | 27 (51.9) | 118 (69.8) | 1.78 (0.73-4.3) | |
| **Residential area** | | | | |
| Urban | 20 (42.3) | 9 (25.7) | 1.00 | |
| Rural | 31 (57.7) | 26 (74.3) | 1.96 (0.77-5.00) | |
| **Education** | | | | |
| Not educated | 22 (42.9) | 15 (42.9) | 1.00 | |
| Educated | 30 (57.1) | 20 (57.1) | 0.98 (0.41-2.33) | |
| **Employment** | | | | |
| Not employed | 11 (21.2) | 14 (40.0) | 1.00 | 1.00 |
| Employed | 41 (78.8) | 21 (60.0) | 0.40 (0.16-1.04) * | 0.30 (0.10-0.91) * |
| **Months living with HIV (m, sd)** | 83.37 (62.93) | 87.07 (58.48) | 1.01 (0.99-1.01) | |
| **Monthly income in $ (m, sd)** | 70.80 (77.84) | 46.79 (71.48) | 0.99 (0.99-1.001) | |
| **Monthly expenditure in $ (m, sd)** | 55.51 (58.58) | 31.12 (43.04) | 0.99 (0.98-1.00) | 0.98 (0.96-1.00) * |
| **No. of clinic visits to collect ART in past 12 months (m, sd)** | 5.90 (4.64) | 5.00 (2.30) | 0.93 (0.80-1.07) | |
| **No. of clinic visits related HIV complaints in the 12 months (m, sd)** | 4.63 (2.15) | 4.34 (2.07) | 0.93 (0.75-1.16) | |

***=p<0.05**

### 4.4.2 Missed opportunities for mental health advice/treatment

For missed opportunity definition #3, a respondent had to screen positive for mental health problem and if in any of his or her visits to the clinic in the past 12 months, and s/he did not receive advice or treatment. This study found all 87 participants who screened at risk for mental health problems had fulfilled missed opportunity definition #3. Given all participants met criteria, we were unable to develop logistic regression models.

For missed opportunity definition #4, which was a more nuanced missed opportunity for the treatment of probable mental health problem: a respondent had to screen positive for a mental health problem; s/he wanted to receive advice or treatment about his or her mental health problems/alcohol use; and in any of their visits to the clinic in the past 12 months, s/he did not receive treatment for a mental disorder/risky alcohol use. This study found 75.9% (N=66) of participants who screened at risk for mental health problems had fulfilled missed opportunity definition #4. Unadjusted associations between sociodemographic and clinical related variables and missed opportunity definition #4 are reported in Table 7. There were no significant associations.

Table 7: Unadjusted and Adjusted Associations between socio-demographics and Missed Opportunity Definition #4

| Variable | **Yes, %<br>N= 66 (75.9)** | **No, %<br>N= 21 (24.1)** | **Unadjusted OR (95% CI)** |
|---|---|---|---|
| **Gender** | | | |
| Male | 15 (22.7) | 8 (38.1) | 1.00 |
| Female | 51 (77.3) | 13 (61.9) | 2.09(0.73-5.99) |
| **Age m (sd)** | 39.80 (9.48) | 39.71(8.71) | 1.01 (0.95-1.06) |
| **Marital status** | | | |
| Married | 29 (43.9) | (44.8) | 1.00 |
| Not married | 37 (56.1) | 37 (55.2) | 0.79 (0.29-2.15) |
| **Residential area** | | | |
| Urban | 20 (30.3) | 10 (47.6) | 1.00 |
| Rural | 46 (69.7) | 11 (52.4) | 2.09 (0.77-5.71) |
| **Education** | | | |
| Educated | 28 (42.4) | 9 (42.9) | 1.00 |
| Not educated | 38 (57.6) | 12 (57.1) | 1.02 (0.38-2.75) |
| **Employment** | | | |
| Employed | 20 (30.3) | 5 (23.8) | 1.00 |
| Not employed | 46 (69.7) | 16 (76.2) | 0.72 (0.23-2.23) |
| **Months living with HIV (m, sd)** | 85.91 (60.99) | 94.43 (72.73) | 0.99 (0.98-1.01) |
| **Monthly income in $ (m, sd)** | 53.40 (65.97) | 85.47 (98.87) | 1.00 (1.00-1.00) |
| **Monthly expenditure in $ (m, sd)** | 42.05 (47.66) | 57.16 (70.42) | 0.99 (0.99-1.01) |
| **No. of clinic visits in past 12 months (m, sd)** | 5.85 (4.29) | 4.57 (1.86) | 1.18 (0.94-1.48) |
| **No. of HIV related clinic visits in the 12 months (m, sd)** | 4.70 (2.32) | 3.95 (1.12) | 1.24 (0.91-1.70) |

# CHAPTER 5 DISCUSSION

## 5.1 Introduction

This chapter interprets and discusses the findings in the preceding chapter of the study with reference to current knowledge; and reflects on the study's implications for practice, research and education. It also considers strengths and limitations of these study findings. The chapter closes with recommendations and conclusions from the study.

## 5.2 Main study findings

This study is the first to investigate missed opportunities to address the mental health of people living with HIV/AIDS in Zomba, Malawi. Several important findings were made. First, the prevalence of probable common mental disorders (depression and anxiety) found in this study was relatively high (20.2%). However, the prevalence of alcohol use was quite low (4.2%). Second, screening of probable CMDs and alcohol use by Clinical Officers and nurses was good. Participants who met criteria for missed opportunity #1 and #2 were 40/87 (46.0%) and 35/87 (40.2%) respectively. Missed opportunity for screening or identification was associated with gender. Female respondents (OR =4.44, 95% CI 1.43-13.74) were more likely than male participants to meet criteria for missed opportunity #1. After adjusting for these variables in the model, female gender (OR =3.94, 95% CI 1.10-14.09), age (OR = 0.96, 95% CI 0.92-1.00), employment (OR=0.30, 95% CI 0.10-0.91) and monthly expenditure (OR=0.98, 95% CI 0.96-1.00) were significantly associated with missed opportunity definition #2. Although primary healthcare providers were asking patients about mental health problems, the provision of advice, treatment or referral was low. Participants who met criteria for missed opportunity definition #3 and #4 were 87/87 (100%) and 66/87 (75.9%) respectively. Given all participants met criteria, we were unable to develop logistic regression for definition #3. There were no significant associations for missed opportunity definition #3.

### 5.2.1 Prevalence of probable common mental disorders (CMDs)

To begin with, the prevalence of probable CMDs found in this study was 20.2%, which is surprisingly low compared to the prevalence found in other studies conducted in Africa. For example, two studies that were conducted in Zimbabwe reported a prevalence of CMDs almost three times higher than the current study. One of two Zimbabwean studies found the prevalence of CMDs among PLWHA to be 67.9%[30]. The other Zimbabwean study found prevalence of comorbid probable post-traumatic stress disorder and CMDs to be 65% among people living with HIV [99]. Two studies that were conducted in Ethiopia also found similar findings with the current findings. One of these two Ethiopian studies found the prevalence of co-morbid depression and anxiety among people living with HIV to be 24.5% [100]. The other Ethiopian study found prevalence of CMDs among people living with HIV to be 28.1% [101].

Some studies have attributed a high prevalence of mental health problems among people living with HIV to recent knowledge of HIV seropositive and severe HIV disease. For example, a study that was conducted in Cameroon found a high prevalence of depression (63%) and attributed this finding to the recruitment of newly diagnosed HIV seropositive clients [29]. Another study done by Lyketsos et al found that depression and adjustment disorder was highly prevalent among those that had recently received news of their HIV seropositive status [102]. Further, some studies have found a high prevalence of CMDs among those that are severely sick and on HAART. For example, Motumma et al attributed high prevalence of CMDs (67.9%) in a Zimbabwean study to recruitment of severely sick participants. The Zimbabwean study recruited 92% of participants who were on highly active antiretroviral (HAART) [103]. Another study done in Romania found a high prevalence of CMDs especially depression among severely ill clients with HIV/AIDS [104]. Similarly, a higher prevalence of depression in a Cameroonian study was attributed to recruitment of 39% of severely sick participants who had CD4 count of less than 200[29].

There are two possible explanations for this low prevalence in Malawi. First, the participants in the present study had been living with HIV for many years and had time to adjust to their

chronic condition. The mean months participants had lived with HIV in this study was 85.1(sd, 59.0). This clearly shows that majority of participants were not recently diagnosed with HIV. Secondly, all participants were on HAART and not clinically very sick. In fact, we excluded participants who were clinically very sick based on WHO clinical staging since CD4 count of participants was not performed. Further, the current 2018 HIV management guidelines for Malawi on starting treatment is not based on low CD4 count or WHO clinical advanced and severe stages. The current HIV management guidelines emphasises starting HAART as soon as the HIV positive status is known [105]. Thus, clients are started on HAART before their CD4 count is very low. The findings of this study are comparable to a local study conducted in general primary care. This local study was looking for health services utilisation in general primary care and found prevalence of CMDs to be 20.1% [11].

### 5.2.2 Prevalence of risky alcohol use

The current study found that only 7.9% of the sample had ever consumed alcohol, with 4.2% screening positive for risky alcohol use. This is significantly lower than previous studies that have reported on the prevalence of risky alcohol use among people living with HIV. For example, a systematic review examining the mental health of people living with HIV found the prevalence of alcohol abuse and dependence to be between 7% to 16% [2].

Studies conducted in other African countries have reported higher rates of alcohol use among people living with HIV. For example, the findings from South African study are ten times higher than the current findings and found prevalence of risky alcohol to be 46.0% [106]. There was also high prevalence of alcohol use in a Ugandan study. The Ugandan study found prevalence of alcohol use disorder among people living with HIV to be 18.6% [107]. Results of another South African study that was validating a substance abuse and mental illness symptom screener in people living with HIV were like the Ugandan study. The South African study found the prevalence of alcohol abuse to be 18.0% [108]. The Ethiopian study reported slight lower prevalence than that reported from the two South African studies and the Ugandan study. Nevertheless, despite the Ethiopian study reporting lower prevalence compared to South African and Ugandan studies, the Ethiopian results were almost three

times higher than present findings. This Ethiopian study found prevalence of alcohol use disorder to be 14.2% [109]. Interestingly, a much lower prevalence using the AUDIT was reported in study that was conducted in Nigeria where 12% of participants who were HIV infected had scored >/=8 and 7% scored >/=10 [110]. Another Nigerian study that was looking depression, suicidality, and alcohol use disorder among people living with HIV using WHO World Mental Health Composite International Diagnostic Interview questionnaire found prevalence of alcohol use disorder to be 7.8% [27].

Several reasons might explain the low prevalence of risky alcohol in this study. First, the current study recruited more women (64.7%) than men participants. The literature often reports that men are more likely to drink more than females. For example, a systematic analysis for the global burden of disease study 2016 found 25% of current alcohol drinkers were women compared to 39% for men [98]. Two local study reported that 4.2% and 1.6% of women consumed alcohol compared to 30.1% and 27.3% of men [111, 112]. Furthermore, in terms of volume of alcohol consumption it was found women consume less alcohol than men. A study that was conducted in South Africa reported that men were l.64 times more likely than women to report problematic alcohol use [113]. Similarly, a Brazilian study found that male gender was associated with alcohol abuse [114].

Secondly, generally alcohol consumption is low in Malawi compared to other countries. Two local community studies found low consumption of alcohol among in Malawi compared to other African countries. A population based Malawi STEPS survey found that 16.9% participants were consuming alcohol [112]. Another local population-based study found alcohol consumption at 14.5% [111]. Therefore, it is not surprising that the current study found low prevalence of risky alcohol use and consumption.

Thirdly, this study relied on a self-report measure. Therefore, participants might have not revealed true information regarding alcohol consumption or use, due to anticipated stigma or concerns regarding the care they are receiving at the clinic. Furthermore, community or public members sometimes view people who have developed hazardous alcohol use, harmful alcohol use and alcohol dependence as having a self-inflicted problem. Therefore,

participants in this study might have responded in a socially desirable manner to avoid being labelled as having a self-inflicted condition. Crisp et al., 2000 in their study found that participants perceived people who present with alcohol problems as being responsible for their problem [115]. Furthermore, another study that was looking for the relationship between social desirability bias and self-reports of health, substance use and social network factors among urban substance users reported a significant association between social desirability and lower AUDIT score [116].

Fourthly, low prevalence of alcohol use could be attributed to under-reporting specifically for people living with HIV. Some studies have found under-reporting of alcohol among people living with HIV. For example, a study that was looking for alcohol and substance use among people living with HIV found 11.9% of participants who had completing the confidential survey were abusing alcohol compared to 28.9% of anonymous participant [117]. Another study that was looking for determinants of the underreporting of alcohol consumption also found 14% of participants under-reported of alcohol consumption [118].

Despite the low prevalence of reported alcohol use in the current study, there are still potential implications that alcohol use remains an important problem among people living with HIV. Effects of alcohol among people living with HIV have been reported in several global studies. These effects range from increase in risky behaviours for contracting HIV, poor medication adherence, physical and psychological health problems, and social and economic burden[119]. Alcohol has been associated with poor HAART adherence. Although this study did not investigate HAART adherence among participants, findings from other studies might apply in Malawi. A study that examined the impact of hazardous and harmful use of alcohol and/or other drugs on ARV adherence and disease progression reported significant association between hazardous alcohol use and stopping of antiretroviral therapy [106]. Another study that was investigating alcohol use and non-adherence to antiretroviral therapy in HIV-infected patients in West Africa reported significant association between non-adherence and hazardous alcohol use[120].

### 5.3 Screening and treatment for probable CMDs and risky alcohol use

This section examines the main study objective to determine missed opportunities to address the mental health of people living with HIV attending ART clinics in Zomba, Malawi. To recap, the present study had four definitions of missed opportunity. The first two definitions focused on screening or identification and the second two on provision of advice or treatment.

#### 5.3.1Missed opportunities for mental health screening

To begin with, the present study has revealed approximately one quarter of the participants who were recruited screened at risk for probable CMDs (depression or anxiety) or risky alcohol use. Therefore, enquiry about probable mental health problems by clinical officers and nurses was relatively high. Given this finding, it is not surprising that 46.0% of participants met criteria for missed opportunity #1.

One of possible reasons for the relatively good enquiry rates by clinical officers and nurses is mental health training. In Malawi, all medical and nursing students undergo mental health training during the generic undergraduate course. Furthermore, all students do attend practical attachment for mental health and psychiatry for two-six weeks at the referral psychiatric hospital. In addition, St. John of God College of Health Sciences in 2004 started offering post-graduate degree in mental health and psychiatry in nursing and post-graduate degree in clinical medicine (mental health) for clinical officers in 2008.

Some studies have found that healthcare workers who are not mental health specialist and patients are willing to offer and receive mental health services in primary health settings respectively. For example, a study that acceptability and feasibility of using non-specialist health workers to deliver mental health care in five PRIME countries (Ethiopia, India, Nepal, South Africa and Uganda) reported acceptability and feasibility of offering mental health services among non-specialist healthcare workers [79]. A study that was conducted in South Africa that was examining patient preferences for the integration of mental health counseling and chronic disease care in South Africa found participants accepted screening and counselling of depression and alcohol use within their care visits to clinic [121]. Like some study findings, this present study found that 91.9% of participants wanted to receive

advice/treatment from primary healthcare workers who provide care to them during clinic routine visits, resulting in only 9.2% of participants in the present study meeting criteria for missed opportunity #2. This clearly shows that clients were accepting to be screened for mental health within ART clinics.

A few studies that have been done in Sub-Saharan Africa including Malawi on integrating mental health and HIV/AIDS program have found promising results. A study conducted in Ugandan HIV clinics found that on average 76.3% of participants were screened daily using PHQ-2[122]. Similarly, a local study that was looking at integrating depression management into HIV primary care in central Malawi also showed promising results. HIV testing and counselling (HTC) Counsellors screened patients newly diagnosed with HIV [91]. Using PHQ-2 88.3% and 93.2% of newly diagnosed seropositive patients were screened from two study sites [91].

### 5.3.2 Factors associated with missed opportunity for screening.

The present study has found some sociodemographic factors that were significantly associated with missed opportunities. Missed opportunity definition #1 was significantly associated with female gender while missed opportunity definition #2 was significantly associated with female gender and age. Female participants were more likely to meet criteria for both missed opportunities #1 and #2. Women are more likely to experience symptoms of probable CMDs than men. Given that most participants in the present study were female, it is not surprising that many women with symptoms of CMDs were identified at the clinics compared to males.

After adjusting for these variables in the model, female gender (OR =3.94, 95% CI 1.10-14.09), age (OR = 0.96, 95% CI 0.92-1.00), employment (OR=0.30, 95% CI 0.10-0.91) and monthly expenditure (OR=0.98, 95% CI 0.96-1.00) were significantly associated with missed opportunity definition #2.

Young participants were more likely to meet criteria for missed opportunity definition #2 compared to older participants. Possible reason for this is that health workers may have more concerned for the health of older than younger participants and therefore are more likely to ask about their health than they would with younger patients. Participants who were employed were less likely to meet criteria for missed opportunity definition #2. One possible reason clinical officers and nurses may have more respect for people were employed because their higher quality of life. In the same vein, participants who were spending less were less likely to meet criteria for missed opportunity definition #2. One reason for the discrepancy in the findings between income and expenditure might be that income is frequently under-reported in surveys. Also, the questionnaire only asked the participants to declare their total income and total expenditure.

### 5.4 Missed opportunities for mental health advice or treatment

Despite clinical officers and nurses having reasonably good enquiry practices, advice and treatment were given to only a few participants. Clinical Officers and nurses working in ART clinics gave advice or treatment to only 6.8% of participants who were at risk for probable CMDs and risky alcohol use despite 91.9% wanted to receive advice in the past 12 months. Furthermore, only 1.6% of participants were referred to a mental health specialist. These findings show that Clinical Officers and nurses working in ART clinics were not giving advice or treatment to clients despite enquiring about possible CMDs and risky alcohol use.

Low provision of advice or treatment to clients by COs and nurses is in keeping with traditional practice in Malawi. One of local study that was investigating nurses' knowledge and skills in providing mental health care to people living with found that 58.8% of participants did not know how to treatment mental health problems [123]. Traditional practice has been that mental health treatment or advice giving is specialized field of medicine for mental healthcare workers. Primary healthcare (PHC) workers in many cases screening for mental health problems is acceptable for them, but the provision of services is often thought to be the responsibility of mental health specialists. This practice of viewing mental health as specialised field has not spared clinical officers and nurses who provide care to PLWHAs in ART clinics. Therefore, non-specialised healthcare workers focus more on

HIV/AIDS related conditions and do little or no advice or treatment for probable CMDs and alcohol use among PLWHAs. HIV/AIDS is managed vertically, and emphasis is placed on managing HIV symptoms. Furthermore, issues of mental health treatment are not well articulated in 2018 Malawi clinical HIV guidelines and previous versions[105]. It is possible that Clinical Officers and nurses feel that mental health services are not part of their work since it is not clearly articulated in HIV management guidelines. Furthermore, shortage of human resource in clinics might be another reason for advice and treatment provided to clients by clinical officers and nurses. Findings from several studies conducted on human resources have pointed to shortage of healthcare workers. For example, a study that was looking at mental health work force in LMICs found that 58 LMICs sampled would need to recruit 239,000 full-time professional to address current shortages in mental healthcare staffing [6]. Shortage of healthcare force is worse in Malawi as reported by UNAIDS [124]. UNAIDS found that Malawi is one of countries in Africa which has one most severe health workforce crises. The physician to population ratio is currently at 2:100,000 [124]. Furthermore, the ratio of nurse to population is the second lowest in Africa at 28:100,000.
Despite the prevalence of CMDs in Malawi being estimated to be between 10-20% no drug treatment is available at primary care levels[10]. Medication for mental health problems (depression and anxiety) are mostly centralised in district hospitals and tertiary hospitals. Counselling services are also very limited in Malawi. Most public hospitals do not have counsellors who can offer services to those in need because are no established posts for counsellors in public health facilities. Therefore, mental health problems are given little or no attention [10].

The last reason that might have contributed to low advice/treatment offered to those who were at risk of probable CMDs and alcohol use is inadequate integration of mental health into general PHC. In Malawi integration of mental health services into primary healthcare has not been fully implemented despite mental health policy advocating for integration [90]. Lack of integration was mentioned as one of the barriers to substance use treatment in a qualitative study that was conducted in South Africa [125]. However, integration of service has proved to be the best way to increase access to mental healthcare among those who have mental health problems.

Despite the finding that many clients wanted to receive advice or treatment regarding mental health problems (depression, anxiety and alcohol use), it was surprising that very few clients asked for advice or treatment. Stigma and low mental health literacy may have contributed to participants not requesting or asking for advice or treatment from COs and nurses. Stigma and mental health literacy has been reported in literature as one of the barriers to accessing mental healthcare or treatment [126]. Similar findings were reported in a qualitative study that was looking for factors influencing mental health screening and treatment among women in Appalachia USA [125]. Participants in that study reported that stigma was barrier to mental disorders as something disgraceful to be hidden [125].

The mean clinic visits to collect antiretroviral therapy (ART) and HIV-related complaints were 5.1 (sd 2.3) and 4.5 (1.9) respectively in the past 12 months. This clearly shows that participants had used ART clinics at frequent rates in the past 12 months. Failure by clinical officers and nurses to give advice or treat for probable CMDs and risky alcohol use in ART clinics represented a missed opportunity to address mental health of people living with HIV.

### 5.5 Factors associated with missed opportunity for advice or treatment

Given that all participants met criteria for missed opportunity #3, logistic regression models were not developed. Further, there were no significant associations with missed opportunity #4.

### 5.6 Recommendation for future research

The findings of study should act as a platform from which more research may be conducted in the following areas:

- There is need to conduct a qualitative study that will look at barriers to screening or identification of common mental disorders (CMDs) in ART clinics
- There is need to conduct a nationally representative survey in ART clinics to find out if PHC workers screen or identify clients for probable CMDs and alcohol through self-reporting questionnaire and checking client's records.

- There is need to conduct a study that will look at mental health training needs among COs and nurses working in PHC
- There is need for an intervention study to evaluate the impact of training and supervising healthcare providers in ART clinics to provide routine screening and treatment for alcohol use disorders.

### 5.7 Recommendations for policy and practice

- There is need for integration of mental health and physical wellbeing at pre-service training of primary healthcare (PHC) workers.
- There is need to enforce routine screening of all clients who are non-adherent on ART clinics using SRQ-20 which is already validated tool in Malawi.
- There is need for mental health policy to advocate for periodic refresher training on mental health for all PHC working in ART clinics.
- There is need to advocate for screening of mental health problems and alcohol use in Malawi Clinical HIV management guidelines the same way undesirable effects of ART have clearly outline in the manual.
- Guidelines need to be developed for primary care workers to improve detection of CMD and alcohol use disorders in primary care in Malawi.
- Clear referral pathways need to be put in place to refer people with needs for specialist care.

### 5.8 Study limitations

The limitations of this study were that of a cross-sectional clinic survey therefore, causal relationships cannot be addressed. This study relies on self-reporting questionnaire therefore it was susceptible to biases such as responder bias, recall bias, and social desirability bias in the sense that participants were asked for interventions offered to them for the past 12 months. Further, given that 87 participants screened positive for any mental health problem the sample size used in the regression models were reduced potentially impacting the findings.

## 5.9 Conclusion

Almost a quarter of the sample recruited screened at risk for CMDs and many clients wanted to receive advice or treatment. Despite that over 40% of the participants reporting being asked about CMD symptoms, most COs and nurses working in ART clinics did not provide advice or treatments to clients. Clinical officers and nurses may be well positioned, but it is likely that they do not have the skills/resources and so further training and resources are needed. COs and nurses working in ART clinics need to recognise the importance of screening and giving advice or treatment to clients who are at risk of mental health problems. Failure by COs and nurses to give advice or treat CMDs and risky alcohol use in ART clinics represent missed opportunities to address the mental health of people living with HIV in Zomba, Malawi.

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**Appendices**

## Appendix A: Participant Information Leaflet and Consent Form (English Version)

Participant information sheet and consent form for interviews with PLWHA

Missed opportunity to address the mental health of people living with HIV/AIDS in Zomba Malawi.

Introduction.

My name is_____. I am from Zomba Mental Hospital. We are asking you to take part in this research study. Before you accept to take part, you should understand what it involves. This leaflet is to help you choose if you would like to take part in this study. If you have any questions, which are not fully explained in this leaflet, please ask the interviewer. You should not agree to take part unless you are contented about all that is involved.

Why are we doing this?

The purpose of this research study is to determine missed opportunities among people living with HIV during routine ART visits in Zomba Malawi. We would like to know if Clinical Officers and Nurses screen mental disorders, alcohol use and offer interventions to you during your routine visits to ART clinics. The information you provide will be used to identify lessons so that we can improve our services we offer to you.

**What We're Asking of You.**

If you decide to take part in an interview, you will be 1 of up to 382 clients. You will be asked to answer questions by ticking on your feelings, alcohol use and whether you have loved to receive intervention on feelings or alcohol use. We are asking for your go-ahead to fill questionnaires interview will take approximately 20 minutes. We value your acceptance in taking part in this study.

**Potential Risks and Discomforts.**

We do not expect any risk with your participation in this study; however, some of the questions may make you feel uncomfortable. You will never be forced to continue your participation. Involvement is completely voluntary.

**Potential Benefits of Taking Part in the Study.**

There are no direct benefits to you for participating in this study. However, your answers will assist us to improve mental health service provision to PLWHA in ART clinics.

**Confidentiality and Privacy.**

The questionnaires and consent forms will be stored in a double-locked filing cabinet in a locked office after which they will be destroyed.

Who is funding the study?

This study will be funded by the African Mental Health Research Initiative supported by the Welcome Trust, United Kingdom.

**Participation and Withdrawal.**

Involvement is voluntary. You can decide not to take part in the study. If you agree to take part, you may choose to stop your participation at any time. There will be no penalties. Your decision to take part or not take part in this study will not affect your healthcare services that you usually benefit.

Who to Contact with Questions about your Rights as a Participant?

This study has been approved by the University of Cape Town's Ethics committee in South Africa and National Health Sciences Research Committee in Malawi. The study will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki.

If you have any questions or concerns about the research, please contact Harry Henry Kawiya on 265 888 383 638 or email kawiyaharry@yahoo.com.

On the other hand, you can contact Associate Professor Katherine Sorsdahl (supervisor) at 021 650 4798 or email katherine.sorsdahl@uct.ac.za, Alan J Flisher Centre for Public Mental Health, Department of Psychiatry and Mental Health, University of Cape Town. You can also contact Chairperson, Human Research Ethics Committee, Faculty of Health Sciences, University of Cape Town, telephone 021 406 6338

**Indicating Consent.**

Please let us know if you have any questions before signing this consent form. Please initial next to each item to show that you agree/disagree to what is required:

| **Agree** | **Disagree** | |
|---|---|---|
| | | I come to an agreement to take part in the study, which has been fully described to me, by participating in this interview |
| | | I understand that my participation in this study is completely voluntary, and there will be no any consequence if I decide not to take part. |

**Declaration by Participant**

By signing below, I, _____ ***(Participant's Full Name*)** accept to take part in the study.

I pronounce that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressured to take part. I also understand that I do not give up any rights by signing below.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.

- I have received a card with information about rights of research participants and who to contact with questions.

| **Participant's Signature** | **Date (DD/MM/YYYY)** | **Signed at (Place)** |
|---|---|---|

**Declaration by investigator**

I …….. …… pronounce that:

 I allowed the participant to ask questions and answered all questions satisfactory

 I am contented that the participant satisfactorily understands all pieces of the research, as discussed above.

 I did/did not use translator. (*If translator is used then the translator must sign the declaration below.*)

Signed at (*place*) . . . . . .. …. . . . . …… on (*date*) ……. . .. ……. . 2018.

**..... .....**

Signature of investigator Signature of witness

**Declaration by translator**

I ……. …… declare that:

 I helped the researcher ……. to explain the information in this document to ……. ……. . through Chichewa which spoken by majority of Malawians

 Participant was encouraged to ask questions and took enough time to answer them.

 I was contented that the participant fully understood the content of this informed consent document and has had all his/her question reasonably answered.

Signed at (*place*). . . . . .. …. . . . . …… on (*date*) ……. . .. ……2018.

**..... .....**

Signature of translator Signature of witness

**Appendix B: Permission letter to the Director of Health and Social Welfare**

Zomba Mental Hospital
PO Box 38
Zomba
November 2018
Cell : 0888383638
Email :
kawiyaharry@yahoo.com

The Director of Health and Social Welfare
Private Bag 18
Zomba
Dear Sir/Madam

**APPLICATION FOR PERMISSION TO CONDUCT A RESEARCH STUDY**

I am a student at University of Cape Town South Africa doing a master's degree in public mental health. One of the requirements for me to graduate is to do a study. Therefore, I write to you to ask for go-ahead to do a study in 2 of health facilities that are under your authority. The two health facilities that I am interested are Domasi and Matawale ART clinics.

The title of my study is: **Missed opportunities to address the mental health of people living with HIV in Zomba, Malawi: A cross-sectional clinic survey.**

Participants will volunteer to take part in this study, the study will follow all ethical principles and participants will give consent.
I shall be very happy to receive a positive answer from you.
With respect,

Harry Henry Kawiya

**Appendix C: Permission letter to the In-Charge Domasi Rural Hospital**

Zomba Mental Hospital
PO Box 38
Zomba
November 2018
Cell : 0888383638
Email :
kawiyaharry@yahoo.com

The In-Charge
Domasi Rural Hospital
C/O Zomba Director of Health and Social Welfare
Private Bag 18
Zomba

Dear Sir/Madam,

**APPLICATION FOR PERMISSION TO INTERVIEW ART CLIENTS**

I am a student at University of Cape Town South Africa doing a master's degree in public mental health. One of the requirements for me to graduate is to do a study. Therefore, I write to you to ask for go-ahead to do a study at your health facility.

The title of my study is: **Missed opportunities to address the mental health of people living with HIV in Zomba, Malawi: A cross-sectional clinic survey.**

Participants will volunteer to take part in this study, the study will follow all ethical principles and participants will give consent.

I shall be very happy to receive a positive answer from you.

With respect,

Harry Henry Kawiya

**Appendix D: Permission letter to the In-Charge Matawale Health Centre**

Zomba Mental Hospital
PO Box 38
Zomba
November 2018
Cell : 0888383638
Email :
kawiyaharry@yahoo.com

The In-Charge
Matawale Health Centre
C/O Zomba Director of Health and Social Welfare
Private Bag 18
Zomba

Dear Sir/Madam,

**APPLICATION FOR PERMISSON TO INTERVIEW ART CLIENTS**

I am a student at University of Cape Town South Africa doing a master's degree in public mental health. One of the requirements for me to graduate is to do a study. Therefore, I write to you to ask for go-ahead to do a study at your health facility.

The title of my study is: **Missed opportunities to address the mental health of people living with HIV in Zomba, Malawi: A cross-sectional clinic survey.**

Participants will volunteer to take part in this study, the study will follow all ethical principles and participants will give consent.

I shall be very happy to receive a positive answer from you.

With respect,

Harry Henry Kawiya

**Appendix E: Permission letter to the Director Zomba Central Hospital**

Zomba Mental Hospital
PO Box 38
Zomba
November 2018
Cell : 0888383638
Email :
kawiyaharry@yahoo.com

The Hospital Director
Zomba Central Hospital
PO Box 21
Zomba

Dear Sir/Madam,

**APPLICATION FOR PERMISSION TO CONDUCT A RESEARCH STUDY**

I am a student at University of Cape Town South Africa doing a master's degree in public mental health. One of the requirements for me to graduate is to do a study. Therefore, I write to you to ask for go-ahead to do a study at Tisungane ART clinic that is under your authority.

The title of my study is: **Missed opportunities to address the mental health of people living with HIV in Zomba, Malawi: A cross-sectional clinic survey.**

Participants will volunteer to take part in this study, the study will follow all ethical principles and participants will give consent.

I shall be very happy to receive a positive answer from you.

With respect,

Harry Henry Kawiya

**Appendix F: Permission letter to the In-Charge Tisungane ART Clinic**

Zomba Mental Hospital
PO Box 38
Zomba
November 2018
Cell : 0888383638
Email :
kawiyaharry@yahoo.com

The In-Charge
Tisungane ART Clinic
C/O Zomba Central Hospital
P.O. Box 21
Zomba

Dear Sir/Madam,

**APPLICATION FOR PERMISSION TO CONDUCT A RESEARCH STUDY**

I am a student at University of Cape Town South Africa doing a master's degree in public mental health. One of the requirements for me to graduate is to do a study. Therefore, I write to you to ask for go-ahead to do a study at your health facility.

The title of my study is: **Missed opportunities to address the mental health of people living with HIV in Zomba, Malawi: A cross-sectional clinic survey**

Participants will volunteer to take part in this study, the study will follow all ethical principles and participants will give consent.

I shall be very happy to receive a positive answer from you.

With respect,

Harry Henry Kawiya

**Appendix G: Socio-demographic characteristics of participants**

**GENERAL INSTRUCTIONS**

We will work through the questionnaire as follows: I will ask the questions and give you the answer choices. You will be asked to pick the answer that is the closest to how you feel. I will enter your answer into the tablet. The interview will take about 45 minutes to complete. There are no right or wrong answers. Please answer just what you think.

**Section 1: Demographic Characteristics**

1. Gender

| | |
|---|---|
| Male | |
| Female | |

2. Tell us how old are you? _____years?

3. Tell us your marital status? (indicate one only)

| | |
|---|---|
| Married | |
| Living with partner | |
| Widow/widower | |
| Divorced or separated | |
| Never married | |
| Other | |
| 1.6. If other, specify | |

4. **Residential area**

- Urban
- Rural

5. **Qualification**

Are you educated?

| | |
|---|---|
| **Yes** | |
| **No** | |

**What is your highest certificate?**

- Primary school certificate (std 8) ☐
- Junior certificate (Form 2) ☐
- Malawi school certificate (Form 4) ☐
- Diploma ☐
- Degree and above ☐

**6. Employment status**

- Employed ☐
- Not employed and looking for work ☐
- Not employed and not looking for work ☐
- Business ☐

7. Year when first diagnosed with HIV ☐

**8. Socioeconomic indicators**

- How much is your monthly income in Malawian Kwacha? ☐
- How much is your monthly expenditure in Malawian Kwacha? ☐

**9. Health service utilisation**

- How many times have you visited the clinic in the past 12 months? ☐
- How many of these were HIV related complaints ☐

**Appendix H: Self-Reporting Questionnaire-20 (SRQ-20) English Version**

| | | |
|---|---|---|
| 1. Do you often have headaches? | Yes | No |
| 2. Is your appetite poor? | Yes | No |
| 3. Do you sleep badly? | Yes | No |
| 4. Are you easily frightened? | Yes | No |
| 5. Do your hands shake? | Yes | No |
| 6. Do you feel nervous, tense or worried? | Yes | No |
| 7. Is your digestion poor? | Yes | No |
| 8. Do you have trouble thinking clearly? | Yes | No |
| 9. Do you feel unhappy? | Yes | No |
| 10. Do you cry more than usual? | Yes | No |
| 11. Do you find it difficult to enjoy your daily activities? | Yes | No |
| 12. Do you find it difficult to make decisions? | Yes | No |
| 13. Is your daily work suffering? | Yes | No |
| 14. Are you unable to play a useful part in life? | Yes | No |
| 15. Have you lost interest in things? | Yes | No |
| 16. Do you feel that you are a worthless person? | Yes | No |
| 17. Has the thought of ending your life been on your mind? | Yes | No |
| 18. Do you feel tired all the time? | Yes | No |
| 19. Do you have uncomfortable feelings in your stomach? | Yes | No |
| 20. Are you easily tired? | Yes | No |

**Appendix I: Missed Opportunities on feelings**

In any of your visits to the clinic in the past 12 months, did the Clinical Officer or Nurse ask you about your feelings – such as feeling unhappy or worrying?

| | |
|---|---|
| Yes | |
| No | |

If yes, what else did the Clinical Officer or Nurse do?

- Give you a diagnosis ☐
- Give you advice or recommend treatment ☐
- Refer you to mental health specialist ☐

No ☐

Would you have liked to receive advice or treatment regarding your feelings?

Yes ☐

No ☐

Read: The next questions are about your use of alcohol <u>in the last 12 months</u>. We know that many people drink alcohol. Don't worry about telling us that you drink alcohol. We want to understand what is really happening, not what you think we "want to hear."

**Appendix J: AUDIT Questionnaire**

How often do you have a drink containing alcohol? (If never skip all questions)

| | |
|---|---|
| 4 or more times a week | 4 |
| 2-3 times per week | 3 |
| 2 to 4 times a month | 2 |
| Monthly or less | 1 |
| Never | 0 |

**Fig 2. Picture of the standard drinks**.
Explain: Different alcohol containers have different amounts of alcohol. E.g. a small can of beer is 1 standard drink, but a quart has 2 standard drinks. The next few questions ask about the number of standard drinks you usually drink.

**Please note that one drink is equivalent to one 340 ml can or bottle of beer, cider or cooler, one 120ml glass of wine, or one 25ml tot of spirits. One quart of beer is the same as 2 drinks).**

How many standard drinks containing alcohol do you have on a typical day when you are drinking?

| | |
|---|---|
| 10 or more | 4 |
| 7 to 9 | 3 |
| 5 or 6 | 2 |
| 3 or 4 | 1 |
| 1 or 2 | 0 |

**Below is a list of questions about your drinking behaviour. Please choose the option that best reflects your behaviour**.

| | | Daily or almost daily | Weekly | Monthly | Less than monthly | Never |
|---|---|---|---|---|---|---|
| 3 | **MEN:** How often do you have six or more drinks on one occasion?<br>**WOMEN:** How often do you have four or more drinks on one occasion? | 4 | 3 | 2 | 1 | 0 |
| 4 | How often during the last year have you found that you were not able to stop drinking once you have started? | 4 | 3 | 2 | 1 | 0 |
| 5 | How often during the last year have you failed to do what was normally expected from you because of drinking? | 4 | 3 | 2 | 1 | 0 |
| 6 | How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session? | 4 | 3 | 2 | 1 | 0 |
| 7 | How often during the last year have you had a feeling of guilt or remorse after drinking? | 4 | 3 | 2 | 1 | 0 |
| 8 | How often during the last year have you been unable to remember what happened the night before because you had been drinking? | 4 | 3 | 2 | 1 | 0 |

| | | Yes, during the last year | Yes, but not in the last year | No |
|---|---|---|---|---|
| 9 | Have you or someone else been injured because of your drinking? | 4 | 2 | 0 |

| | | | | |
|---|---|---|---|---|
| 10 | Has a relative, friend, or a doctor or another health worker been concerned about your drinking or suggested you cut down? | 4 | 2 | 0 |

**Appendix K: Missed Opportunities on alcohol use**

In any of your visits to the clinic in the past 12 months, did the Clinical Officer or nurse ask you about alcohol use?

| | |
|---|---|
| Yes | |
| No | |

If yes, what else did the Clinical Officer or Nurse do

- Did they give any advice about drinking? ☐
- Did they recommend any counselling or other treatment? ☐

Would you have liked to receive advice or treatment regarding your alcohol use?

Yes ☐

No ☐

**Appendix L: Participant Information Leaflet and Consent Form (Chichewa Version)**

**Dzina la kafukufuku:** Missed Opportunity to address mental health needs among people living with HIV in Zomba Malawi

**Mkulu wopanga kafukufuku:** Harry Henry Kawiya

**Keyala:**

Zomba Mental Hospital

Po Box 38

Zomba

Malawi

**Nambala ya lamya:** 0888383638

Mwalandilidwa kutenga nawo gawo mukafukufuku uyu. Chonde onesesani kuti mwatenga nthawi kuwerenge uthenga onse womwe walembedwa muchikalatachi chimene ukufotokoza za kafukufukuyu. Muli ndi ufulu kufunsa mafunsomomwe akuyendetsa kafukufukuyu ngati simunamvetsetsa bwinobwino ndicholinga choti akulongotselerani mwa tsatsatanetsane zakafukufuku ameneyu musanavomere kutenga nawo gawo. Ndikoyenera kwambiri kuti mukhale okhutitsidwa ndi mene kafukufkuyu ayendere komanso mmene inu mungatele nawo gawo. Dziwani kuti kutenga nawo gawosikosakakamiza ndipo muli ndi ufulu wokana kutenga nawo gawo ndipo palibe chilango china chiliri chonse chomwe chingakhuze chithandizo chanu ngati mukana kutenga nawo gawo mu kafukufuku uyu. Health Research Ethics Committee yaku University ya Cape Town komanso National Health Sciences Research Committee yaku Malawi yavomereza za kafukufukuyu**.**

Kafukukuyu azatsatira ndondomeko zonse zoyenera komanso zoloredwa zoyendetsera kafukufuku padziko lonse lapansi komanso m'mayiko aMalawi ndi South Africa.

Kafukufukuyu dzina lake ndi kulephera kuthandiza anthu amene ali ndi kachilombo ko yambitsa matenda a edzi maganizo awo angwiro

**Malo:** Kafukufukuyu achitikira muzipatala zimene zimapere mankhwala wotalikisa moyo za Tisungane, Matawale ndi Domasi.

**Zolinga:** Cholinga cha **k**afukufukuyu ndi chofuna kudziwa ngati anthu amene ali ndi kachilombo koyambisa matenda a edzi amasowekera thandizo lina akamalandira thandizo la mankhwala ofooketsa ka chilombo muzipatala zamu Zomba kuno ku Malawi

**Ndondomeko zake:** Pamene mwavomera kutenga nawo gawo mu kafukufuku uyu mufunsidwa mafunso magawo anayi. Mafunso ena akhala okhuzana ndi maganizo anu.

**Kutenga nawo gawo:** Aliyense odwala amene ali opitilira zaka 18 zakubadwa ali omasuka kutenaga nawo mbali pokhapokha ngati wavomera. Padzafunika anthu okwana 382 pa kafukufukuyu.

**Ubwino wa kafukufukuyu: Tiku**khulupirira kuti zotsatira zakafukufufuku uyu zizathandiza kupitiritsa patsogolo umoyo wa maganizo angwiro. Komanso ngati inu mwapezeka ndi vuto la maganizo angwiro tizapanga chotheka kuti mulandire chithandizo choyenera.

**Vuto la kafukufukuyu: Tikukhulupirira kuti sipapezeka** vuto lina lilonse koma nthawi imene mumaonedwa mukabwera kuchipatala izachulukuirapo pang'ono ndi mphindi khumi kapena makumi awiri.

**Chinsinsi:** Zonse zimene mutiuze pano zizasungidwa mwachinsinsi, ndipo zizagwiritsidwa mukafukufuku yekhayu. Dzina lanu silidzalembedwa pa chikalata cha mafunso lakafukufuku uyu. Anthu wokhawo amene akupangitsa kafukukuyu ndi okhawo amene a wone komanso kugwiritsa ntchito zonse zomwe mungatiuze komanso omwe apereka chilolezo cha kafukufukuyu atha kufuna kuona ngati njira imodzi yowunikira ngati kafukufukuyu akusatira ndondomeko.

**Kulowa mu kafukufuku uyu:** Simukakamizidwakutenga nawo gawo mu kafukufuku uyu. Mutha kusankha kutenga nawo gawo, komanso kusapitiliza kutenga nawo gawo mukafukufukuyu. Palibe chilango china chilichonse ngati mukana kapena kusiya kutenga nawo gawo mu kafukufuku uyu.

Chidziwitso: Ngati muli ndi mafunso ndinu omasuka kufunsa mkulu wa kafukufukuyu Harry Henry Kawiya, pa nambala iyi ***0888383638***

Muzalandira chikalatachi kuti musunge nokha kuti munalowa mukafukufukuyu.

Mau ovomereza kulowa mukafukufuku**:**

Ine…….

Ndikuvomereza kuti ndafotokozeredwa momveka bwino ndi kukhutira ndi kafukufukuyu ndipo ndikuvomera kutenga nawo mbali mukafukufukuyu. Ndikumvetsa bwino lomwe zomwe kafukufukuyu akukhudza.

 *Ndikudziwa kuti ngati ndili ndi maganizo ofuna kusapitiliza kutenga nawo mbali mukafukufukuyu, ndingathe kudziwitsa owona zakafukufukuyu ndikuchotsedwa nthawi yomweyo.*

 *Ndikuvomereza kutenga nawo mbali mukafukufukuyu ndikumvetsetsa kuti nkhani zokhudza ine zikasungidwa mwachinsinsi.*

Woyankha mafunso atikitile…… Tsiku…….
Chindindo cha chala chakumanja (ngati samatha Kulemba)

**Kuvomereza kwa wofunsa mafunso:**
Ine……
Ndikutsimikiza kuti ndafotokoza mwatsatanetsatane mmene kafukufukuyu alili, zofuna zake ndi zovuta zina ndi zina kwa amene olowe awo mkafukufukuyu.

Wofunsa atikitile……. Tsiku…. ……..

**Appendix M: Socio-demographic Characteristics questionnaire (Chichewa version)**
**Malangizo**

Opangisa kafukufuku awawerengele ofunsidwa: Ndikufusani Mafunso ndipo musankhepo yankho limene mukuwona kuti ndililondola. Mayankho anu ndilemba pa pepalali. Mafunsowa atenga pafupifupi mphindi makumi anayi ndi zisanu. Palibe yankho loti munthu wakhoza kapena walakwa.

Chongani bokosi lomwe likugwirizana ndi yankho

1. **Kodi ndinu?**

| | |
|---|---|
| **Mwamuna** | |
| **Wakazi** | |

2. **Kodi muli ndi zaka zingati?** ☐

3. **Kodi ndinu?**

- Wokwatira ☐
- Wosakwatira ☐
- Nafedwa ☐
- Banja linantha ☐

4. **Kodi mamumakhala kuti?**

- Kutauni ☐
- Kumudzi ☐

5. **Kodi ndinu wophunzira?**

| | |
|---|---|
| **Eya** | |
| **Ayi** | |

**Muli satifiketi iti?**

- Sitandade 8 satifiketi ☐
- Folomu 2 satifiketi ☐
- Folomu 4 satifiketi ☐
- Dipuloma ☐
- Digiri kapena kuposa Digiri ☐

**6. Kodi m'mapanga nchiyani kuti mpedze ndalama**

- Ndimagwira pantchito ☐
- Sindili pa ntchito koma ndikusakasaka ntchito ☐
- Sindili pa ntchito koma sindikusakasaka ntchito ☐
- Ndimapanga geni ☐

**7. Kodi munapezeka ndi kachilombo chaka chiti?** ☐

**8. Nkhani ya zachuma**

- Mumapeza ndalama zingati pa mwezi ☐
- Mumagwilitsira ndalama kwana zingati pa mwezi ☐

**9. Kagwiritsidwe ntchito ka chinthandizo cha zaumoyo**

- Kodi munabwerako kangati ku chipatala pa miyezi khumi ndi iwiri yamumbuyomu ☐
- Kodi ndikangati komwe munabwera chifukwa cha matenda edzi ☐

**Appendix N: Self-Reporting Questionnaire-20 (SRQ-20) Chichewa Version**

Tsopano ndikufunsani mafunso okhudzana ndi momwe mumamvera mumtima ndi maganizo omwe mwakhala nawo m'sabata zinayi zomwe zapitazi. Muyankhe "eya" kapena "ayi" ku funso lirilonse. Ngati mukukaikira, yankhani mofanizira ndi momwe mwakhala mukumvera. Ngati simukumvetsa funso, chonde funsani ndipo ndikupatsani chitsanzo chotanthauzira funsolo.

| | | | |
|---|---|---|---|
| 1. | M'masabata anayi apitawa, kodi mumamva kupweteka mutu pafupipafupi? | Eya | Ayi |
| 2. | M'masabata anayi apitawa, kodi simumakhala ndi chilakolako cha chakudya? | Eya | Ayi |
| 3. | M'masabata anayi apitawa, kodi mumavutika kugona usiku? | Eya | Ayi |
| 4. | M'masabata anayi apitawa, kodi manja anu amanjenjemera? | Eya | Ayi |
| 5. | M'masabata anayi apitawa, kodi mumakhala ndi nkhawa, mantha kapena madandaulo? | Eya | Ayi |
| 6. | M'masabata anayi apitawa, kodi simumachedwa kututumutsidwa? | Eya | Ayi |
| 7. | M'masabata anayi apitawa, kodi mumadzimbidwadzimbidwa? | Eya | Ayi |
| 8. | M'masabata anayi apitawa, kodi mumakhala ndi vuto kuganiza bwinobwino? | Eya | Ayi |
| 9. | M'masabata anayi apitawa, kodi mumakhala osasangalala kapena osakondwa? | Eya | Ayi |
| 10. | M'masabata anayi apitawa, kodi mumaliralira pafupipafupi ndipo koposera muyeso? | Eya | Ayi |
| 11. | M'masabata anayi apitawa, kodi mumaona ngati ndi chinthu chokuvutani kusangalatsidwa ndi zinthu zimene mumapanga tsiku ndi tsiku? | Eya | Ayi |
| 12. | M'masabata anayi apitawa, kodi mumakhala ndi vuto kupanga maganizo kapena kumanga mfundo? | Eya | Ayi |
| 13. | M'masabata anayi apitawa, kodi ntchito zanu za tsiku ndi tsiku sizimayenda bwino? | Eya | Ayi |
| 14. | M'masabata anayi apitawa, kodi mumalephera kupanga zinthu za phindu kapena zofunikira m'moyo wanu? | Eya | Ayi |
| 15. | M'masabata anayi apitawa, kodi munasiya kukhala ndi chidwi mu zinthu zosiyanasiyana? | Eya | Ayi |
| 16. | M'masabata anayi apitawa, kodi mumaziona ngati ndinu munthu wopanda ntchito kapena wosafunikira? | Eya | Ayi |
| 17. | M'masabata anayi apitawa, kodi maganizo odzipha anayamba akubwereranipo? | Eya | Ayi |
| 18. | M'masabata anayi apitawa, kodi mumamva kapena kukhala otopatopa nthawi zonse? | Eya | Ayi |
| 19. | M'masabata anayi apitawa, kodi mumakhala ndi vuto losamva bwino m'mimba? | Eya | Ayi |
| 20. | M'masabata anayi apitawa, kodi simumachedwa kutopa? | Eya | Ayi |

**Appendix O: Missed Opportunity Questionnaire (Chichewa Version)**

**Kamvedwe ka m'mtima**

- Mumaulendo anu omwe mwakhala mu kubwera kuno chipatala kodi adokotala kapena anesi adakufunsanipo za mumene mumavela m'mtima mwanu mwachitsanzo kumva kukhumudwa kapena kukhala ndi nkhawa?

| | |
|---|---|
| Eya | |
| Ayi | |

Ngati yankho lanu ndi eya, kodi pali china chili chonse chimene adokotala kapena anesi adachita monga

- Kukudziwisani kuti vuto lanu ndi chiyani ☐
- Kukuyambisani thandizo la mankhwala ☐
- Kukutumizani kwa adokotala ena amene ☐

Kodi mukadakonda mutalandira malangizo kapena thandizo la mankhwala pa vuto lanu kukhumudwa kapena nkhawa?

Eya ☐
A ☐

**Appendix P: AUDIT Questionnaire Chichewa Version**

| Mafunso | **Njira yowerengera** | | | | | **Chowerengero** |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | |
| 1.Ndikangati mumamwa chakumwa chimene chili ndi mowa? | Sindinamwe ko | Kamozi pamwezi kapena kamodzi pa miyezi ingapo | Kawiri mpaka kanayi pa mwezi | Kawiri mpaka katatu pa sabata imodzi | Kanayi kapena kuposa apo pa sabata imodzi | |
| 2. Ndi milingo ya mowa yomwe mumamwa pa tsiku lomwe mwaganiza kuti mumwe? | 1 kapena2 | 3 kapena 4 | 5 kapena 6 | 7 kapen a 9 | 10 kapena kuposa 10 | |
| **kwa akazi:** 3. Ndikangati pamene munamwa milingo 6 kapena kuposa apo panthawi imodzi mchaka chathachi? **kwa amuna:** 3. Ndikangati pamene munamwa milingo 8 kapena kuposa apo. panthawi imodzi mchaka chathachi? | Sizinachitikepo | Kamodzi pamiyezi ingapo | Mwezi uliwonse | Sabata iliyonse | Pafupi tsiku lililonse | |
| 4. Ndikangati m'chaka chapitachi komwe munapezeka kuti mwayamba kumwa mowa ndikumakanika kusiya? | Sizinachi tikepo | Kamodzi pamiyezi ingapo | Mwezi uliwonse | Sabata iliyonse | Pafupi tsiku lililonse | |
| 5. Ndikangati m'chaka chapitachi momwe inu munalephera kugwira ntchito yomwe | Sizinachi tikepo | Kamodzi pamiyezi ingapo | Mwezi uliwonse | Sabata iliyonse | Pafupi tsiku lililonse | |

| | | | | | | |
|---|---|---|---|---|---|---|
| mumayembekezereka kuyigwira chifukwa chakumwa mowa? | | | | | | |
| 6. Ndikangati mchaka chathachi pomwe inu munafunitsitsa kumwa mowa mmawa kufuna kuchotsa matsile? | Sizinachitikepo | Kamodzi pamiyezi ingapo | Mwezi uliwonse | Sabata iliyonse | Pafupi tsiku lililonse | |
| 7. Ndikangati mchaka chathachi pomwe munakhala ndi chikumbumtima kapena kukhudzidwa kapena kukhumudwa mutamwa mowa? | Sizinachitikepo | Kamodzi pamiyezi ingapo | Mwezi uliwonse | Sabata iliyonse | Pafupi tsiku lililonse | |
| 8. Ndikangati mchaka chathachi pamene mudaiwalako zimene zinachitika usiku watsiku lomwe mudaledzera? | Sizinachitikepo | Kamodzi pamiyezi ingapo | Mwezi uliwonse | Sabata iliyonse | Pafupi tsiku lililonse | |
| 9. Kodi inuyo kapena munthu wina anavulalapo chifukwa chakuledzera kwanu? | Ayi | | Eya koma osati m'chaka chapitachi | | Eya m'chaka chapitachi | |
| 10. Kodi alipo m'bale wanu kapena mnzanu, a dokotala kapena ogwira ntchito zaumoyo ena aliwonse adakhudzidwapo kapena kukulangizani kuti muchepetse | Ayi | | Eya koma osati m'chaka chapitachi | | Eya m'chaka chapitachi | |

| | | | | | | |
|---|---|---|---|---|---|---|
| mamwedwe anu a mowa? | | | | | | |

**Appendix Q: Missed Opportunity Questionnaire (Chichewa Version)**

- Mumaulendo anu omwe mwakhala mu kubwera kuno chipatala kodi adokotala kapena anesi adakufunsanipo kuti mumamwa mowa?

| | |
|---|---|
| **Eya** | |
| **Ayi** | |

**Ngati yankho lanu ndi eya, kodi pali china chili chonse chimene adokotala kapena anesi adachita monga**

- Adakulangizanipo za kamwedwe kanu ☐
- Adakupatsanipo uphungu wina uli onse ☐

- Kodi mukadakonda mutalandira malangizo kapena thandizo la mankhwala pa vuto lanu la kamwedwe ka mowa?

Eya ☐

Ayi ☐