FACTORS INFLUENCING THE FOLLOW UP ON HIV/AIDS PATIENTS FOR TREATMENT CLINICS IN TANZANIA: A CASE OF MBEYA CITY COUNCIL

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF MONITORING AND EVALUATION (MAME) OF THE OPEN UNIVERSITY OF TANZANIA

2023

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation titled: "***Factors Influencing the Follow Up On HIV/AIDS Patients for Treatment Clinics in Tanzania: A Case of Mbeya City Council***" in partial fulfillment of the requirements for the degree of Master of Monitoring and Evaluation of the Open University of Tanzania.

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Dr. Timothy Lyanga

(Supervisor)

……..……

Date

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DECLARATION

I, **Joyce Leonard Odero**, declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfillment of the requirement for the Degree of Master of Arts in Monitoring and Evaluation (MAME).

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Signature

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Date

DEDICATION

This work is dedicated to my brother Mr. Vincent Leonard Odero for his enormous love that cannot be measured; his presence has been an incentive to this work. Also, I would like to dedicate this work to my whole family for their unconditional love and support throughout the time I have been studying.

ACKNOWLEGEMENT

First and for most I thank God for making me mentally healthy, actively, wisely and cooperatively in all time of conducting research, without God nothing would have happened. It was long challenging journey and not simple until complete this study I repeat to thank God for doing everything to me.

Special thanks to my supervisor Dr. Timothy Lyanga for his supervision, good cooperation and helped me in the whole process of carrying out my research from formulating proposal to the final report also I wish to acknowledgement other researchers whose works have been cited in this dissertation. Also I wish to extend my warm appreciations to my colleagues of the Master of Monitoring and Evaluation (M&E) for their supports and contributions during my study for the whole period, may almighty God bless them.

My deepest gratitude goes to my brother Mr. Vincent Leonard Odero who offered me comprehensive moral support and treatment that enabled me succeed throughout my academic life. I owe him more than a mere expression of thanks.

Finally, I extend my sincere acknowledgments to my lovely friend Mr. Balon Mwakalinga and his family for their support, love, keenness and endurance during my studies. I thank him very much indeed.

ABSTRACT

This study assessed the factors influencing the Follow Up on HIV/AIDS Patients for Treatment Clinics in Tanzania: A case of Mbeya city council. The study adopted the mixed approach using a survey design based on 138 respondents drawn from the study population. The finding shows that that there is a strongly positive relationship between environmental factors (0.753), social factors (0.910) and health system factors (0.847) on HIV/AIDS to follow-up patient treatment clinics. Therefore, it concluded that lack of family and social support, stigma and discrimination are critical social factors that prevent patients from seeking care and attending follow-up appointments in Tanzania. In addition, health system factors such as the quality of care and services, healthcare provider attitudes and behavior are significantly impact patients' willingness to attend follow-up appointments provided. However, poverty and shifting to another CTC are environmental significant factors for people living with HIV/AIDS to lose follow-up treatment clinics. Thus the study recommends that healthcare providers should work to develop culturally appropriate interventions that address HIV/AIDS on specific social and cultural challenges faced by patients in their communities in Tanzania.

Keywords: *HIV/AIDS, Treatment Clinics, Environmental Factors, Social Factors, Health System Factors.*

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LIST OF ABBREVIATIONS /ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
ARVs	Antiretroviral Treatment of HIV/AIDS
CD4	Clusters of Differentiation 4
CDC's	Centers for Disease Control and Prevention
CTC	Care and Treatment Clinics
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
LTFU	Loss to Follow Up
M&E	Monitoring and Evaluation
NACP	National Aids Control Programme
PLHIV	People Living with HIV
TB	Tuberculosis
U. S	United States
UNAIDS	United Nations Programme on HIV and AIDS
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Chapter Overview

This chapter focused on the introduction of the study, background information of the study, statement of the problem, research objectives, research questions, significance of the study, scope of the study, limitations of the study and study organization.

1.2 Back ground Information of the Study

There are numerous disparities in HIV treatment and care among certain subpopulations in the U.S. For example, CDC's 2019 HIV monitoring report indicates that Black or African American persons with diagnosed HIV infection have percentages of linkage to care within one month of HIV diagnosis and viral suppression within six months of diagnosis that are lower than whites and far below national goals. In addition, fewer people with HIV in the South are aware of their infection than in any other region. Consequently, fewer people in the South who have HIV receive timely medical care or treatment, and fewer have their virus suppressed (Heestermans et al., 2016).

Spain is among the countries which there are people living with HIV/AIDS (PLHIV) and some factors that are likely to influence adherence to ART among HIV-positive patients on clinic treatment. These factors include side effects of the medications, distance to the treatment clinic, stigma, discrimination, alcohol or substance use and non-disclosure of HIV status (Legesse & Reta, 2019).

In South Africa stigma and discrimination associated with HIV/AIDS can create fear, shame, and social isolation, leading to patients avoiding or discontinuing follow-up care. HIV stigma and discrimination affect the emotional wellbeing and mental health of people living with HIV. People living with HIV often internalize the stigma they experience and begin to develop a negative self-image. They may fear they will be discriminated against or judged negatively if their HIV status is revealed. Internalized stigma happens when a person takes in the negative ideas and stereotypes about people living with HIV and start to apply them to themselves. HIV internalized stigma can lead to feelings of shame, fear of disclosure, isolation, and despair (Nyblade et al., 2019). Limited access to healthcare services, including geographic distance, transportation challenges, and financial constraints, can hinder patients' ability to attend follow-up appointments. The study highlighted complexities surrounding follow up of HIV/AIDs in Dabat District. Challenges of geographic access to health care facilities and financial burdens were factors that most influenced timely tuberculosis treatment initiation and compliance. Decentralization of tuberculosis diagnosis and treatment services to peripheral health facilities, including health posts is of vital importance to make progress toward achieving tuberculosis control targets in Ethiopia (Kranzer et al., 2018).

There are factors which identified in Zimambwe and those factors are such as the lack of motivation and stock out of ARVs were the causes of the follow up visits among HIV positive patients who were attending CTC for ART. If the HIV positive patients attending CTC came as they were supposed then they missed ARV for more than two times then they decided to go to other CTC or even to stop taking ARVs which is a problem for patient and the country (Campbell C, Scott K,

Madenhire C, Nyamukapa C & Gregson S, 2010).

The study conducted in Lusaka – Zambia found that Inadequate quality of healthcare services, such as long waiting times, disrespectful treatment, and insufficient counseling, can lead to patient dissatisfaction and disengagement from follow-up care. Patient satisfaction with healthcare providers is associated with re-engagement in HIV care among patients LTFU. Measuring patient satisfaction may be an important element of improving retention in HIV care efforts and will likely become more important as HIV service delivery models expand. These findings also offer encouragement in the midst of health system challenges; challenges like long waiting times, congestion in health facilities and staff shortages that patients are largely satisfied with their healthcare providers (Fox & MacLeod., 2015).

In East African countries such as Kenya Uganda and Tanzania the causes which identified are such as the loss for follow up visits to be death, transfer out from the initiated clinic, failure to trace some patients may be due to wrong contacts and the general condition of the patient whether deteriorated or becoming healthier (Brinkhof M et al 2009).

Psychosocial factors, including depression, anxiety, and lack of social support, impacts patients' motivation and ability to adhere to follow-up care and medication regimens in Tanzania. Interventions to increase follow up of HIV/AIDS patients' perceived social support and decreased anxiety may contribute to an enhanced self-care ability and positive health outcome, and may subsequently improve self-care and the psychosocial adjustment to HIV/AIDS patient (Sangeda et al., 2014).

Issues related to the influence of follow up of HIV/AIDS patients have been previously investigated by URT (2021), in many regions of Tanzania including Dar es salaam, Mbeya, Dodoma and Mwanza. It has been observed that factors influencing retention-in-care behaviors are similar to those that influence adherence and those factors includes distance to clinic, travel cost and fear to be discovered by the neighbors that they are living with HIV/AIDS. If patients are not retained in care, it becomes a challenge for these patients to receive medications regularly, and thus retention in care is a critical mediator to medication adherence (Sangeda, 2021).

Some influences have been identified which causes retention of HIV/AIDS patients to healthcare and those factors underlying environmental, social, economic and behavioral circumstances among people living with HIV with poor viral suppression that could explain their non-adherence to ART. Despite the available evidence, this study aimed to examine the Influence on Follow up of HIV/AIDS patients for treatment clinics in Tanzania.

1.3 Statement of the Problem

The follow up visits among HIV positive patients is a leading cause of an increase of HIV morbidity and mortality, drug resistance, shift from first line to second line treatment in Tanzania. In the Sub Saharan African countries including Tanzania HIV positive clients who lose the follow-up visits do increase the risk of opportunistic infections due to high viral load and low CD4 count hence cause death to people with HIV/AIDS (Weiser, 2018).

The risk of interruption in treatment is high among HIV care and treatment facilities in Tanga. This might lead to poor clinical outcomes, and increased drug resistance

among ART-initiated patients. Placing more patienents with DTG based drug, strengthening access to care and treatment and rapid tracking of patients is recommended to improve patient outcomes (Mtisi et al., 2023).

Follow up of HIV/AIDS patients in care clinics and hospitals is one of the critical issues that need to be addressed in Tanzania if the goal of ending the AIDS pandemic is to be realized. Although further researches has been conducted on patients in ART programs in Tanzania, most studies have focused on factors associated with poor adherence to ART and Retention of patients in care, though recognized as a prerequisite for achieving any level of adherence, has received less attention. Follow up in care of patients on ART program is of public health importance.

Therefore, a better understanding of the factors affecting retention in care of patients on ART program in Tanzania is needed to improve the quality of life of people living with HIV and AIDS and reduce deaths due to HIV.

1.4 Study Objectives

1.4.1 General objective

The general objective of this study was to assess the factors influencing the follow up of HIV/AIDS on patients at treatment clinics in Tanzania.

1.4.2 Specific Objectives

i. To examine the environmental factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council.

ii. To examine the social factors influencing the follow up of HIV/AIDS

patients at treatment clinics in Mbeya City Council.

iii. To determine the health system factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council.

1.5 Research Questions

i. What are the environmental factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council?

ii. What are the social factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council?

iii. What are the health system factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council?

1.6 Significance of study

For the government, this study aimed to help the policy makers to design policies for HIV/AIDS patients to attend treatment clinics. For the ministry of Health, the study aimed to help the ministry of health to manage those policies made for people who live with HIV/AIDS. For communities, the study aimed to help the community to understand the importance for the HIV/AIDS patients to attend the treatment clinics by illustrating the factors for the follow up and suggesting possible solutions. To the researcher, this study was part of the fulfillment of the academic requirement for the award of Master of Arts in Monitoring and Evaluation. Also it would assist other researchers on conducting the study of the same or related topic.

1.7 Scope of the Study

The study was conducted in Mbeya, Mbeya is a city located in south west Tanzania, Africa. Mbeya's urban population is 385,279 according to the 2012 census. Mbeya is the capital of the surrounding rural Mbeya region population with totals approximately 2 million peoples. The study will be conducted at Igawilo City Hospital and Kiwanjampaka Health Center. The hospitals are located in Mbeya City Council just few miles from city center, this place chosen purposely because it has significant numbers of HIV patients as reported by UNAIDS report of (2020) that "The HIV burden is higher in urban areas than in rural areas 7.5% versus 4.5% respectively in Mbeya region which estimates a total of (11.4%) in Mbeya region only". As a researcher I hope this study will be of contribution on the efforts of fighting against HIV/AIDS in Mbeya city council.

1.8 Limitations of the Study

The researcher met some obstacles in the whole process of interacting with respondents which were supposed to provide the data concerning the HIV/AIDS patients. Some respondents were surely not being willing to participate on providing the accurate data, to solve this challenge the researcher explained and made appointments with the respondents by starting with introduction and then explain the aim of the study in order to make the respondent comfortable to cooperate fully in the study. Also, another limitation was the financial constraints since the study needs enough finance to conduct but the researcher has limited finance.

1.9 Organization of the Study

This report contains five chapters. Chapter one covered the background of the research which contained several information of the research problem, objective of the study and the research questions, significance of the study, scope of the study and limitation of the study. Chapter two included conceptual definitions, theoretical literature review, empirical literature reviews and conceptual frameworks. Chapter three discussed, research design, area of the study, sampling design and procedures, data sources, methods of data collection, data processing and analysis and validity and reliability testing and Ethical consideration. Chapter four was about the results from data analyzed, presentation of obtained results and discussion of the study findings. Conclusion and recommendations made on the basis of the research findings were discussed on chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This section consists of review of related literature. The section covers introduction, definition of key terms, theoretical literature reviews and empirical literature review on the study about factors Influencing the follow up of HIV/AIDS patients at treatment clinics in Tanzania.

2.2 Definition of Key Concepts

2.2.1 Treatment Clinics

This is a health facility that is primarily focuses on the care of outpatients. Clinics can be privately operated or publicly managed and funded. They typically cover the primary care needs of populations in local communities, in contrast to larger hospitals which offer more specialized treatments and admit inpatients for overnight stays (Balcha, 2018).

2.2.2 Environmental Factors

Environmental factors, as related to this study, refers to behaviors or circumstances that are related to environment that can increase an individual’s risk of disease or stressful situations.

2.2.3 Social Factors

Social factors are things or behaviors that affect someone's lifestyle directly or indirectly depending on society perception about something or someone.

2.2.4 Health System Factors

A health system is the way in which all health services are provided. From how they are financed to the workforce, facilities and supplies available, a strong health system will ensure that everyone is able to access high-quality healthcare without financial difficulty (UNAIDS, 2016).

2.3 Theoretical Literature Review

2.3.1 Importance of Follow up of HIV/AIDS Patients at Treatment Clinics

Linkage to care and adherence to follow-up care in HIV treatment are important for improving health outcomes for PLWH and decreasing the number of new HIV infections. Strategies to increase retention in HIV care and treatment must use a multipronged approach individualized for each patient. Patient-provider relationships are extremely important and are begun during initial linkage to care. This relationship is further solidified through continued education and clinician-guided patient empowerment (Kranzer et al., 2018).

Regular follow-up visits at treatment clinics for HIV/AIDS patients are essential for monitoring treatment response, detecting treatment failure early, supporting adherence, managing side effects and comorbidities, preventing opportunistic infections, and providing necessary psychosocial support. This comprehensive care approach helps ensure optimal health outcomes and improved quality of life for individuals living with HIV/AIDS (Fox & MacLeod., 2015).2.3.2 HIV/AIDS Patients at Treatment Clinics in Tanzania

In Tanzania, the management of HIV/AIDS patients at treatment clinics involves a comprehensive approach to provide optimal care and support. Tanzania has made

significant progress in scaling up HIV/AIDS treatment and care services. The government, in collaboration with international partners, has expanded access to antiretroviral therapy (ART) across the country, increasing the number of people living with HIV who receive treatment, although retaining patients in care is crucial for successful for HIV/AIDS treatment outcomes, however, challenges related to retention have been reported, including issues such as distance to clinics, financial constraints, and stigma, which can affect patients' ability to attend follow-up visits consistently (UNAIDS., 2019).2.3.3 Health Belief Model (HBM)

The Health Belief Model is a psychological model that attempts to explain and predict health behaviors by focusing on the attitudes and beliefs of individuals. The HBM was developed in the 1950s as part of an effort by social psychologists in the United States Public Health Service to explain the lack of public participation in health screening and prevention programs (e.g., a free and conveniently located tuberculosis screening project). Since then, the HBM has been adapted to explore a variety of long- and short-term health behaviors, including sexual risk behaviors and the transmission of HIV/AIDS (Denison, 2014). This Health Belief Model will be used to guide this study for designing strategies to help promote healthy behaviors and to improve the prevention and treatment of health conditions.

The relevance of this theory to the study is that it is assumes that people feared diseases, and that health actions are motivated in relation to the degree of fear (perceived threat) and expected fear-reduction potential of actions, as long as that potential outweighed practical and psychological obstacles to taking action.

2.3.4 Strength and Weakness of Health Belief Model (HBM)

The Health Belief Model (HBM) is a psychological framework that attempts to explain and predict health-related behaviors by examining individuals' beliefs and perceptions. The strengths of the Health Belief Model (HBM) we can summarize that the HBM recognizes the importance of individual beliefs and perceptions in shaping health behaviors. It emphasizes that individuals' perception of susceptibility to a health condition, the severity of the condition, and the benefits and barriers associated with preventive actions influence their likelihood of engaging in health-promoting behaviors, second the HBM is relatively simple and easy to understand, making it practical for use in various settings, furthermore it provides a framework for understanding health-related decision-making and can be applied to a wide range of behaviors, such as disease prevention, health screening, and adherence to medical treatments, the HBM focuses on identifying factors that can motivate individuals to change their health behaviors. It emphasizes the role of cues to action, such as messages, reminders, or personal experiences, in prompting individuals to take action towards preventive behaviors.

While the HBM has strengths in certain areas, it also has limitations. Here is the summary of the weaknesses of the Health Belief Model; The HBM places less emphasis on the influence of social, cultural, and environmental factors on health behaviors. It tends to overlook the role of social norms, social support, and environmental constraints in shaping individuals' behaviors, which can limit its applicability in complex socio-cultural contexts also the HBM assumes that individuals rationally weigh the benefits and barriers and make consistent decisions about health behaviors. However, in reality, health behaviors are influenced by

dynamic factors, and individuals may not always make rational choices based on a careful evaluation of the model's constructs.

Despite these limitations, the Health Belief Model has been influential in shaping health behavior research and interventions. It provides a useful starting point for understanding individuals' beliefs and perceptions and can inform the development of targeted interventions to promote health behaviors. However, incorporating additional theoretical perspectives and addressing the model's weaknesses can enhance its applicability and effectiveness in understanding and promoting health behavior change.2.3.5 National Policy on HIV/AIDS.

The country has adopted policies, as demonstrated in frameworks, guidelines, and monitoring and evaluation (M&E) plans, that focus on the prevention of HIV infection, the provision of treatment, care and support for people living with HIV (PLHIV), and the mitigation of the social and economic consequences of high levels of morbidity and mortality due to AIDS (UNAIDS, 2019).

The overall goal of the National Policy on HIV/AIDS is to provide for a framework for leadership and coordination of the National multisector response to the HIV/AIDS epidemic. This includes formulation, by all sectors, of appropriate interventions which will be effective in preventing transmission of HIV/AIDS and other sexually transmitted infections, protecting and supporting vulnerable groups, mitigating the social and economic impact of HIV/AIDS. It also provides for the framework for strengthening the capacity of institutions, communities and individuals in all sectors to arrest the spread of the epidemic (Tanzania National Policy, 2001).

2.4 Empirical Literature Review

2.4.1 Global Review of Factors Influencing the Follow up of HIV/AIDS Patients at Treatment Clinics

A study conducted by Skhosana et al (2010) about "HIV disclosure and other factors that impact on adherence to antiretroviral therapy" Which was conducted in Turkey and a descriptive qualitative research design was used, the study trans theoretical model. The study reveals that Stigma, disclosure, unemployment, lack of transport, insufficient feeding, disability grants and alternative forms of therapy were identified as major barriers to adherence, whereas inadequate follow-ups and lack of patient confidentiality came under major criticisms from the patients.

Practically, adherence to ART is a complex and dynamic process. Several barriers to adherence to ART have already been established by numerous studies in both developed and developing countries (Weiser et al, 2018). Demographic variables such as age, gender and ethnicity are known to be inconsistent in predicting good adherence to ART. Literature has consistently revealed that socio-economic variables such as unemployment, poverty, food insecurity and transport costs are implicated in poor adherence to ARV medications.

Skhosana concluded and recommended that; patients in Turkey are still facing significant barriers to ART adherence, such as stigma, discrimination, poverty and disclosure. Therefore, poverty, stigma and disclosure are recommended to remain at the forefront of the ART programme implementation, while further quantitative investigations are also recommended to quantify the extent to which the above-mentioned factors impede ART adherence.

A global review of factors influencing the follow-up of HIV/AIDS patients at treatment clinics reveals several common themes and challenges across different regions. While specific factors can vary depending on local contexts, some key global factors include, Stigma and Discrimination, access to Healthcare Services, socioeconomic factors, health System factors, Patient-Level Factors, Individual factors, including knowledge about HIV/AIDS, treatment beliefs, mental health, and substance use, Social Support, Co-occurring Challenges. It's important to note that while these factors are commonly identified, their relative importance and impact may vary across regions and populations. Strategies to address these factors include comprehensive HIV/AIDS education, stigma reduction campaigns, improving access to healthcare services, strengthening health systems, enhancing social support networks, and promoting patient-centered care approaches (Kranzer, 2018).The study conducted by Fox & MacLeod (2015) about "scale-up of antiretroviral therapy accompanied by a decrease in HIV-related mortality rates in European countries" revealed that in European countries, several factors can influence the follow-up of HIV/AIDS patients at treatment clinics. While specific factors may vary across countries, here are some common influences identified in the context of European healthcare systems: Healthcare Access and System Organization, socioeconomic Factors, stigma and Discrimination, supportive Healthcare Services. cultural and Language Barriers, patient empowerment and engagement. It's important to note that factors influencing the follow-up of HIV/AIDS patients can vary across European countries due to differences in healthcare systems, cultural contexts, and socioeconomic conditions.

2.4.2 Review of Factors Influencing the Follow up of HIV/AIDS Patients at Treatment Clinics in Africa

Mukumbang et al (2017) Conducted a study in Zambia entitled "Conceptualizing the Factors Affecting Retention in Care of Patients on Antiretroviral Treatment in Kabwe District, Zambia, Using the Ecological Framework" Qualitative data were collected through in-depth interviews with 45 ART patients and three focus group discussions with 20 healthcare providers from three primary healthcare facilities in Kabwe district, Zambia, and subjected to thematic content analysis. The study revealed that Individual level barriers to retention in care included side effects, gaining weight, belief in faith healing, and use of herbal remedies and alcohol. Interpersonal barriers such as stigma and nondisclosure of HIV status were reported. At the institutional level, inadequate space in the clinic, long waiting times, long travel distances, and shortage of third-line drugs presented barriers to retention in care. Food shortages and patient mobility were reported as community barriers to retention in care. The study concluded that the ecological framework conceptualizes the complex and dynamic factors affecting retention in ART care and highlights the need for multifaceted interventions that combine health education, disease management, and opportunities for income generation in a socially responsive and accountable environment.

Mukumbang et al, recommended that the findings of this study highlight the importance of strong community follow-up and patient support systems for all patients in the ART programme. There is a need to engage a wider range of partners such as community-based and faith-based organizations, local communities, and in

particular people living with HIV to improve patient tracking and follow-up and, hence, retain them in care. To resolve the challenges related to the distance to the health facility and high transport cost, patients should be continually encouraged to access treatment at their nearest treatment center.

Furthermore, the study conducted by Chirambo et al (2019) about "Factors influencing adherence to antiretroviral treatment among adults accessing care from private health facilities in Malawi" which was conducted in Malawi and it was conducted by using descriptive qualitative approach employing in-depth interviews among adults who either defaulted or were retained in HIV care in two privately owned facilities in Malawi from March to July 2017. The study identified four facilitators for retention in care and four broad categories of barriers namely individual, psychological, drug related and human resource related factors. The factors that facilitated retention in care included follow up visits after missing a visit, adequate information education and counseling, and supportive relationships.

The study concluded and recommended that the main reason for defaulting from antiretroviral (ARVs) was fear of disclosing an HIV status to avert potential stigma and discrimination. In implementing ART clinics due consideration and strategies need to be adopted to ensure that privacy and confidentiality is preserved. Although adoption of all the key Malawi Implementing strategies like expert clients and a guardian may optimize retention in care, there is need for prior analysis of how those may lead to unintended disclosure which inadvertently affects adherence. Furthermore, private facilities should orient their clients to the public facilities within

the catchment area so that clients have an option for alternative access to HIV care in the event of financial constraints.

2.4.3 Review of Factors Influencing the Follow up of HIV/AIDS Patients at Treatment Clinics in Tanzania

In Tanzania, various studies and routine assessments of HIV services have been done among adults but limited data exist among adolescents group (WHO, 2013). The study conducted by Tesha (2022) which was concerned about "Predictors of loss to follow up from antiretroviral therapy among adolescents with HIV/AIDS in Tanzania" study conducted by performing a retrospective cohort study of routinely collected data obtained from the Care and Treatment Clinics (CTC3) macro database at the National AIDS Control Program (NACP). Revealed that a total of 25,880 records were obtained from the CTC-3 database. About 396(1.5%) records with no ART enrollment and last appointment date were excluded from this study. Of these, 25,484 (98.5%) records were eligible for this study based on inclusion criteria. About 177(0.7%) records were deceased and 74(1.7%) records were transferred out on their last appointment date. A total of 14,498(56.8%) records were retained during follow-up time of the study.

Tesha concluded and recommended that due to high rate of LTFU obtained in our findings than in other studies, retention in care among adolescents in ART is still of major concern in Tanzania. There is a need for targeted interventions for adolescents; aged 15–19 years, HIV/TB co-infected, with WHO stage IV, and those residing in the Lake zone. Also, attention among adolescents attending clinics at public facilities, dispensaries, and health centers is highly needed. There is a need for

designing integrated clinics for adolescents, especially in primary health facilities to increase retention in care. Generally, interventions that will develop strategies for reducing LTFU among adolescents especially in the first six months in ART are highly warranted to be able to achieve the 2030 goal of ending the HIV epidemic as a public health threat.

Furthermore, Sanga (2019), conducted a study about "Understanding factors influencing linkage to HIV care in a rural setting, Mbeya, Tanzania" with the use of 8 focus group discussions and 10 in-depth interviews with recently diagnosed HIV-positive individuals and 20 individual interviews with healthcare providers. The results identified multiple factors influencing linkage to care. HIV status disclosure, support from family/relatives and having symptoms of disease were reported to facilitate linkage at the individual level. Fear of stigma, lack of disclosure, denial and being asymptomatic, belief in witchcraft and spiritual beliefs were barriers identified at individual's level. At providers' level; support and good patient-staff relationship facilitated linkage, while negative attitudes and abusive language were reported barriers to successful linkage. Clear referral procedures and well-organized clinic procedures were system-level facilitators, whereas poorly organized clinic procedures and visit schedules, overcrowding, long waiting times and lack of resources were reported barriers. Distance and transport costs to HIV care centers were important contextual factors influencing linkage to care.

The study concluded and recommended that linkage to HIV care is an important step towards proper lifelong management of HIV infection. The findings of this study indicate that while there are many barriers to linkage to care, facilitating factors are

also explicitly identified by patients and by healthcare providers. We found that individual, healthcare provider, health system and contextual factors might all influence linkage into care. These findings emphasize the need for further problem – focused and action oriented strategies addressing individual level factors, notably stigma, and health system factors, notably under-resourced and poorly coordinated facilities. These challenges and the respective strategies are particularly important from the perspective of both patients and providers.

Table 2. 1 Summary of Previous Studies on factors influencing the follow up of HIV/AIDS for patients at treatment clinics

Author and Year	Study Objectives	Study Location	Sampling Method	Analytical Method	Sample size	Findings
Skhosana et al (2010)	HIV disclosure and other factors that impact on adherence to antiretroviral therapy	Turkey	Simple Random and purposive sampling	Descriptive data analysis	120	Inadequate follow-ups and lack of patient confidentiality came as major factors.
Weiser et al, 2018	Factors influencing adherence to antiretroviral treatment	South Africa	Purposive Sampling	Quantitative and qualitative analysis	50	unemployment, poverty, food insecurity and transport costs are implicated in poor adherence to ARV medications
Kranzer, (2018)	Global Accessibility of HIV services for people living with HIV	Global	Undefined	Descriptive statistics and Gross and Margin	Undefined	Some key global factors include, Stigma and Discrimination, access to Healthcare Services and socioeconomic factors,
Fox & MacLeod (2015)	Scale-up of antiretroviral therapy accompanied by a decrease in HIV-related mortality rates in European countries	European countries	Simple Random and purposive Sampling	Quantitative and Qualitative analysis	180	Healthcare Access and System Organization, stigma and Discrimination, supportive Healthcare Services. cultural and

						Language Barriers were the factors observed
Mukumbang et al (2017)	Conceptualizing the Factors Affecting Retention in Care of Patients on Antiretroviral Treatment	Zambia	Ecological Framework	Thematic content analysis	65	There are individual level barriers to retention, Interpersonal barriers such as stigma and nondisclosure of HIV status and the institutional barriers
Chirambo et al (2019)	Factors influencing adherence to antiretroviral treatment among adults accessing care from private health facilities	Malawi	Purposive sampling	Qualitative analysis	200	Individual, psychological and drug related were the factors observed
Tesha (2022)	Predictors of loss to follow up from antiretroviral therapy among adolescents with HIV/AIDS	Tanzania	N/A	Secondary data analysis	145	Retention in care among adolescents in ART is still of major concern in Tanzania
Sanga (2019)	Understanding factors influencing linkage to HIV care in a rural setting	Mbeya - Tanzania	Purposive sampling	Qualitative Analysis	25	HIV status disclosure and support from family/ re reported to influence the follow up of HIV/AIDS

Source: Compiled by the researcher from empirical literature reviews (2023)

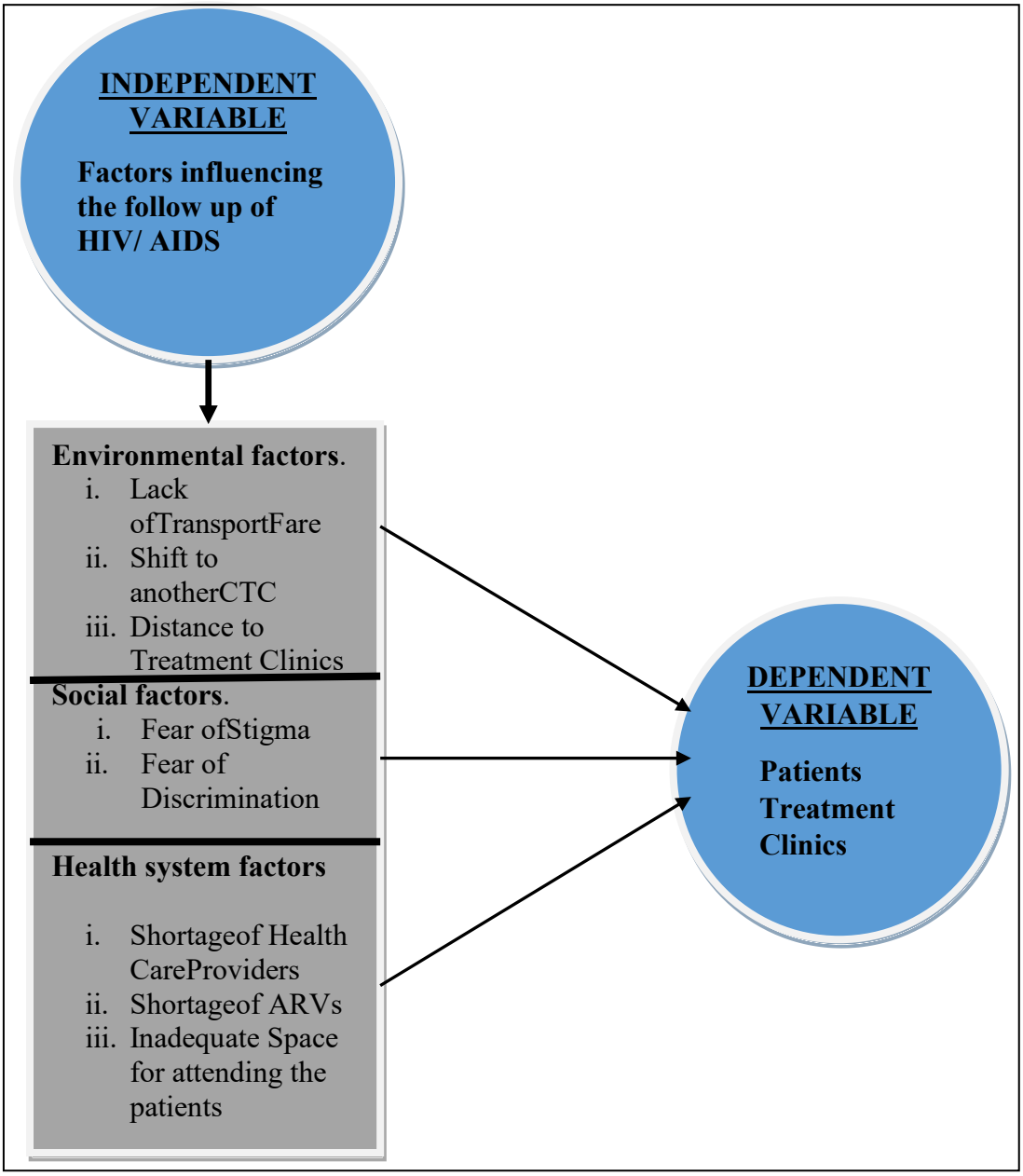
2.5 Research Gap

Most of the research report presents findings on Factors for the retention of HIV/AIDS patients in care and treatment clinics in several parts of the world, Africa as well as Tanzania. such as a study of Mukumbang (2017) focus on examining factors Affecting Retention in Care of Patients on Antiretroviral Treatment in Zambia and the study conducted by Tesha (2022) which was concerned about Predictors of loss to follow up from antiretroviral therapy among adolescents with HIV/AIDS in Tanzania. All of these studies was focused on general factors for the

retention of HIV/AIDS patients in care treatment clinics. But there is no study which was conducted by categorizing the environmental, social and health system factors. Thus the researcher aimed to assess the factors Influencing the Follow up of HIV/AIDS Patients at treatment Clinics in Tanzania specifically in Mbeya City Council.

2.6 Conceptual Framework

The conceptual framework is the relationship between dependent variables and independent variables. In this study the dependent variable is factors hindering the follow-up of HIV/AIDS and the independent variable are care and treatment clinics. The relationships among variables of the study are presented here below in Figure 2.1



Source: A Researcher, 2022

Figure 2. 1 Conceptual Framework Preview

2.6.1 Description and Measurements of the Variables

Table 2. 2 Description and Measurements of the Variables

Variable	Measurement
Patients Treatment Clinics	Number of patients attended clinic.
Environmental Factors	Behaviors or circumstances that are related to environment that can influence the HIV/AIDS patients to attend to clinic.
Social Factors	Things or behaviors that affect HIV/AIDS patients' lifestyle directly or indirectly depending on society perception.
Health System Factors	The way in which the health services are provided to the HIV/AIDS patients that influence them to attend to the clinic.

Source: A researcher, 2022

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains methods which were used to conduct the study and how data were collected and analyzed. The chapter presents the study design, study area, study population, sample and sampling procedures, data collection methods and tools, data analysis and presentation plan, validity and reliability testing and ethical consideration.

3.2 Research Design

Research design is the arrangement of conditions for collecting and analyzing data in a manner that aims to combine relevance to the research purpose with economy in procedure (Kothari, 2009). The researcher used the survey research design in this study. The use of the survey research design permitted the researcher to study more variables at a point in time. A descriptive cross-sectional study design was carried out that yielded quantitative data on patients of the HIV/AIDS attended clinic treatment. The design was chosen because it made it possible to describe such attributes such as behavior, attitudes, values and characteristics.

3.3 Area of the Study

The study was conducted at Mbeya city council in Mbeya, Tanzania. The selection of Mbeya city council was due to the fact that it is one of the regions in Tanzania which has a higher number of people living with HIV/AIDS in Tanzania and also it is a region which was easy for a researcher to get the required data. I.e. HIV prevalence is still staggeringly high in the region estimated at more than 13% (national adult

prevalence estimated at 6.5% [5.8–7.2%]2), having increased in recent years; new HIV infections occur every day (UNAIDS., 2019).

3.4 Population of study

According to Kothari (2009), Population of the study refers to group of elements from which the researcher expects to draw conclusion about the research topic. Generally, the population included the HIV/AIDS patients and the health providers, but due to cost effectiveness and time saving the researcher selected two hospitals from two wards in Mbeya city council which were; Igawilo City Hospital which is found at Igawilo ward which has the total population of 1,730 individuals and Kiwanjampaka Health Center which is found at Maendeleo ward which has the total population of 1431 individuals.

3.5 Sample and Sampling Procedures

3.5.1 Sample size

A sample is a smaller group of subject drawn from the population in which a given study was conducted for a purpose of drawing conclusions about the population targeted (Kothari, 2019). The following simple formula used for calculating the adequate sample size in prevalence study for unknown population; $\mathbf{n = Z^2 P (1 - P)/ d^2}$ Where n is the sample size, Z is the statistic corresponding to level of confidence, P is expected prevalence.

Sample Size = $(\text{Z-score})^2$ * StdDev*(1-StdDev) / (margin of error)2

$n = (1.645)^2 \times 0.5 (1-0.5)/ (0.7)^2$

$n = (2.706 \times 0.25)/0.0049$

n= 0.6765/0.0049

n = 138

Therefore, the sample size used for this study was a total of138 respondents, whereby 130 were HIV/AIDS patients attending to those clinics and 8 were health providers who attending those HIV/AIDS patients.

3.5.2 Sampling Procedures

The sample should reflect qualities and characteristics of the whole population. The study employed the simple random and purposive sampling technique to obtain the sample for this study. The researcher expected to collect data and gather information from HIV/AIDS patients and health providers in selected health Centers in Mbeya city council.

Table 3. 1 Sample size distribution for HIV/AIDS patients

Ward	**Hospital**	**Sample Size**
Igawilo ward	Igawilo City Hospital	65
Maendeleo ward	Kiwanjampaka Health Center	65
	Total	**130**

Source: Field Data, 2023

Table 3. 2 Sample size distribution for health providers

Ward	Hospital	Sample Size
Igawilo ward	Igawilo City Hospital	4
Maendeleo ward	Kiwanjampaka Health Center	4
	Total	**8**

Source: Field Data, 2023

3.6 Types and Source of Data

In this study both primary and secondary data were collected and used for analysis. The primary data were collected through questionnaires and interview which were provided to HIV/AIDS patients and health providers from the selected health centers in Mbeya city council. Also the researcher used documentary review to get secondary data.

3.7 Data Collection Methods and Tools

3.7.1 Questionnaire

The method includes the preparation of a list of some organized questions to collect required data relevant to the study (Kothari, 2014). The researcher distributed questionnaires which contained closed ended questions to HIV/AIDS patients; the closed-ended questions limited the respondents to answer according to the choices provided by the researcher.

3.7.2 Interview

The researcher conducted interviews with the health providers from the selected heath centers in order to get in-depth information on the research questions. According to Kombo and Tromp (2006), the semi structured interviews are normally guided by an interview guide or prepared questions. The questions will be both open ended and closed ended questions.

3.7.3 Documentary Review

In this study the researcher used secondary data which were collected by documentary review method. Documentary source includes include written materials such as books, journals, magazine articles newspapers, reports, transcripts of speeches and administrative and public records.

3.8 Data Analysis methods

3.8.1 Analysis of Qualitative Data

Qualitative data were obtained from the interviews, the different answers from the respective respondents were categorized into common responses. The initial data which were collected was subjected to quality checks, to ensure the quality of data the recordings was done during the interviews. For qualitative data, content analysis was used.

3.8.2 Analysis of Quantitative Data

Data which were collected from questionnaires was filtered and screened for errors before the analysis. The researcher adopted descriptive statistics approach which involved the use of mean, percentages, ratios, standard deviation and variance. This

was done by the use of MS Excel and Statistical Package for Social Science (SPSS) as a tools of analysis in order to get efficiency and accurate data which were collected from the field.

3.8.3 Inferential statistical analysis

Inferential statistical analysis was conducted to determine whether the patterns described in the sample are likely to apply to the population from which the sample was drawn. The associations between variables were correlated to find out the relationship between determinants (independent variables) and (dependent variables). In this study, coefficients of the correlation were carried.

3.8.4 Correlation Analysis

Correlation coefficient measures degree of association between the respective variables, the correlation coefficients is measured on a scale that varies from +1 through 0 to -1. When one variable increases as the other increases the correlation is positive, when one decreases as the other increases it is negative. To measure the degree of association between the variables for this study, Pearson's bivariate correlation was used as decision criteria; Table 4.6 shows the results. In order to interpret, the correlation matrix results such as in Table 4.6, it is important to understand the criteria for interpretation; Table 4.6 indicate the possible criteria for interpretation of the correlation results; the correlation coefficients is measured on a scale that varies from +1 through 0 to -1.

Table 3. 3 Decision Criteria for Correlation

Range for correlation	Possible Interpretation
-1.0	Perfectly negative relationship
-1.0 to -0.5	Stronger negative relationship
-0.5 to -0.1	Weaker negative relationship
-0.1 to 0.1	Little to no relationship
0.1 to 0.5	Weaker positive relationship
0.5 to 1.0	Stronger positive relationship
1.0	Perfectly positive relationship

Source: Researchers' computations, 2023

3.8.5 Validity and Reliability

3.8.5.1 Validity

According to Borg and Gall (2009), validity is the degree to which a test measures what it supposed to measure. In this research a pre-testing pilot study was conducted by administering the questionnaires to a few respondents in order to ensure that they were carefully developed, tested and the questionnaires' appropriateness and generalization to the topic is too validated by respondents. Moreover, the researcher measured the validity of the study using Kaiser-Meyet-Olkin (KMO) and Bartlett's Test of sphericity using the SPSS.

3.8.5.2 Reliability

To ensure reliability cronbach's alpha (α) analysis were employed to test the reliability of the predictor variables where the range cronbach's coefficient is shown on Table 3.3. Cronbach's α analysis is a useful way of determining internal

consistency and homogeneity of groups of items and questionnaires (Crowther and Lancaster, 2008).

According to Table 4.5 shown that, the reliability results of the research instruments was insured by running the SPSS program using Cronbach alpha. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items is as a group. It is considered to be a measure of scale reliability. Cronbach's alpha measures reliability, or internal consistency. "Reliability" is another name for consistency. Statistical Package for the Social Scientists (SPSS) was thus employed to cater for this need. The study applied coefficient alpha (Cronbach's alpha) technique to test internal consistency and stability of questionnaires hence, SPSS software version 21.0 was used and the criterion decision on validity test was a value of at least 0.5 Cronbach's Alpha value, the results of the individual values of the variables were between 0.821 - 874 Cronbach's Alpha, this is very reliable.

Table 3. 4 Range of Cronbach's coefficient

Reliability	**Range**
Unreliable	$\alpha \leq 0.30$
Barely reliable	$0.30 < \alpha \leq 0.40$
Slight reliable	$0.40 < \alpha \leq 0.50$
Reliable (most common range)	$0.50 < \alpha \leq 0.70$
Very reliable	$0.70 < \alpha \leq 0.90$
String reliable	$\alpha > 0.90$

Wu, Yu, &Weng (2012)

3.9 Ethical Consideration

Ethical issues were accorded with high priority in a sense that needed information were obtained on the consent of respondents. The researcher informed the subjects

about their expected roles in the study and its benefits. Also the respondents' demographic information remained confidential between a researcher and a respondent.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter present and discuss the research findings, analysis and interpretation based on the research objectives and questions as were given to selected sample size of the respondents on evaluating the factors influencing the follow up of HIV/AIDS patients at treatment clinics in Tanzania. The data collected through the questionnaires, analyzed and presented in frequency tables and percentages using Statistical Package for Social Science.

4.2 Demographic Data of Respondents

The general information of respondents on gender, age, level of education and marital status of the respondents. This information highlights the characteristics of the respondents.

4.2.1 Gender of Respondents

The respondents were given the questionnaires and they responded as shown in the Table 4.1 as indicates that 72 respondents which constitutes (53.85 %) were male and 58 respondents which constitutes (46.15 %) were female HIV patients. The findings show that the dominant group of the respondents were males. Therefore, in Kiwanjampaka and Igawilo Health Center the number of Male HIV patients is greater than the number of Female HIV patients.

Table 4. 1 Percentage Distribution of Respondents by Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	72	53.85	53.85	53.85
	Female	58	46.15	46.15	100.0
	Total	130	100.0	100.0	

Source: Researcher, 2023

4.1.2 Age of Respondent

The study sought to dig the age of the respondents as demographic information due to the needs of the study, the results are as follows 5 (3.85%) of the respondents had age group of 0 – 20 years, 68 (52.31 %) of the respondents had an age group of 21 – 40 years, 50 (38.46 %) of the respondents had an age group of 41 – 60 years and 7 (5.38 %) of the respondents had an age group of above 61 years. The findings show that the dominant group of the respondents had an age group from 21 – 40 years and 41-60 years, the findings imply that in Mbeya city council the large number of individuals who has HIV positive are both youths and old generation.

Table 4. 2 Percentage Distribution of respondents by Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-20	5	3.85	3.85	3.85
	21-40	68	52.31	52.31	56.16
	41-60	50	38.46	38.46	94.32
	61+	7	5.38	5.38	100.0
	Total	130	100.0	100.0	

Source: Researcher, 2023

4.1.3 Education Level of Respondents

The study sought to dig the education level of the respondents as demographic information due to the needs of the study, the table 4.3 below shows the distribution of respondents by education level;

Table 4. 3 Percentage Distribution of Respondent by Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary	14	10.77	10.77	10.77
	Secondary	47	36.15	36.15	46.92
	Cert/Dip	39	30.0	30.0	76.92
	Degree	27	20.77	20.77	97.69
	Masters	3	2.31	2.31	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.3 reveals that 14 (10.77%) of the respondent had primary level of education, 47 (36.15 %) had secondary level of education, 39 (30.0%) had certificate/diploma level of education, 27 (20.77%) of the respondents had degree level of education and 3 (2.31%) of respondents had a masters' level of education. The findings show that the dominant group of respondents had secondary and certificate/diploma level of education, this imply that the respondents who participated in this study are accurate (educated enough) to provide the needed data.

4.1.4 Marital Status

The study sought to find out the marital status of the respondents as demographic information due to the needs of the study, the table 4.4 shows the distribution of respondents by marital status;

Table 4. 4 Percentage Distribution of Respondent by Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	21	16.15	16.15	16.15
	Married	53	40.77	40.77	56.92
	Widow/Widowers	23	17.69	17.69	74.61
	Divorced	33	25.39	25.39	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.4 reveals that 21 (16.15%) of the respondent were single, 53 (40.77%) of the respondents were married, 23 (17.69%) of the respondents were widows/widowers and 33 (25.39%) of the respondents were divorced. The finding shows that the dominant group of the respondents was married 53 (40.77%). The findings imply that the individuals who are HIV positive in Mbeya city council are in marriage and it is obvious that one of the partners brought the problem in marriage from outside. This finding result is inline and supported that of the health survey by NASCOP (2008) which revealed that new infection levels have increased within the marriage institution.

4.2 Descriptive Statistics

The descriptive statistics of the variables were conducted in a preliminary analysis of the data using relevant descriptive statistics techniques. Three key variables of observations data were tested and reveal the results in summary from Table 4.5 below. The Summary descriptive statistics of the variables are summarized in Table 4.5, the total observation outcome were mean, median both indicate central statistical

position of each variable, the close the mean, standard deviation, kutosis, skewness indicate the presence of symmetric and the far the mean and standard deviation value indicate the dispersion of data.

Table 4. 5 Descriptive Statistics of the Variables

	Mean	Standard Deviation	Kurtosis	Skewness	Range	Minimum	Maximum
Patients Treatment Clinics	5.13	1.17	-0.20	-0.48	4.64	2.42	7.06
Environmental Factors	6.35	2.37	-0.45	-0.17	8.70	2.01	10.70
Social Factors	7.12	3.40	4.16	-0.71	19.14	-4.32	14.82
Health System Factors	54.81	16.37	-1.41	0.09	50.91	30.95	81.86
Others	3.93	2.16	-0.46	-0.21	7.96	-0.32	7.64

Source: Field Data, 2023

Table 4.5 shows the descriptive statistics of the variables. It can be observed that average Patients Treatment Clinics (PATC) is 5.13% with standard deviation of 1.17% and maximum of 7.06%. Besides, Environmental Factors (EFA), Social Factors (SOF), Health System Factors (HSFA) and other factors involved to patient treatment clinic (OTH) have mean value of 6.35%, 7.12%, Tk. 54.81 and 3.93%. Among all the variables, the lowest standard deviation is observed for Patients Treatment Clinics (PATC and the highest for Patients Treatment Clinics (PATC). Except Patients Treatment Clinics (PATC all the variables are negatively skewed where all the variables also have negative kurtosis value except Social Factors (SOF).

Furthermore, the major results shows negatively with parallel to Skewness of observation for Environmental Factors (EFA), Social Factors (SOF), and Health

System Factors (HSFA) are positive mean that is normal distributed since Skewness is less than zero thus based Patients Treatment Clinics (PATC).

4.2.1 Reliability Testing Results

Cronbach Alpha coefficients were used to remove the "trash", these variables have a corrected item - total correlation is less than 0.3 will be disqualified and the scale will be chosen as Cronbach's alpha above 0. 5 as recommended by Nunnally and Burnstein (1994). Table 4.5 is shown the Reliability analysis after observations have a corrected item total correlation is greater than 0.5 for all variables had been included.

Table 4. 6 Reliability Analysis

Variable Reliability	**Item number**	**Cronbach Alpha**
Patients Treatment Clinics	1	0.874
Environmental Factors	3	0.850
Social Factors	3	0.821
Health System Factors	3	0.860

Source: Field Data, 2023

Thus, after analysis showed Cronbach's alpha model in the model proposed is 10 observation variable with 3 independent factors and 1 dependent factors, there is no any variables were excluded from the model. All the scale chosen as Cronbach's alpha above 0. 5 are reliability as recommendation by Nunnally and Burnstein, (1994).

4.3 Environmental Factors for the Follow Up of Patients at Treatment Clinics

As the first specific objective states, a researcher was needed to assess the environmental factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya city council, the section has three subsections which are lack of transport fare, shift to another CTC and distance to treatment clinics.

4.3.1 Lack of Transport Fare

The lack of transport fare can be a significant barrier for patients who need to travel to health facilities for follow-up appointments or treatment. This issue can be particularly acute for people living with HIV, who may require regular visits to healthcare providers to manage their condition effectively, hence the researcher had to assess if the lack of transport fare can affect the follow up of HIV/AIDS patients.

Table 4. 7 Lack of Transport Fare and Follow up of HIV/AIDS patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	22	16.92	16.92	16.92
	Strongly agree	19	14.62	14.62	31.54
	Disagree	69	53.08	53.08	84.62
	Strongly disagree	20	15.38	15.38	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.7 shown the finding results about the relationship between lack of transport fare and the follow up of HIV/AIDS patients, the findings reveals that 22 (16.92%) of the respondents agreed that lack of transport fare affects the follow up to HIV/AIDS patients, 19 (14.62%) of the respondents strongly agreed, 69 (53.08%) of

the respondents Disagreed and 20 (15.38%) of the respondents strongly disagreed. The dominant group of the respondents disagreed that there is no relationship between lack of transport fare and follow-up. Therefore, these findings clearly imply that there is no direct relationship between the lack of fare and follow-up of HIV/AIDS patients in Mbeya city council.

4.3.2 Shifting CTC

Shifting to another location or city can be a significant challenge for people living with HIV/AIDS and can lead to follow-up and interruption of treatment. When patients move to a new location, they may face a number of obstacles that prevent them from accessing healthcare services, including lack of familiarity with the new area, difficulty finding a new healthcare provider, and lack of social support, thus the researcher had to assess if shifting to another care and treatment clinic can affect the follow up of HIV/AIDS patients, table 4.6 reveals the results;

Table 4. 8 Shifting to Another and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	63	48.46	48.46	48.46
	Strongly agree	34	26.15	26.15	74.61
	Disagree	18	13.85	13.85	88.46
	Strongly disagree	15	11.54	11.54	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.8 shown the finding results about the relationship between shifting to another CTC and the follow up of HIV/AIDS patients, the findings reveals that 63 (48.46%)

of the respondents agreed that there is a relationship, 34 (26.15%) of the respondents strongly agreed, 18 (13.85%) of the respondents disagreed and 15 (11.54%) of the respondents strongly disagreed. The dominant group of the respondents agreed that there is a relationship between shifting to another location affects the follow up of HIV/AIDS patents. Therefore, it is clear that when a patient moves to another location it takes a while to get used to new CTC available or to find a new clinic nearby the new location, this implies that patient shifting location will make him/her to have to shift to another CTC by doing that leads for a patient to miss some attendance to that new CTC due to having a hard time coping with the new environment.

4.3.3 Distance to Treatment Clinics

Distance to treatment clinics can be a significant barrier for people living with HIV/AIDS, and can lead to follow-up and interruption of treatment. When patients must travel long distances to access healthcare services, they may face a number of challenges, including transportation costs, time constraints, and difficulty taking time off work or caring for family members, thus the researcher had to assess if distance to care and treatment clinic can affect the follow up of HIV/AIDS patients, table 4.7 reveals the results;

Table 4. 9 Distance to Treatment Clinic and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	59	45.38	45.38	45.38
	Strongly agree	32	24.62	24.62	70.0
	Disagree	27	20.77	20.77	90.77
	Strongly disagree	12	9.23	9.23	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.9 shown the finding results about the relationship between distance to care and treatment clinic and the follow up of HIV/AIDS patients, the findings reveals that 59 (45.38%) of the respondents agreed that there is a relationship, 32 (24.62%) of the respondents strongly agreed, 27 (20.77%) of the respondents disagreed and 12 (9.23%) of the respondents strongly disagreed. The dominant group of the respondents agreed that distance to care and treatment clinics affects the follow up of HIV/AIDS patents. Therefore, the findings imply that it is clear that if there is long distance from patients' home to care and treatment clinic, it is easier for a patient to have bad attendance to treatment clinic or to not attend at all.

4.4 Social Factors for the follow up of patients at Treatment Clinics

As the second specific objective states, a researcher was needed to assess the social factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya city council, the section has two subsections which are fear of stigma and fear of discrimination.

4.4.1 Fear of Stigma

Fear of stigma might be a barrier for people living with HIV/AIDS, and can lead to follow-up and interruption of treatment. When patients feel stigmatized because of their HIV status, they may be reluctant to seek healthcare services or disclose their status to healthcare providers, thus the researcher had to assess if fear of stigma among HIV/AIDS patients can affect the follow up.

Table 4. 10 Fear of Stigma and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	44	33.85	33.85	33.85
	Strongly agree	68	52.31	52.31	86.16
	Disagree	11	8.46	8.46	94.62
	Strongly disagree	7	5.38	5.38	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.10 shown the finding results about the relationship between fear of stigma among HIV/AIDS patients and the follow up, the findings reveals that 44 (33.85%) of the respondents agreed that there is a relationship, 68 (52.31%) of the respondents strongly agreed, 11 (8.46%) of the respondents disagreed and 7 (5.38%) of the respondents strongly disagreed. The dominant group of the respondents strongly agreed that fear of stigma affects the follow up of HIV/AIDS patents. Therefore, the findings imply that the society reaction to HIV/AIDS patients in Mbeya city council affects to large extent the patients to lose follow up to their care and treatment clinics because many of them are fear to be seen by their surrounding societies.

4.4.2 Fear of Discrimination

Fear of discrimination is a significant barrier for people living with HIV/AIDS, and can lead to follow-up and interruption of treatment. When patients fear that they will be discriminated against because of their HIV status, they may be reluctant to seek healthcare services or disclose their status to healthcare providers, thus the researcher aimed to assess if fear of discrimination among HIV/AIDS patients can affect the follow up.

Table 4. 11 Fear of Discrimination and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	36	27.69	27.69	27.69
	Strongly agree	57	43.85	43.85	71.54
	Disagree	20	15.38	15.38	86.92
	Strongly disagree	17	13.08	13.08	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.11 shown the finding results about the relationship between fear of discrimination among HIV/AIDS patients and the follow up, the findings reveals that 36 (27.69%) of the respondents agreed that there is a relationship, 57 (43.85%) of the respondents strongly agreed, 20 (15.38%) of the respondents disagreed and 17 (13.08%) of the respondents strongly disagreed. The dominant group of the respondents strongly agreed that fear of discrimination affects the follow up of HIV/AIDS patents. Therefore, these findings imply that if the HIV/AIDS patients is discriminated in the society, the situation directly affects the loss follow up to their care and treatment clinics.

Also one of the interviewed health care provider mentioned that;

> *"Some of the HIV/AIDS patients quit attending care and treatment clinics because they lack support from their partners or their families, they miss someone who can push them to attend CTCs on time"*

4.5 Health System Factors for the follow up of patients at Treatment Clinics

As the third specific objective aims to find out the health system factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya city council, the section has three subsections which are Shortage of health care providers, Shortage of ARVs and Inadequate space for attending the patients.

4.5.1 Shortage of Health Care Providers

Shortage of healthcare providers can be a significant barrier for people living with HIV/AIDS, and can lead to follow-up and interruption of treatment. When there are not enough healthcare providers to meet the demand for HIV/AIDS services, patients may face long wait times, limited access to care, and inadequate support for managing their condition. thus the researcher sought to assess if shortage of healthcare providers can affect the follow up, table 4.10 reveals the results;

Table 4. 12 Shortage of Health Care Providers and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	49	37.69	37.69	37.69
	Strongly agree	75	57.69	57.69	95.38
	Disagree	5	3.85	3.85	99.23
	Strongly disagree	1	0.77	0.77	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 4.12 shown the finding results about the relationship between shortage of healthcare providers for HIV/AIDS patients and the follow up, the findings reveals that 49 (37.69%) of the respondents agreed that there is a relationship, 75 (57.69%) of the respondents strongly agreed, 5 (3.85%) of the respondents disagreed and 1 (0.77%) of the respondents strongly disagreed. The dominant group of the respondents strongly agreed that shortage of health care providers affects the follow up of HIV/AIDS patients to large extent. Therefore, these findings imply that if the HIV/AIDS patients attends to their CTCs and they fail to be attended to get the services they tend to minimize their attendance to the clinics and at the end they do not attend at all.

4.5.2 Shortage of ARVs

ARVs are essential for managing HIV/AIDS and preventing the progression of the disease, and when patients cannot access these medications, their health and well-being can be severely impacted, thus the researcher sought to assess if there is

shortage of ARVs to their CTCs and if that can affect the follow up, table 4.11 reveals the results;

Table 4. 13 Shortage of ARVs and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	2	1.54	1.54	1.54
	Strongly agree	1	0.77	0.77	2.31
	Disagree	102	78.46	78.46	80.77
	Strongly disagree	25	19.23	19.23	100.0
	Total	138	100.0	100.0	

Source: Field Data, 2023

Table 4.13 shown the finding results if the HIV/AIDS patients miss ARVs sometimes in their CTCs, the findings reveals that 2 (1.54%) of the respondents agreed that there is a shortage of ARVs in their CTCs, 1 (0.77%) of the respondents strongly agreed, 102 (78.46%) of the respondents disagreed and 25 (19.23%) of the respondents strongly disagreed. The dominant group of the respondents Disagreed that there is no shortage of ARVs to their care and treatment clinics. Therefore, these findings imply that if there is shortage of ARVs in the CTCs can affect the follow up to HIV/AIDS patients but that problem seems to be solved long ago because there seems to be enough ARVs in all CTCs to accommodate all HIV/AIDS patients in Mbeya city council.

Also one of the interviewed nurse mentioned that;

> *"Beside of having inadequate health care providers, also other health system factors include quality of care, health provider attitudes and behaviors and health care policies and regulations."*

4.5.3 Inadequate Space for Attending the Patients

When healthcare facilities do not have enough space to accommodate the needs of HIV/AIDS patients, patients may face long wait times, limited access to care, and inadequate support for managing their condition, thus the researcher sought to assess if inadequate space for attending the patients can affect the follow up.

Table 4. 14 Inadequate Space for Attending the Patients and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	49	37.69	37.69	37.69
	Strongly agree	37	28.46	28.46	66.15
	Disagree	23	17.69	17.69	83.84
	Strongly disagree	21	16.16	16.16	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2022

Table 4.14 shown the finding results about the relationship between inadequate space for attending HIV/AIDS patients and the follow up, the findings reveals that 49(37.69%) of the respondents agreed that there is a relationship, 37 (28.46%) of the respondents strongly agreed,23 (17.69%) of the respondents disagreed and 21 (16.16%) of the respondents strongly disagreed. The dominant group of the respondents strongly agreed that inadequate space for attending HIV/AIDS patients

affects the follow up of HIV/AIDS patients to large extent. Therefore, these findings imply that if in the CTCs the space allocated for provision of do not have enough space to accommodate the needs of HIV/AIDS patients, patients may face long wait times, limited access to care, and inadequate support for managing their condition.

4.6 Correlation Analysis

4.6.1 Correlation between Environmental Factors and Treatment Clinics

The study testing the correlation between environmental factors those influencing the follow up of HIV/AIDS Patients and treatment clinics. Correlation is when the variables are related. Correlation is expressed into three forms such as positive (+1), negative correlation represented by -1.00, or no correlation represented by correlation coefficient is 0.00. therefore, and the correlation is measured between perfectly negative relationship and perfectly positive relationship for decision of relationship.

There is a correlation between environmental factors and the follow-up to treatment clinics among HIV/AIDS patients. Environmental factors can significantly impact a patient's ability to access and adhere to follow-up care and the correlation is +1. Understanding the correlation between environmental factors and the follow-up is crucial for designing interventions and strategies to improve patient outcomes. By addressing transportation barriers, ensuring clinic accessibility, strengthening community support networks, and considering environmental factors in healthcare planning, it is possible to mitigate the impact of environmental challenges on follow-up to treatment clinics for HIV/AIDS patients.

The correlation table 4.15 presents the kind and level of relationship between

independent and dependent variables, whereby the result provided that there was positive correlation between all variables under the study; Findings indicated that there was strong positive correlation between environmental factors and influencing the follow up of HIV/AIDS Patients and treatment clinics with correlation value (r) of 0.753 at significance level of 000. This indicates that there was strong positive correlation with behaviors or circumstances that are related to environment that can influence the HIV/AIDS patients to attend to clinic.

4.6.2 Correlation between Social Factors and Treatment Clinics

There is a strong correlation between social factors and the follow-up to treatment clinics among HIV/AIDS patients. Social factors play a significant role in shaping an individual's behavior, attitudes, and access to healthcare services. and the correlation is +1. Addressing social factors is crucial for improving patient outcomes and reducing the follow-up. Strategies that aim to reduce stigma, provide culturally competent care, enhance social support networks, and integrate mental health and psychosocial services can help overcome social barriers and promote consistent follow-up among HIV/AIDS patients.

The correlation table above presents the kind and level of relationship between independent and dependent variables, whereby the result provided that there was positive correlation between all variables under the study; Findings indicated that there was strong positive correlation between social factor and patient treatment clinic correlation value (r) of 0.910 at significance level of 000. This indicates that there was strong positive correlation with things or behaviors that affect HIV/AIDS patients' lifestyle directly or indirectly depending on society perception.

4.6.3 Correlation between Health System Factors and Treatment Clinics

There is a significant correlation between health system factors and the follow-up to treatment clinics among HIV/AIDS patients. The functioning and organization of the health system can influence a patient's access to care, the quality of services, and their ability to maintain regular follow-up, the correlation of this lies in +1. Addressing health system factors is crucial for optimizing patient outcomes and reducing the follow-up. Strategies that improve healthcare accessibility, implement effective appointment systems, enhance continuity of care, ensure high-quality services, promote patient-centered care, and address financial barriers can contribute to improved follow-up rates among HIV/AIDS patients.

The correlation table above presents the kind and level of relationship between independent and dependent variables, whereby the result provided that there was positive correlation between all variables under the study; Findings indicated that there was strong positive correlation between health system factors and patient treatment clinics with correlation value (r) of 0.847 at significance level of 000. This indicates that there was strong positive correlation with the way in which the health services are provided to the HIV/AIDS patients that influence them to attend to the clinic.

Table 4. 15: Correlations table for Patients Treatment Clinics

		Patients Treatment Clinics	Environmental Factors	Social Factor	Health System Factors
Patients Treatment Clinics	Pearson Correlation	1			
Environmental Factors	Pearson Correlation	.753**	1		

Social Factors	Pearson Correlation	.910**	.756**	1	
Health System Factors	Pearson Correlation	.847**	.653**	.834**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Field Survey (2023)

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is about of what has studied to meet the researcher's objectives. It gives the conclusion and has some recommendations and finally recommendations for further research.

5.2 Conclusion

It is the researcher's conclusion based on the study conducted at Mbeya City Council and the general objective was to evaluate factors influencing the follow up of HIV/AIDS patients at treatment clinics in Tanzania. The findings of the study proved that stigma and discrimination. Fear of stigma and discrimination can prevent patients from seeking follow-up care, as they may be afraid of being judged or ostracized by their communities. Distance to treatment clinics, patients who live far from treatment clinics may find it difficult to attend follow-up appointments, especially if they have limited resources or mobility challenges. Health worker shortages, shortages of healthcare workers, including doctors, nurses, and other professionals, can make it difficult for treatment clinics to provide adequate care to all patients, leading to long wait times and limited access to services. These factors seem to affect directly the follow up to HIV/AIDS patients in Tanzania.

5.2.1 Environmental Factors for the Follow up of Patients at Treatment Clinics

The first objective of the study was to assess the environmental factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council.

Findings of the study revealed that Poverty can make it difficult for patients to afford the costs associated with follow-up care, such as transportation. This can lead to follow-up and interruption of treatment, shifting to another CTC can be a significant factor for people living with HIV/AIDS and can lead to follow-up and interruption of treatment. When patients move to a new location, they may face a number of obstacles that prevent them from accessing healthcare services including lack of familiarity with the new area and Distance to treatment clinics can be a significant barrier for people living with HIV/AIDS, and can lead to follow-up and interruption of treatment.

5.2.2 Social Factors for the Follow up of Patients at Treatment Clinics

The second objective of the study was to assess the social factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council. The findings revealed that stigma and discrimination surrounding HIV/AIDS can prevent patients from seeking care and attending follow-up appointments. Patients may be afraid of being judged, ostracized, or experiencing negative consequences in their personal and professional lives. Also family and social support, patients who lack family or social support struggle to adhere to follow-up care, as they may not have someone to help them with transportation or to remind them to attend appointments.

5.2.3 Health System Factors for the Follow up of Patients at Treatment Clinics

The third objective of the study was to assess the health system factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council. The findings show that; Quality of care provided at treatment clinics can impact patients' willingness to attend follow-up appointments. Patients who receive poor-quality care

may be less likely to trust healthcare providers and may be hesitant to continue with treatment, Healthcare provider attitudes and behavior, the attitudes and behavior of healthcare providers can significantly impact patients' willingness to attend follow-up appointments. Patients who experience discrimination or stigma from healthcare providers may feel unwelcome or unsafe, and may be less likely to attend future appointments, availability of resources, treatment clinics require a range of resources, including medications, diagnostic equipment, and healthcare staff. Shortages of any of these resources can make it difficult for clinics to provide adequate care and support to HIV/AIDS patients.

5.3 Implication of the Findings

This section put down the recommendations, which could act as catalysts for facilitating the improvement of the follow up of HIV/AIDS patients to health and treatment clinics.

To address the environmental factors, healthcare providers can work to develop interventions that address the specific challenges faced by patients in their communities. This could involve improving transportation infrastructure and developing contingency plans to address other environmental hazards. Providers can also work with local and national governments to address political instability and conflict and to advocate for policies and programs that promote the health and well-being of all citizens.

To address social factors, healthcare providers can work to develop culturally appropriate interventions that address the specific social and cultural challenges faced by patients in their communities. This could involve working with community

leaders and local organizations to promote awareness and education around HIV/AIDS, addressing gender and power dynamics, providing social support to patients, and developing programs that address poverty and socioeconomic barriers to care. Healthcare providers can also work to improve health literacy and provide clear information and guidance to patients to help them navigate the healthcare system and manage their HIV/AIDS.

To address health system factors, healthcare providers can work to improve access to care, promote quality care, address healthcare provider attitudes and behavior, and ensure that clinics have adequate resources to provide care to HIV/AIDS patients. They can also work with policymakers to promote policies and regulations that support the provision of high-quality care and address fragmentation of care by improving coordination and communication among healthcare providers.

5.3.1 Recommendation for further Research

From the findings of this research which focused on to assess the factors influencing the follow up of HIV/AIDS patients at treatment clinics in Tanzania, specifically in Mbeya City Council, though the study has brought some conclusions but same kind of study should be conducted by increasing sample size in order to come up with more answers, also further studies should be conducted based on the “The Impact of Stigma and discrimination on HIV/AIDS Prevention and Treatment Programs” and “Exploring the Role of Social Support in HIV/AIDS Care and Management”. Hence, the health sector and the community as whole will understand more about how follow up of HIV/AIDS patients affected by various factors.

On the other hand, due to time and financial constraints, it was not easy for the researcher to conduct an extensive study on the problem in a bigger area. So, it is recommended that similar study should be conducted in large areas such Dar es Salaam or conducting the study on multiple cities in Tanzania at once and including as many populations as possible so as to see if the same study generates similar outcomes.

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APPENDICES

APPENDIX I: QUESTIONNAIRES FOR HIV/AIDS PATIENTS

Dear respondent

I am a student from Open University – Tanzania. I am studying Masters of Arts in Monitoring and Evaluation. This questionnaire aims to examine your answers to this questions about ***"Factors influencing the follow up of HIV/AIDS patients at treatment clinics in Tanzania."*** It is a partial of fulfillment of the requirement of the award of mastersof artsin monitoringandevaluation. Your given information will remain confidential and your name is not asked anywhere in the questionnaire. Therefore, I am asking for your cooperation in filling this questions form.

Instructions

Please put a tick (√) in the bracket.

PART I: DEMOGRAPHIC CHARACTERISTICS

1. Sex
   Male ( )
   Female ( )

2. Age
   0-20 yrs ( )
   21 -40 yrs ( )
   41-60yrs ( )
   61 + yrs ( )

3. Education level
   Primary Education ( )
   Secondary Education ( )
   Bachelor Degree ( )
   Master's Degree ( )
   Ph. D. Degree ( )

4. Marital Status?
   Single ( )
   Married ( )
   Widow/Widower ( )
   Divorced ( )

PART II: ENVIRONMENTAL FACTORS INFLUENCING THE FOLLOW UP OF HIV/AIDS PATIENTS AT TREATMENT CLINICS IN MBEYA CITY COUNCIL.

Please put a tick (√) in the correct answer.

Statement	**Agree**	**Extremely Agree**	**Disagree**	**Extremely Disagree**
Does lack oftransportfare influences the follow up of HIV/AIDS patients to treatment clinics?				
Does patient shift to another treatment clinic influences the follow up of HIV/AIDS?				
Does distance to treatment clinic influences the follow up of HIV/AIDS?				

PART III: SOCIAL FACTORS INFLUENCING THE FOLLOW UP OF HIV/AIDS PATIENTS AT TREATMENT CLINICS IN MBEYA CITY COUNCIL.

Please put a tick (√) in the correct answer.

Statement	**Agree**	**Extremely Agree**	**Disagree**	**Extremely Disagree**
Does fear of stigma influences the follow up of HIV/AIDS patients to treatment clinics?				
Does fear of discrimination influences the follow up of HIV/AIDS patients to treatment clinics?				

PART IV: HEALTH SYSTEM FACTORS INFLUENCING THE FOLLOW UP OF HIV/AIDS PATIENTS AT TREATMENT CLINICS IN MBEYA CITY COUNCIL.

Please put a tick (√) in the correct answer.

Statement	**Agree**	**Extremely Agree**	**Disagree**	**Extremely Disagree**
Does shortage of health care providers influence the follow up of HIV/AIDS patients to treatment clinics?				
Does shortage of ARVs influence the follow up of HIV/AIDS patients to treatment clinics?				
Does inadequate space to attend the patients influence the follow up of HIV/AIDS patients to treatment clinics?				

THANK YOU

APPENDIX II: INTERVIEW QUESTIONS FOR HEALTH PROVIDERS

Dear respondent

I am a student from Open University – Tanzania. I am studying Masters of Arts in Monitoring and Evaluation. This questionnaire aims to examine your answers to this questions about ***"Factors influencing the follow up of HIV/AIDS patients at treatment clinics in Tanzania."*** It is a partial of fulfillment of the requirement of the award of mastersof artsin monitoringandevaluation. Your given information will remain confidential and your name is not asked during the interview. Therefore, I am asking for your cooperation in answering the following questions.

1. Sex

   ……..

2. Age

   ……..

3. Education level

   ……..

4. Marital Status?

   ……..

5. Does lack oftransportfare influences the follow up of HIV/AIDS patients to treatment clinics??

   ……..

6. Does patient shift to another treatment clinic influences the follow up of HIV/AIDS?

   ……..

7. Does distance to treatment clinic influences the follow up of HIV/AIDS?

   ……..

8. Does fear of stigma influences the follow up of HIV/AIDS patients to treatment clinics?

   ……..

9. Does fear of discrimination influences the follow up of HIV/AIDS patients to treatment clinics?

   ……..

10. Does shortage of health care providers influence the follow up of HIV/AIDS patients to treatment clinics?

    ……..

11. Does shortage of ARVs influence the follow up of HIV/AIDS patients to treatment clinics?

    ……..

12. Does inadequate space to attend the patients influence the follow up of HIV/AIDS patients to treatment clinics?

    ……..

THANK YOU

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA JIJI MBEYA

Unapojibu tafadhali taja

Kumb. Na. MCC/R.50/1/VOL.XXIX/.....

Kwenda: -

MTENDAJI WA KATA YA IGAWILO
S.L.P 149
MBEYA

Tarehe 25/08/2023

AFISA MTENDAJI WA KATA YA IGAWILO JIJI LA MBEYA Mepokulewa. 25/08/2023

YAH: OMBI LA KUFANYA UTAFITI

Tafadhali husika na mada tajwa hapo juu.

2. Nakujulisha kuwa mwanafunzi JOYCE ODERO .....Anayetokea OPEN UNIVERSITY OF TANZANIA ..... anahitaji kufanya utafiti mdogo katika Halmashauri ya Jiji la Mbeya katika mada isemayo FACTORS INFLUENCING THE FOLLOW UP ON HIV/AIDS PATIENTS FOR TREATMENT CLINICS "A case of MBEYA CITY COUNCIL

3. Ruhusa hii ni kuanzia tarehe 25/08/2023 hadi tarehe 15/09/2023 Hivyo ombi lako limekubaliwa

4. Nakutakia ushirikiano mwema.

amalinje MKURUGENZI WA JIJI HALMASHAURI YA JIJI MBEYA
George Magembe
Kny: MKURUGENZI WA JIJI

HAMLASHAURI YA JIJI LA MBEYA

Nakala: Mkuu wa Chuo/Naibu Mkuu wa Chuo
Chuo cha OPEN UNIVERSITY OF TANZANIA
S.L.P 23409
DAR ES SALAAM

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA
HALMASHAURI YA JIJI MBEYA

Unapojibu tafadhali taja

Kumb. Na. MCC/R.50/1/VOL.XXIX/.....

Kwenda: -

MTENDAJI WA KATA YA MAENDELEO
S.L.P 149,
MBEYA

AFISA MTENDAJI WA KATA KATA YA MAENDELEO JIJI LA MBEYA

Tarehe 25/08/2023

Imepokelewa
25/08/2023

YAH: OMBI LA KUFANYA UTAFITI

Tafadhali husika na mada tajwa hapo juu.

2. Nakujulisha kuwa mwanafunzi JOYCE ODERO Anayetokea OPEN UNIVERSITY OF TANZANIA anahitaji kufanya utafiti mdogo katika Halmashauri ya Jiji la Mbeya katika mada isemayo FACTORS INFLUENCING THE FOLLOW UP ON HIV/AIDS PATIENT FOR TREATMENT CLINIC "A case of MBEYA CITY COUNCIL

3. Ruhusa hii ni kuanzia tarehe 25/08/2023 hadi tarehe 15/09/2023 Hivyo ombi lako limekubaliwa

4. Nakutakia ushirikiano mwema.

George Magembe
Kny: MKURUGENZI WA JIJI

MKURUGENZI WA JIJI
HALMASHAURI YA JIJI
MBEYA

HAMLASHAURI YA JIJI LA MBEYA

Nakala: Mkuu wa Chuo/Naibu Mkuu wa Chuo
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An Assessment of the Social Factors Influencing the Follow Up of HIV/AIDS Patients at Treatment Clinics in Tanzania: A Case of Mbeya City Council

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Abstract

The main purpose of this paper was to examine the factors influencing the Follow Up on HIV/AIDS Patients for Treatment Clinics in Tanzania. The paper was guided by one specific objective which were to assess the social factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya city council. The study adopted Health Belief Model (HBM). Furthermore, the study guided by mixed approach using a survey design based on 138 respondents drawn from the study population. The finding shows that that there is a strongly positive relationship between social factors and HIV/AIDS follow-up patient treatment clinics. The findings underscore the pivotal role of social factors in shaping the follow-up of HIV/AIDS patients at treatment clinics. HIV-related stigma, driven by fear of discrimination, emerges as a significant barrier to clinic attendance. Socioeconomic challenges, including poverty and limited access to resources, hinder patients' ability to consistently engage with treatment services. Conversely, strong social support networks, particularly from family and community, positively influence patients' commitment to treatment regimens. Cultural beliefs and practices further impact patient behavior. The paper concluded that the intricate interplay of social factors in influencing the follow-up of HIV/AIDS patients at treatment clinics. HIV-related stigma, socioeconomic challenges, social support networks, and cultural beliefs collectively shape patients' engagement with healthcare services. To address these complexities, the paper recommends that there should employment of stigma reduction campaigns, provision of socioeconomic support, creation and sustenance of social support networks, cultural sensitivity training for healthcare providers, and integration of mental health services. Also, leveraging technology for appointment reminders and education can contribute to fostering consistent clinic attendance and improving treatment adherence among HIV/AIDS patients, ultimately enhancing their overall health outcomes.

Keywords: *HIV/AIDS, Treatment Clinics, Social Factors.*

Introduction

The management and care of individuals living with HIV/AIDS (PLWHA) have made significant progress over the years, thanks to advancements in medical treatment and healthcare strategies. However, the successful management of HIV/AIDS extends beyond medical interventions and into the realm of social factors, which play a pivotal role in determining the adherence to treatment regimens and follow-up appointments among patients attending treatment clinics. Understanding the intricate interplay between social factors and healthcare outcomes is essential for designing effective interventions that address the multifaceted needs of PLWHA and promote better health outcomes.

In Europe, the continuity of care for HIV/AIDS patients within treatment clinics is subject to a complex interplay of social factors that extend beyond medical considerations. The management of HIV/AIDS has evolved considerably, yet the follow-up of patients remains influenced by elements such as stigma, socioeconomic status, social support networks, and cultural perspectives. HIV-related stigma persists as a critical concern, potentially impacting patients' willingness to engage with clinics due to fear of discrimination and ostracism (Earnshaw, 2015). Additionally, varying socioeconomic conditions across European countries can affect access to healthcare services, with financial constraints and unequal resource distribution potentially hindering regular clinic attendance and treatment adherence (Schröder-Bäck, 2019).

In the context of Africa, the continuity of care for HIV/AIDS patients within treatment clinics is intricately shaped by a range of social factors that extend beyond the medical realm. The management of HIV/AIDS in Africa is confronted by challenges such as pervasive stigma, socioeconomic disparities, limited access to healthcare resources, and cultural norms. Stigma surrounding HIV/AIDS persists as a significant impediment to follow-up, deterring patients from seeking treatment due to concerns about discrimination and social isolation (Dlamini-Simelane et al., 2017). Moreover, the socioeconomic landscape across African countries introduces obstacles to consistent clinic attendance, as factors like poverty, lack of education, and limited healthcare infrastructure can hinder access to necessary care. The influence of social support networks, encompassing family and community ties, is crucial in this context, as they play a role in providing emotional encouragement and practical assistance that enhance adherence to treatment (Wouters et al., 2018).

The management of HIV/AIDS in Tanzania grapples with challenges such as deep-rooted stigma, limited socioeconomic resources, and cultural beliefs that impact patient engagement with treatment clinics. Stigma attached to HIV/AIDS remains a substantial barrier, leading to fears of discrimination and social ostracism, and consequently discouraging patients from consistent follow-up (Turan et al., 2017). Socioeconomic factors, including poverty and limited access to healthcare resources, can hinder patients' ability to attend clinics regularly, thereby affecting their adherence to treatment regimens (Nyato et al., 2019). The influence of social support networks, primarily constituted by family members, friends, and community groups, has demonstrated significant effects on treatment adherence and clinic attendance among Tanzanian HIV/AIDS patients (Kilewo et al., 2015). Therefore, it is necessary to assess the social factors influencing the follow up of HIV/AIDS patients at treatment clinics at Mbeya city council with the following objective.

- To assess the social factors influencing the follow up of HIV/AIDS patients at treatment clinics.

Statement of the Problem

The effective management of HIV/AIDS requires consistent follow-up and adherence to treatment regimens, yet in Tanzania, numerous social factors influence the engagement of HIV/AIDS patients with treatment clinics. Persistent HIV-related stigma deters individuals

from seeking care, and limited socioeconomic resources hinder their ability to attend clinics regularly. Furthermore, the influence of social support networks and cultural beliefs on clinic attendance remains inadequately understood. Consequently, there is a critical need to comprehensively explore and address the intricate interplay of these social determinants, in order to design targeted interventions that promote continuous follow-up of HIV/AIDS patients, enhance treatment adherence, and ultimately improve health outcomes in Tanzania. Thus this study aimed to examine the social factors influencing the follow up of HIV/AIDS patients at treatment clinics in Tanzania specifically in Mbeya City Council.

Research Question

i. What are the social factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya City Council?

Literature Review

A study conducted by Skhosana et al (2010) about "HIV disclosure and other factors that impact on adherence to antiretroviral therapy" Which was conducted in Turkey and a descriptive qualitative research design was used, the study trans theoretical model. The study reveals that Stigma, disclosure, unemployment, lack of transport, insufficient feeding, disability grants and alternative forms of therapy were identified as major barriers to adherence, whereas inadequate follow-ups and lack of patient confidentiality came under major criticisms from the patients.

Mukumbang et al (2017) Conducted a study in Zambia entitled "Conceptualizing the Factors Affecting Retention in Care of Patients on Antiretroviral Treatment in Kabwe District, Zambia, Using the Ecological Framework" Qualitative data were collected through in-depth interviews with 45 ART patients and three focus group discussions with 20 healthcare providers from three primary healthcare facilities in Kabwe district, Zambia, and subjected to thematic content analysis. The study revealed that Individual level barriers to retention in care included side effects, gaining weight, belief in faith healing, and use of herbal remedies and alcohol. Interpersonal barriers such as stigma and nondisclosure of HIV status were reported. At the institutional level, inadequate space in the clinic, long waiting times, long travel distances, and shortage of third-line drugs presented barriers to retention in care. Food shortages and patient mobility were reported as community barriers to retention in care. The study concluded that the ecological framework conceptualizes the complex and dynamic factors affecting retention in ART care and highlights the need for multifaceted interventions that combine health education, disease management, and opportunities for income generation in a socially responsive and accountable environment.

Furthermore, Sanga (2019), conducted a study about "Understanding factors influencing linkage to HIV care in a rural setting, Mbeya, Tanzania" with the use of 8 focus group discussions and 10 in-depth interviews with recently diagnosed HIV-positive individuals and 20 individual interviews with healthcare providers. The results identified multiple factors influencing linkage to care. HIV status disclosure, support from family/relatives and having symptoms of disease were reported to facilitate linkage at the individual level. Fear of stigma,

lack of disclosure, denial and being asymptomatic, belief in witchcraft and spiritual beliefs were barriers identified at individual's level. At providers' level; support and good patient-staff relationship facilitated linkage, while negative attitudes and abusive language were reported barriers to successful linkage. Clear referral procedures and well-organized clinic procedures were system-level facilitators, whereas poorly organized clinic procedures and visit schedules, overcrowding, long waiting times and lack of resources were reported barriers. Distance and transport costs to HIV care centers were important contextual factors influencing linkage to care.

Methodology

Description of Study Area

The study was conducted at Mbeya city council in Mbeya, Tanzania. The selection of Mbeya city council was due to the fact that it is one of the regions in Tanzania which has a higher number of people living with HIV/AIDS in Tanzania and also it is a region which was easy for a researcher to get the required data. I.e. HIV prevalence is still staggeringly high in the region estimated at more than 13% (national adult prevalence estimated at 6.5% [5.8–7.2%]2), having increased in recent years; new HIV infections occur every day (UNAIDS., 2019).

Mbeya City Council is a real urban center located in southwestern Tanzania, situated at approximately 8.8829° latitude and 33.4556° longitude. The city falls within a tropical climate zone, experiencing warm to hot temperatures throughout the year. Average temperatures range from 20°C to 30°C (68°F to 86°F). Mbeya City Council is surrounded by picturesque hills and valleys, with Mount Rungwe, an extinct volcano, nearby. This area is known for its lush greenery, fertile agricultural lands, and vibrant marketplaces, making it a prominent economic and cultural center in the region.

Population

The population of this study included the HIV/AIDS patients and the health providers, but due to cost effectiveness and time saving the researcher selected two hospitals from two wards in Mbeya city council which were; Igawilo City Hospital which is found at Igawilo ward which has the total population of 1,730 individuals and Kiwanjampaka Health Center which is found at Maendeleo ward which has the total population of 1431 individuals.

Sample Size

The following simple formula used for calculating the adequate sample size in prevalence study for unknown population; $\mathbf{n = Z^2\ P\ (1 - P)/\ d^2}$ Where n is the sample size, Z is the statistic corresponding to level of confidence, P is expected prevalence.

$$\text{Sample Size} = (\text{Z-score})^2 * \text{StdDev}*(1-\text{StdDev}) / (\text{margin of error})2$$

$$n = (1.645)^2 \times 0.5\ (1-0.5)/\ (0.7)^2$$

$$n = (2.706 \times 0.25)/0.0049$$

$$n = 0.6765/0.0049$$

$$n = 138$$

Therefore, the sample size used for this study was a total of 138 respondents, whereby 130 were HIV/AIDS patients attending to those clinics and 8 were health providers who attending those HIV/AIDS patients. Distribution of respondents are shown in the table 1 and table 2 below;

Table 1.1 Sample size distribution for HIV/AIDS patients

Ward	**Hospital**	**Sample Size**
Igawilo ward	Igawilo City Hospital	65
Maendeleo ward	Kiwanjampaka Health Center	65
	Total	**130**

Source: Field Data, 2023

Table 1.2. Sample size distribution for health providers

Ward	**Hospital**	**Sample Size**
Igawilo ward	Igawilo City Hospital	4
Maendeleo ward	Kiwanjampaka Health Center	4
	Total	**8**

Source: Field Data, 2023

Sampling Techniques and Data Collection

There were different ways or skills that were used in data collection such as questionnaire, interview and documentary. Whereby the researcher distributed questionnaires which contained closed ended questions to HIV/AIDS patients; the closed-ended questions limited the respondents to answer according to the choices provided by the researcher. Also the researcher conducted interviews with the health providers from the selected heath centers in order to get in-depth information on the research questions. Furthermore, the researcher used secondary data which were collected by documentary review method. Documentary source included written materials such as books, journals, magazine articles newspapers, reports, transcripts of speeches and administrative and public records.

Data Analysis

The analysis of qualitative data was used because the method involves the use of words rather than numbers; the methods involve descriptions of the study and this help to go beyond conceptions and generate and revise frameworks. This approach helped the researcher to generate quality information that gives explanation to numbers. The initial data which were collected was subjected to quality checks, to ensure that the recordings were correctly done with minimal errors. Furthermore, analysis of quantitative data involves on the use of charts, tables, graphs and numerical in the procedure of data analysis, and the qualitative method help on the analyzing data in order to get efficiency and accurate data which were collected from the field as well as to identify some errors arisen during the collection of data.

Validity and Reliability

In this study, validity was done by questionnaire pre-testing to elucidate and purify the meaning of questions to be clearly understood. The researcher formulated a questionnaire that was specifically tailored to obtain relevant and accurate response from the population. The research instrument was then piloted with 10 respondents randomly selected from the target population. On the basis of their comments, changes were made to the questionnaire to clarify wordings and increase readability. The pre-testing procedure was important to establish content validity.

In this study, the issue of reliability was ensured by use of different data collection methods such as review of secondary data and tools such as questionnaires and interview with appropriate sample size and techniques which are in this case are random and purposive sampling. To ascertain the reliability, the researcher used a test-retest method during the pilot survey. The coefficient of reliability was found to be 0.825 which is sufficient considering the required threshold is 0.7; implying that the instrument was reliable.

Table 1.3. Range of Cronbach's coefficient

Reliability	**Range**
Unreliable	$\alpha \leq 0.30$
Barely reliable	$0.30 < \alpha \leq 0.40$
Slight reliable	$0.40 < \alpha \leq 0.50$
Reliable (most common range)	$0.50 < \alpha \leq 0.70$
Very reliable	$0.70 < \alpha \leq 0.90$
String reliable	$\alpha > 0.90$

Wu, Yu, &Weng (2012)

Results and Discussion

Social Factors for the follow up of patients at Treatment Clinics

As the research question stated, a researcher was needed to assess the social factors influencing the follow up of HIV/AIDS patients at treatment clinics in Mbeya city council, the section has two subsections which are fear of stigma and fear of discrimination.

Fear of Stigma

Fear of stigma might be a barrier for people living with HIV/AIDS, and can lead to follow-up and interruption of treatment. When patients feel stigmatized because of their HIV status, they may be reluctant to seek healthcare services or disclose their status to healthcare providers, thus the researcher had to assess if fear of stigma among HIV/AIDS patients can affect the follow up.

Table 1.4. Fear of Stigma and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	44	33.85	33.85	33.85
	Strongly agree	68	52.31	52.31	86.16
	Disagree	11	8.46	8.46	94.62
	Strongly disagree	7	5.38	5.38	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 1 shown the finding results about the relationship between fear of stigma among HIV/AIDS patients and the follow up, the findings reveals that 44 (33.85%) of the respondents agreed that there is a relationship, 68 (52.31%) of the respondents strongly agreed, 11 (8.46%) of the respondents disagreed and 7 (5.38%) of the respondents strongly disagreed. The dominant group of the respondents strongly agreed that fear of stigma affects the follow up of HIV/AIDS patents. Therefore, the findings imply that the society reaction to HIV/AIDS patients in Mbeya city council affects to large extent the patients to lose follow up to their care and treatment clinics because many of them are fear to be seen by their surrounding societies.

Fear of Discrimination

Fear of discrimination is a significant barrier for people living with HIV/AIDS, and can lead to follow-up and interruption of treatment. When patients fear that they will be discriminated against because of their HIV status, they may be reluctant to seek healthcare services or disclose their status to healthcare providers, thus the researcher aimed to assess if fear of discrimination among HIV/AIDS patients can affect the follow up.

Table 1.5. Fear of Discrimination and Follow up of HIV/AIDS Patients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	36	27.69	27.69	27.69
	Strongly agree	57	43.85	43.85	71.54
	Disagree	20	15.38	15.38	86.92
	Strongly disagree	17	13.08	13.08	100.0
	Total	130	100.0	100.0	

Source: Field Data, 2023

Table 2 shown the finding results about the relationship between fear of discrimination among HIV/AIDS patients and the follow up, the findings reveals that 36 (27.69%) of the respondents agreed that there is a relationship, 57 (43.85%) of the respondents strongly agreed, 20 (15.38%) of the respondents disagreed and 17 (13.08%) of the respondents strongly disagreed. The dominant group of the respondents strongly agreed that fear of discrimination affects the follow up of HIV/AIDS patents. Therefore, these findings imply that if the HIV/AIDS patients is discriminated in the society, the situation directly affects the loss follow up to their care and treatment clinics.

Also one of the interviewed health care provider mentioned that;

> *"Some of the HIV/AIDS patients quit attending care and treatment clinics because they lack support from their partners or their families, they miss someone who can push them to attend CTCs on time"*

This statement from health care provider highlights the crucial role of social support in shaping the engagement of HIV/AIDS patients with care and treatment clinics. The absence of backing from partners or family members can lead to a sense of isolation, potentially causing patients to lose motivation and discontinue clinic attendance. The desire for a guiding presence underscores the significance of emotional encouragement and accountability in sustaining patients' commitment to timely clinic visits. This insight underscores the need for comprehensive healthcare strategies that incorporate not only medical aspects but also the interpersonal dynamics that play a pivotal role in fostering treatment adherence, suggesting that interventions aimed at bolstering patients' support networks could contribute to better clinic attendance and overall well-being.

Conclusions and Recommendations

Conclusions

Based on the findings, it is evident that social factors play a significant role in influencing the follow-up of HIV/AIDS patients at treatment clinics. HIV-related stigma remains a considerable barrier, discouraging patients from seeking care due to concerns about discrimination and social isolation. Socioeconomic disparities, such as poverty and limited access to resources, hinder consistent clinic attendance and treatment adherence. The presence

of strong social support networks, including family and community ties, positively impacts patients' commitment to treatment plans and clinic attendance. Also, cultural beliefs and norms surrounding HIV/AIDS influence patient behavior, highlighting the need for culturally sensitive interventions. These conclusions emphasize the need for comprehensive healthcare approaches that address the multifaceted nature of patients' lives, incorporating strategies to combat stigma, provide resources for socioeconomic challenges, nurture social support networks, and respect cultural differences. Such integrated interventions hold the potential to enhance follow-up rates, improve treatment adherence, and ultimately contribute to better health outcomes for HIV/AIDS patients.

Recommendations

Based on the findings, it is recommended to implement a multifaceted approach to address the social factors influencing the follow-up of HIV/AIDS patients at treatment clinics. Firstly, comprehensive stigma reduction campaigns should be launched to challenge misconceptions and promote acceptance. Also, initiatives aimed at providing socioeconomic support, such as financial assistance and transportation services, can mitigate barriers to clinic attendance. Furthermore, creating and nurturing social support networks, both in-person and online, can offer patients emotional encouragement and practical advice. Additionally, healthcare providers should undergo cultural competency training to ensure respectful and culturally sensitive interactions. Lastly, integrating mental health and psychosocial support into healthcare services and utilizing technology for appointment reminders can contribute to a holistic and patient-centered approach that enhances follow-up rates and treatment adherence.

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