FACTORS ASSOCIATED WITH HIV STATUS DISCLOSURE TO HIV INFECTED CHILDREN ATTENDING CARE AND TREATMENT CENTERS IN MOROGORO MUNICIPAL

Caroline C. Sawe, MD

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By

Caroline C. Sawe

A Dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree of Master of Public Health of

Muhimbili University of Health and Allied Sciences
October, 2024

CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled: **‘‘Factors Associated with HIV Status Disclosure to HIV Infected Children Attending Care and Treatment Centers in Morogoro Municipal**, in (Partial) fulfillment of the requirements for the degree of Master of Public Health of Muhimbili University of Health and Allied Sciences**.**

_____

Dr. Candida Moshiro

Supervisor

_____

Date

_____

Mr. Suleiman Chombo

Co-Supervisor

_____

Date

DECLARATION AND COPYRIGHT

I, **Caroline C. Sawe**, declare that this **dissertation** is my original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature……..…… **Date**……..……..….....

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DEDICATION

I dedicate this work to my beautiful daughters Avery, Trinity and Gianna, you inspire me every day with your love and joy. This accomplishment is as much yours as it is mine. Thank you for being my constant motivation and for always believing in me.

ACKNOWLEDGMENT

This dissertation could not have been completed without the aid and cooperation of many colleagues. First I would like to thank GOD for giving me breath and energy to pursue this important task. Secondly, I would like to express my sincere thanks to my supervisors, Dr Candida Moshiro and Mr Suleiman Chombo for all the tireless support and guidance they gave me throughout completion of this work. I also extend my thanks to all members of staff in the School of Public health and Social Sciences at Muhimbili University of Health and Allied Sciences for their valuable contribution, constructive criticism and comments during proposal development of research idea up to completion. Lastly, I would like to give special thanks to my fellow Master of Public Health students especially my classmates for being with me all the time of preparation of this dissertation.

ABSTRACT

Background: There has been a significant reduction in morbidity and mortality of HIV-infected children and more of them are surviving through childhood and into adolescence due to the use of ART. However, disclosure of HIV status remains a complex and a critical issue.

Aim: The study assessed the prevalence of HIV status disclosure and determined the demographic, psychosocial, clinical and treatment factors associated with HIV status disclosure.

Materials & Methods: This analytical cross-sectional study involved 300 HIV positive children attending nine Care and Treatment Centers in Morogoro Municipal, selected using stratified random sampling. Data was collected through an interviewer-administered form. Modified Poisson regression analysis was performed to identify independent factors for HIV status disclosure.

Results: The prevalence of HIV status disclosure to infected children was 49.3%. The significant factors associated with HIV status disclosure were the increasing child's age (adjusted prevalence ratio (aPR) = 1.19, 95% CI 1.13–1.25), the presence of the child's treatment supporter (aPR = 8.18, 95% CI 4.51–14.82), and the HIV condition of the child having no impact on the family (aPR= 1.45, 95% CI: 1.05-2.01).

Conclusion and recommendations: The prevalence of disclosure among children in this study was notably low. Child's age, a child having a treatment supporter, and the child's illness not having impact on the family were associated with HIV status disclosure. Health authorities should ensure that healthcare providers implement WHO guidelines on HIV disclosure to children specifically on the age of disclosure (6-12 years), encourage treatment supporters' involvement, and frequently train healthcare workers to provide psychosocial support to mitigate the impact on family dynamics.

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ABBREVIATIONS AND ACRONYMS

AIDS	-	Acquired Immuno-Deficiency Syndrome
ARTs	-	Anti Retroviral Therapy
CHWs	-	Community Health Workers
CI	-	Confidence Interval
CTC	-	Care and Treatment Centres
HCWs	-	Health Care Workers
HIV	-	Human Immunodeficiency Virus
IRB	-	Institutional Review Board
PMTCT	-	Prevention of Mother to Child Transmission
WHO	-	World Health Organisation

OPERATIONAL DEFINITIONS

Disclosure of HIV status– is not a one-time event, but rather a process, involving ongoing discussions about the disease as the child or adolescent matures cognitively, socially, emotionally, and sexually (1).

Caregiver- A caregiver is an adult who shares a home with the child, is in charge of the child's daily living, and is informed about the child's HIV diagnosis, ART care, and treatment (2).

Child – Someone who is not yet an adult, or someone who has not yet reached puberty, or a person who is younger than age 18 years (3).

Treatment supporter- A family member (FM) or any person who is willing to help and is accepted by the patient and answerable to the health of the patient (4).

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Children under 15 years of age account for approximately 1.5 million of the people living with HIV worldwide. Almost 90% of all HIV infected children live in sub-Saharan Africa (5). According to Tanzania's 2020 country progress report, 6,500 new infections occurred among children at that age (6). With the introduction of antiretroviral therapy (ART) and increased treatment accessibility, more HIV-positive children are now living to adolescence and adulthood (7). Along with the increased survival of children infected with HIV, disclosure of HIV status to children remains a complex and a critical clinical issue in the care of HIV-infected children (8).

When a child/adolescent is aware of their HIV status, it is known as HIV status disclosure (9). It is a process that involves continuing conversations about the illness as the child or adolescent develops emotionally, socially, cognitively, and sexually. It is not a one-time event (1). Those who refrain from disclosing knowledge to their child frequently do so because they think the child is too young to grasp it or that it will hurt their mental health, make them ask tough questions, or cause them to tell others about this new information, possibly bringing shame upon the child and family (10). A study conducted at Ghana in 2021 showed that children who are aware of their status have better self-esteem, fewer behavioural issues, and lower psychological distress, including less signs of anxiety and sadness, than children who have not disclosed their status (10). Furthermore, transparency has improved a number of clinical outcomes, including HIV awareness, medication compliance, viral suppression, and length of stay in care (11). There are a number of characteristics that are linked to children being told about their HIV status, including the child's age and developmental stage, caregiver's educational background, lack of knowledge on the disclosure process(how and what to tell the child), and the death of a family member (12).

The WHO guideline recommends that the disclosure process begin when the child is six years old and terminate no later than twelve years old (13). According to the Tanzania national HIV guidelines, children as young as four to six years old should be told that they have a chronic illness that necessitates daily medication and clinic visits. Additionally, complete disclosure of HIV and AIDS ought to be provided around 8 to 10 years of age (14). However, despite these recommendations, a study done in 2016 on caregiver perceptions and practices of HIV disclosure to children in sub-Saharan Africa revealed that 31% parents/caregivers of children over six years did not disclose their HIV status to their offspring (15). Research on disclosing an individual's HIV status to children in Western Kenya, Ethiopia, Uganda and Ghana showed that, majority who knew their status were above the WHO's recommended age (12,16–18).

A Tanzanian study done in 2018 at Iringa and Mbeya revealed that only 33% of the 309 children between the ages of 13 and 14 who were HIV-positive were aware of their status (19). Another study done in 2015 at Mbeya on determinants and processes of HIV status disclosure to HIV - infected children showed that most care givers delayed disclosure till the child reached 9 years (20). Furthermore, age of the care giver and the child, parental status of the child, and HIV status of the care giver were associated with disclosure according to a Tanzanian longitudinal study that used data from 18 regions on factors related with HIV status disclosure to orphans and vulnerable children with HIV (21). Studying HIV status disclosure and the associated factors (clinical and treatment factors, and psychosocial factors) in children is crucial for promoting their wellbeing and ensuring appropriate support from healthcare providers and caregivers (10).

1.2 Problem statement

HIV status disclosure is lower in countries that have low and moderate incomes, ranging from 1.7% to 41% (9). Only 42% of the children between the age of 6 and 14 years knew their HIV status, according to a recent study done in Kilimanjaro (22). Low disclosure rates could be associated with fear of being stigmatized and discriminated, lack of information and awareness, lack of child-friendly educational resources, and fear of psychological impact on the child (22).

The government of Tanzania, recognizing the importance of addressing HIV/AIDS made several efforts such as setting out guidelines which are to be used during the disclosure process. Despite these efforts made by the government, the annual report of 2022 on HIV status among children in Morogoro Municipal showed that out of 2,005 patients <15years of age who were on ART, only 460 (22.9%) attained a viral load suppression (DHIS-2 2022). This could be attributed to poor adherence to medication due to children not knowing their HIV status (10).

In Tanzania, studies have been conducted on the factors that are associated with HIV disclosure to children, focusing on sociodemographic factors of the child and his/her caregiver (21–23). Little is known on the psychosocial, clinical and treatment factors which are associated with disclosure of HIV status to children by their caregivers. This makes it difficult to create focused interventions and hence hinders the efficient delivery of HIV care to children.

This study aimed to fill the current knowledge gap by determining HIV disclosure rate and investigating the psychosocial, clinical and treatment factors influencing HIV status disclosure to children with HIV who attended Care and Treatment Centers (CTCs) in Morogoro Municipal.

1.3 The conceptual and theoretical frameworks

Figure 1 shows the theoretical framework of the HIV disclosure process (24). Child factors, caregiver factors, attitudes, beliefs, and external resources are interconnected, influencing how caregivers plan for and ultimately disclose a child's HIV status. Each element impacts others in a dynamic, complex process.

Child factors (age, cognitive development, questions) directly influence caregiver attitudes toward disclosure. For instance, a child's understanding or curiosity might prompt disclosure or delay it.

Caregiver factors (HIV disclosure experience, HIV status, stigma, mood, and values) shape their attitudes toward disclosure and also impact their normative beliefs (social, moral, and descriptive norms). These factors influence the caregiver's intentions to disclose.

Caregiver attitudes toward disclosure (outcome expectancies and perceived importance) connect to the intention to disclose. Caregivers consider the outcomes of disclosure and its significance before deciding.

Caregiver normative beliefs (influenced by social and moral norms) act as a bridge between caregiver factors and their intention, helping to solidify their plans for disclosure.

Contextual factors (material resources, gender roles, relationships) affect both caregiver normative beliefs and barriers/resources available to support disclosure. These factors can either support or hinder the process.

Barriers and resources (professional/social support and competing demands) can either facilitate or prevent caregivers from moving from intention to action and coping planning.

The intention formed by caregivers leads to action and coping planning, which determines the final act of disclosure.

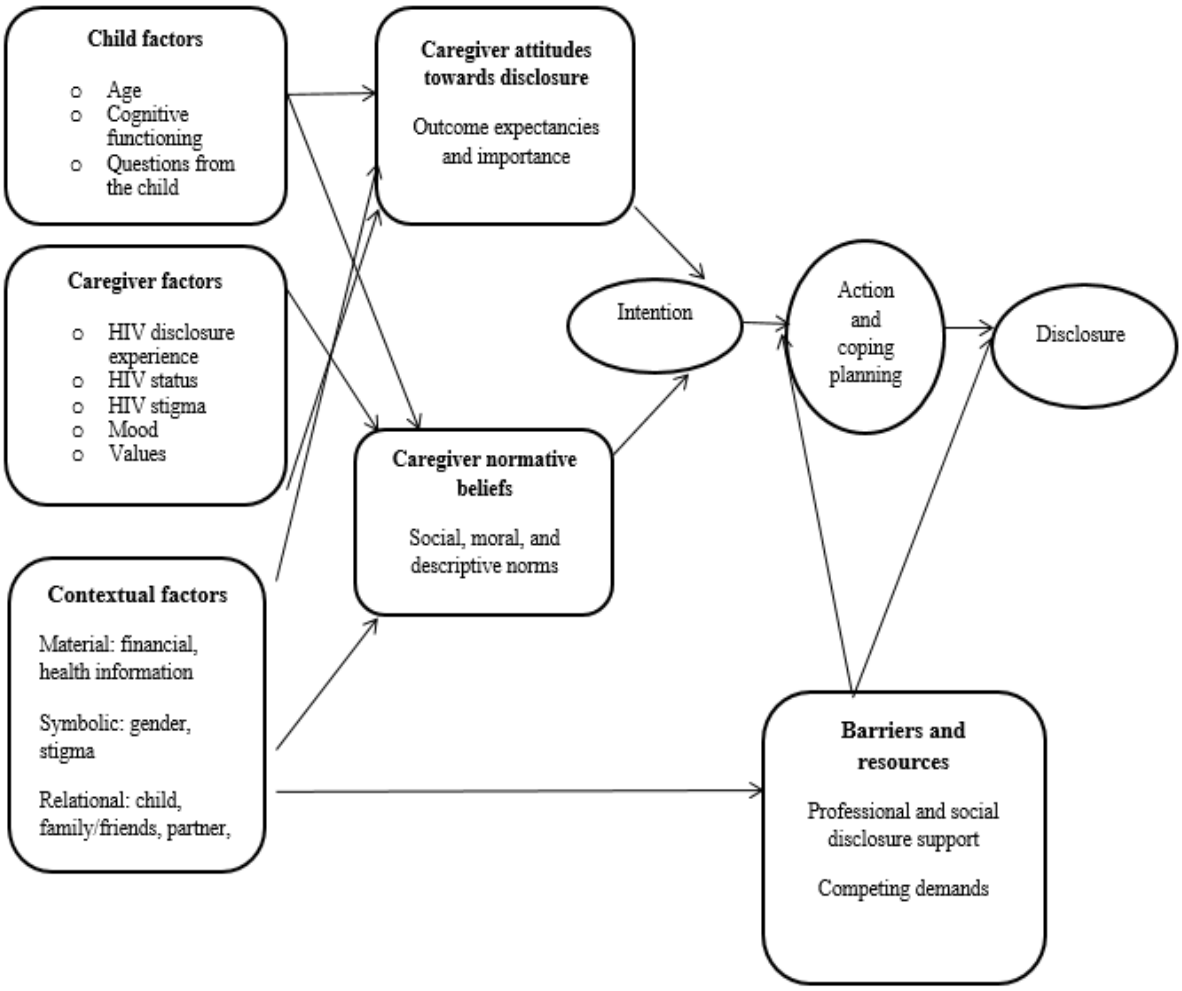


Figure 1: The theoretical framework of the HIV disclosure process to HIV infected children by their caregivers

Figure 2 shows the conceptual framework for factors associated with HIV status disclosure to HIV infected children. Demographic factors of the caregiver are related to HIV disclosure. Older caregivers may have more experience and comfort with discussing sensitive topics like HIV status, potentially increasing the likelihood of disclosure. Higher educational levels in caregivers may correlate with greater understanding of the importance of disclosure and better communication skills, leading to increased disclosure. Caregivers who are parents or close

relatives might feel a stronger sense of responsibility and trust, influencing higher rates of disclosure.

Child demographic factors have also been found to be associated with HIV status disclosure. Older children are more likely to be disclosed to, as they may better understand their health condition and its implications. Children with deceased or absent parents might experience different disclosure dynamics due to varying support systems and family structures.

Psychosocial factors have also been found to be associated with HIV status disclosure. Caregivers with positive beliefs about the benefits of disclosure can lead to a higher likelihood of informing the child about their HIV status. Families less impacted by the child's HIV status might feel more stable and capable of managing disclosure without additional stress. High levels of caregiver stress might hinder their ability to disclose the child's HIV status due to emotional and psychological burdens.

Clinical and treatment factors have also been found to be associated with HIV status disclosure. HIV-positive caregivers may be more open and proactive about disclosure due to shared experiences and understanding of the condition. ART collection in a supportive and informative environment like a hospital might facilitate disclosure by providing resources and encouragement. Having a treatment supporter can offer additional emotional and practical support, making disclosure more feasible. Disclosure is more likely at advanced stages of the disease due to the increased need for the child to understand and manage their health.

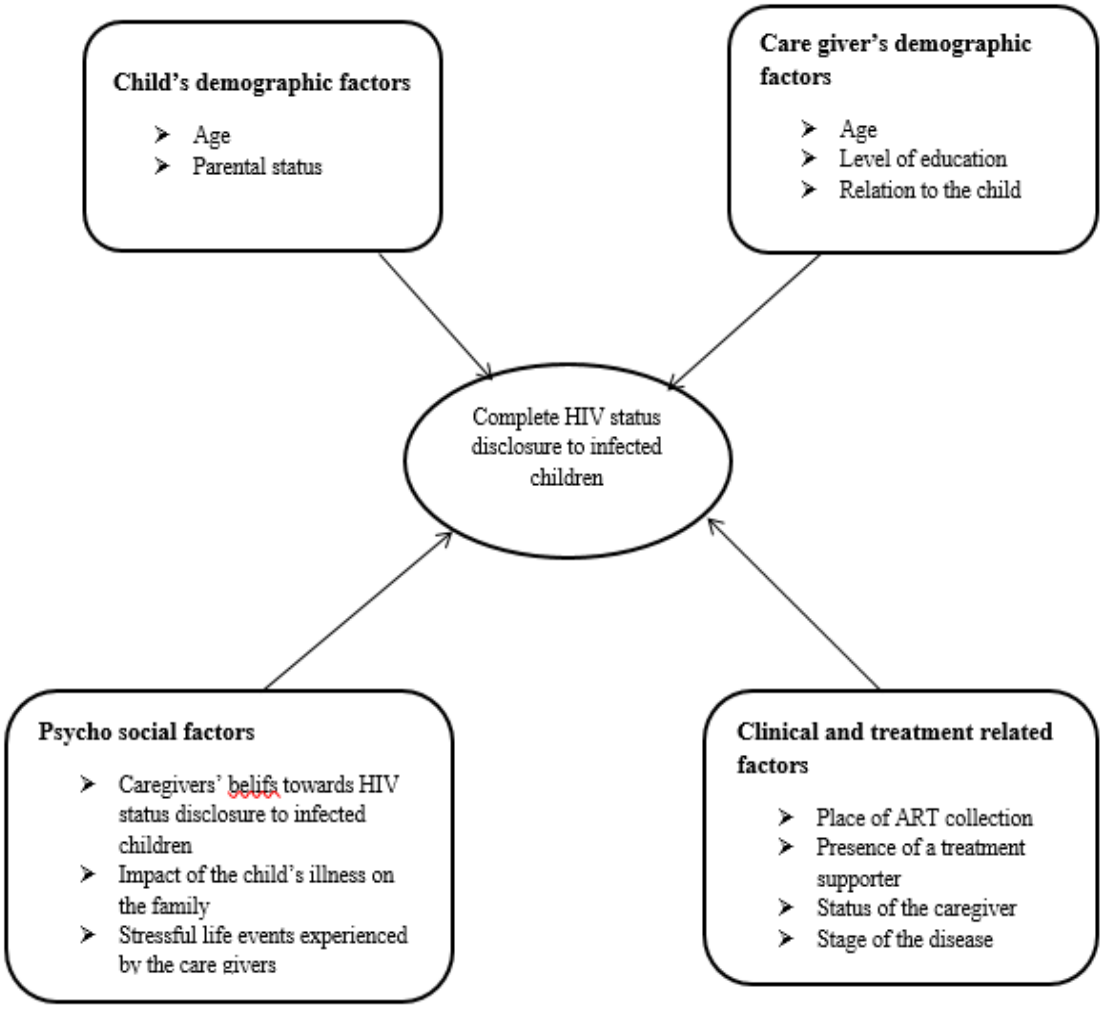


Figure 2 : The conceptual framework on factors associated with HIV status disclosure to infected children in Morogoro Municipal

1.4 Rationale

Understanding the factors that affect the disclosure of HIV status to HIV infected children attending CTC clinics in Morogoro Municipal is vital since it will directly influence the quality of care provided to them, impacting their physical, emotional, psychological health, and fill the existing knowledge gap.

The study's results will enable the HIV-infected children's caregivers to gain a deeper understanding on the factors influencing disclosure decisions. This knowledge can empower them to make informed choices regarding at what time disclosure should be made and how to disclose a child's HIV status, ultimately impacting the child's well-being. Increased awareness within the community can reduce stigma surrounding HIV, enhancing a more supportive environment for HIV positive children and their families.

Also, programme managers responsible for implementing HIV care initiatives in Morogoro will be equipped with evidence-based information on disclosure factors. This insight can inform the development and improvement of targeted interventions to enhance disclosure rates among infected children. The findings can guide the tailoring of existing programs to address specific challenges faced by caregivers, leading to more effective healthcare delivery.

Lastly, researchers will gain valuable insights into the specific factors influencing HIV status disclosure in Morogoro. This knowledge can add information to the existing body of literature on pediatric HIV status disclosure, filling a gap in understanding the factors influencing HIV status disclosure specific to this region. The findings may guide future research, helping researchers formulate more targeted and effective study designs in similar contexts.

1.5 Research questions

1.5.1 Broad research question

What is the magnitude and the factors associated with HIV status disclosure to HIV-infected children attending Care and Treatment Centres in Morogoro Municipality?

1.5.2 Specific research questions

1. What is the prevalence of HIV status disclosure among HIV infected children in Morogoro Municipality?
2. What are the demographic factors associated with HIV status disclosure to HIV infected children attending CTC in Morogoro Municipality?
3. What are the psycho social factors associated with HIV status disclosure to HIV infected children attending CTC in Morogoro Municipality?
4. What are the clinical and treatment factors associated with HIV status disclosure to infected children attending CTC in Morogoro Municipality?

1.6 Objectives

1.6.1 Broad objective

To investigate the magnitude and factors associated with HIV status disclosure to HIV-infected children attending Care and Treatment Centres in Morogoro Municipality, Tanzania.

1.6.2 Specific objectives

1. To assess the prevalence of HIV status disclosure to HIV-infected children attending CTC in Morogoro Municipality.
2. To identify the demographic factors associated with HIV status disclosure to HIV infected children attending CTC in Morogoro Municipality.
3. To identify the psycho social factors associated with HIV status disclosure to HIV infected children attending CTC in Morogoro Municipality.
4. To identify the clinical and treatment factors associated with HIV status disclosure to infected children attending CTC in Morogoro Municipality.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Prevalence of HIV status disclosure to HIV infected children

The prevalence of HIV status disclosure to children has been the subject of numerous scientific studies. These studies have been conducted in a global scale, emphasizing on factors for delayed disclosure among children. Based on data from the Europe, USA and Canada about the rate of HIV disclosure in children, 18–77% of HIV positive children were disclosed (25).

There are differences between research and populations when it comes to prevalence rates of disclosure of HIV status among children in Africa. Some revealed high prevalence rates as shown by a Zimbabwean study that revealed a 66.9% rate of disclosure (26), and by a study conducted in Uganda where 56% the children were aware of their HIV status (27). Studies conducted in Kenya and Ethiopia revealed prevalence rates of 43%and 46.8% respectively (11,28). Additionally, a study from Ghana revealed a disclosure rate of 33.5% (10). Comparably, a different study carried out in Kenya revealed that 26% of people disclosed to their children (16). Also, there were differences in the prevalence of disclosure by clinic where Webuye had the highest rate of disclosure (40%) and MTRH had the lowest (17%) (16). A study conducted in Johannesburg, South Africa, reported a 9% prevalence but also mentioned that the frequency of disclosure increased with age, going from 0% at age 4 to 4% at age 5, 8% at age 6, and 13%, 16%, and 15% at ages 7, 8, and 9 (29).

A Tanzanian study conducted in Mbeya on the determinants of HIV status disclosure to infected children revealed disclosure rate of 32.6% (20). Furthermore, another study was conducted in CTC clinics of Kilimanjaro region and found that the prevalence of disclosure was 22.3% (30). Moreover , only 102 (33%) of the 309 individuals were told that they were HIV positive according to an unmatched case control study on factors related to the disclosure among children conducted in Tanzania's southern highlands (Iringa and Mbeya) (19).

2.2 Factors associated with HIV status disclosure

2.2.1 Child's demographic factors

Age

The child's age is a pivotal demographic factor influencing HIV status disclosure. Research consistently indicates that children who are older have a greater probability of knowing their HIV status, as they possess better cognitive abilities to understand complex health information. This was shown by a 2017 South African study where the mean age of disclosure was 9.8years and 61% of disclosure occurred between 10 and 16 years (2). An Ethiopian study of 2021, showed that the likelihood of disclosure increased as the child's age increased where as children with the age of 10 to 15 years were more likely to be disclosed (31). Similarly, another Ethiopian study of 2022 also showed that those children over the age of ten had an 11-fold higher likelihood of being disclosed (17). Furthermore, a Cote d'Ivoire study showed that the disclosure status drastically increased with age, rising from 19% for 13–15 years to 33% for 16–18 years and 86% for 19–21 years (32).

In Tanzania, children between the ages of 9 and 11 were found to be considerably more likely than other age groups to be told that they were HIV positive, according to a recent study on the disclosing of HIV to children done in 2023 at Kilimanjaro (22)

Parental status

Compared to children with one deceased parent, those who had both parents still alive had a lower disclosure rate.(28). This makes sense because children who lose a parent or parents often question their relatives why their parents died. A significant number of the parent may have passed away from HIV/AIDS-related causes. The children then might be aware of their status as a result (28). Compared to non-orphans, children whose fathers had passed away tended to know that they were HIV positive, according to a Kenyan study on disclosure of HIV status to children (16).

2.2.2 Care giver's demographic factors

Age

The age of the caregiver is found to be a major factor for disclosure of HIV status. Older caregivers may have different perspectives on HIV/AIDS and disclosure compared to younger caregivers (20). A South African study on factors related to HIV status disclosure to children provides evidence of this, where it concluded that care givers more than 50yrs were more prone to telling their children about their HIV diagnosis compared to younger care givers (33). In this research, grandparents told nearly a quarter (26.3%) of the children about their HIV diagnoses.

A study conducted in Mbeya on determinants and process of HIV status disclosure concluded that ages 41 to 50 were associated with higher disclosure rates among caregivers (20). This could be because elder caregivers are more likely to feel at ease talking about delicate health matters, whereas younger caregivers may struggle with concerns relating to personal experiences and cultural norms (20).

Level of education

Caregiver education is closely linked to their ability to comprehend and communicate health-related information. A South African study on factors related to disclosure concluded that, compared to caregivers with only a primary education, higher educated caregivers were unlikely to tell their children that they were HIV positive (33).

On the other hand, caregivers with high levels of education were more likely to disclose. An Ethiopian study concluded that compared to parents with less education, educated caregivers were much more likely to have told their children they were HIV positive (31). This could be because knowledgeable caregivers are more aware of the value of disclosure in monitoring the health of the child and eliminating related stigma. Similarly, another Ethiopian study concluded that caregivers with primary or higher education were more likely to tell their children they were infected with HIV than uneducated caregivers (17). This study also revealed that most caregivers with higher level of education had disclosed, as opposed to those with only primary or were uneducated.

Care giver relation to the child

According to an Ethiopian study, biological caregivers were less likely than non-biological caregivers to tell their children that they were infected with HIV (34). While many children who were aware of their diagnosis were living with unrelated caretakers, the majority of children who were unaware were living with their biological parents. Biological mothers constituted greatest proportion of all the caregivers who did not disclose (12). Additionally, it has been demonstrated that disclosure is particularly challenging for biological caregivers, who are concerned about their children finding out about their sickness, due to the stigma associated with the condition and the sexual route of transmission (35).

2.2.3 Psycho-social factors

Caregiver's beliefs towards HIV status disclosure to infected children

The beliefs of caregivers on disclosure of HIV status may guide them to disclose or not. Those who did not disclose believed that disclosure should be conducted when the child is 10 years and above as demonstrated by a South African study where 61% of the children who were disclosed were between the age of 10 and 16 years (36). Some believed that disclosure would bring emotional distress to the child as shown by study in Ethiopia where 64% of caregivers did not disclose due to that factor (37). Other caregivers believed that children could not keep their status a secret as shown by a study conducted in Ethiopia where 46.6% of caregivers chose not to disclose due to the fear that their children could not maintain confidentiality of their status (38). Additionally some caregivers believed that their children would be stigmatized and discriminated (37). And 43.2% of those who disclosed believed that the child should be entitled to know that they were HIV positive as reported by a South African study. Lastly, 35.1% of those who disclosed believed that disclosure promoted adherence to medication (36).

Impact of the child's illness on the family

Families dealing with children who are HIV positive may face emotional, financial, and social stressors related to the child's illness. These stressors can affect the caregivers' decision-making process regarding HIV disclosure to their children. This was observed in a study

conducted in Malawi which showed the odds of non-disclosure were higher (65%) among primary caregivers who reported a low and significant level of impact of illness on the family compared to those who reported very serious level of impact of the illness on the family (39).

Stressful life events experienced by the care giver

When it comes to informing children about their HIV status, stressful life events like divorce, pregnancy problems, job losses, and insufficient food could significantly impact the caregiver's decision-making process and ability to disclose to the children under their care. A Malawian study showed that disclosure rate was high (39%) among caregivers with more than 3 stressful life events in contrast to those with fewer than three (39).

2.2.4 Clinical and treatment related factors

Place of ART collection

When compared to health centers, follow up of ART at the hospital was strongly linked to disclosure, according to a study done in Southwest Ethiopia (31). This was explained by the fact that health facilities are typically located in distant places to improve service accessibility, whereas hospitals are typically positioned in towns where there is a high probability of information access. Furthermore, there may be a significant turnover rate among employees from distant locations and a likelihood of a pool of highly qualified workers in hospitals (31).

This study was also carried out in the Wolaita zone of Ethiopia and it found that, with regard to the types of health facilities, children who collect HIV medication at the hospital are nearly twice as likely be informed on their status (28). This could be due to the fact that, despite using similar guidelines, hospitals and health centers differ in terms of the variety of their healthcare staff, leading to variations in the detection, counseling, and disclosure (40).

Presence of a treatment supporter

Understanding the role of a treatment supporter is crucial. This may include family members, friends, or medical personnel who support the treatment and care of HIV positive individuals. Their involvement may range from emotional support to facilitating medical adherence. An Ethiopian study on HIV status disclosure and associated factors revealed that 87% of those

children who had a treatment supporter were disclosed (31). According to a Kilimanjaro study on the factors influencing children to know their HIV status, those with a treatment supporter were 2.9 times more prone to disclosure compared to those who didn't have a treatment supporter (22).

Status of the care giver

According to a Ghanaian study on the difficulties family caregivers encounter in telling HIV positive children and adolescents about their status, most caregivers (54.4%) tested positive for the virus, and only 12% of them were able to disclose (12). HIV positive caregivers had a great likelihood of disclosing, according to a different study on factors related to HIV status disclosure to orphan and vulnerable children conducted in 18 districts of Tanzania (21). Furthermore , an Ethiopian study concluded that, compared to children with HIV negative caregivers, those whose caregivers were HIV positive had a lower probability of being disclosed (38).

WHO stage of the disease

Disclosing HIV-positive status to children and adolescents may be less difficult if the child has a symptomatic illness with a later WHO diagnostic stage. This was noted in an Ethiopian study wherein 35.7% of stage 3 and 4 kids and 27.6% of stage 1 and 2 children were disclosed. It is assumed that a child or adolescent's persistent illness symptoms will raise concerns about their health (38). Better WHO stages (1&2) were associated with higher disclosure rates, according to a Kenyan study; 48% of stage 2 participants and 42% of stage 1 participants were disclosed (16).

Summary

Despite extensive research on HIV status disclosure to infected children, several knowledge gaps remain. The literature reveals significant variability in disclosure rates across different regions, suggesting the need for more comprehensive and context-specific studies to understand the factors influencing these differences. Additionally, while demographic factors such as the child's age and caregiver's education level are frequently discussed, there is limited research on the psychological impacts of disclosure on children. The role of treatment

supporters and the impact of the caregiver's own HIV status on the disclosure process are also underexplored areas.

Therefore, further research is needed to address these gaps, particularly focusing on the psychosocial dimensions of disclosure, and the influence of cultural norms, to support both children and caregivers throughout the disclosure process.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study design

Analytical cross-sectional study design was conducted for 3 weeks among care givers with their HIV infected children (6-14yrs) attending CTC at Morogoro Municipality.

3.2 Study area

The study was conducted in Morogoro Municipality in Tanzania. The Municipality is approximately 200km west of Dar es Salaam. There are a total of 9 health facilities (3 hospitals, 3 health centers and 3 dispensaries) with CTC. There are approximately 2005 HIV infected children, who are on ART and are attending CTCs.

3.3 Study population

Study participants included children who are HIV positive and are at the age of 6-14 years, on ART and attending CTC with their care givers.

Inclusion criteria

Children whom the caregivers/parents were able to understand and willing to sign the informed consent.

Exclusion criteria

If the caretaker was not able to give all the required information about the child especially with regards to disclosure.

3.4 Sample size

A formula was used to determine the number of caregivers to be included in the study with an assumption that each one caregiver represented one child attending CTC at Morogoro Municipality (41).

$$N = Z^2P(100 - P) / \varepsilon^2$$

Where:

N= Sample size

Z= 1.96 corresponding to 95% level of confidence

e= margin of error =5%

P= Prevalence HIV positive status disclosure. Based on the study in Northern Kilimanjaro the prevalence of HIV disclosure was found to be 22.3% (30) among children age 5-14 years.

The Sample size is;

$$N = \frac{\{(1.96^2)\ x\ 0.223\ (1-0.223)\}}{0.05^2}$$

N= 266.3 ≈ 266

The study assumed a 10% non-response rate giving an adjusted sample size = desired sample size/ (1- non-response rate)

$Adjusted\ sample\ size = 266/(\ 1 - 0.1)$ = 296.6 which was approximated to 297.

The expected sample size was **297** children attending CTC clinics at Morogoro Municipal.

3.5 Sampling technique

A list of all 9 health facilities with CTC clinics and number of weekly attendances by children 6-14 years was obtained from the District AIDS Control Coordinator (DACC's) office. Stratified sampling technique was used to select the participants. The facilities were grouped into different strata based on the level of facility (3 hospitals and 3 health centers and 3 dispensaries). The estimated number of patients to be selected from each facility was proportional to the number of eligible patients on ART. Children aged 6-14 years were randomly selected until the desired sample size was obtained. The formula used was the Sampling Proportional to Size (SPS) which is used when strata are of different sizes (Table 1).

Table 1: Number of eligible and selected children 6-14 years in Morogoro Municipal

A	B	C	D	E	F
Facility type	Name	No. of patients each week (approx.)	Patients on ART (6-14yrs) (approx. 60%) per week	Percent distribution out of total (D/286)	Number to select in each facility (E*300)
Hospitals	Morogoro Regional Referral Hospital	98	59	0.21	62
	Mazimbu Hospital	57	34	0.12	36
	Mzinga Hospital	60	36	0.13	38
Health centers	Sabasaba h/c	55	33	0.12	35
	Mafiga h/c	60	36	0.13	38
	Kingolwira h/c	45	27	0.09	28
Dispensaries	Mjimpya dispensary	54	32	0.11	34
	Mwembesongo dispensary	20	12	0.04	13
	Malipula dispensary	27	16	0.06	17
		Total	**286**	**1.00**	**300**

3.6 Variables and definitions

Dependent variable: Complete HIV status disclosure is a state at which an individual is aware/ is informed of his/her HIV status. The variable was categorical with only two possible responses that are either have been disclosed (Yes=1) or not disclosed (No=0).

Independent variables: Are the factors that were associated with complete HIV status disclosure.

I. Child's demographic factors included age (years), and parental status (orphan, both parents alive, single parented)

II. Care giver's demographic factors included age (years), level of education (none, primary, secondary and above secondary), and care giver relation to the child (biological, other).

III. Psychosocial factors refer to the combination of psychological and social elements that influence individual's mental health and behavior. These included;

- Caregiver's beliefs towards HIV status disclosure to infected children was measured by asking the caregivers five questions assigned to a Likert Scale with strongly agree, agree, disagree and strongly disagree responses. Numerical values were assigned to the Likert scale responses (strongly agree=4, agree=3, disagree=2, strongly disagree=1). The Sum of the scores of the 5 questions was obtained (5-20), and the midpoint threshold was obtained (12.5). The total score of > 12.5 was categorized as positive beliefs, and a total score of ≤ 12.5 was categorized as negative beliefs.
- Impact of the child's illness on the family which was measured using the Impact on the Family Scale (42). There are 15 items on the measure,

  Each one is assessed on a four-point Likert scale with strongly agree, agree, disagree, and strongly disagree responses. Numerical values were assigned to the Likert scale responses (strongly agree=4, agree=3, disagree=2, strongly disagree=1). The total scores vary from 15 to 60, and the midpoint of 37.5 was

obtained. Higher scores (37.5 and above) indicated that the child's illness has had a significant impact on the family and lower scores (≤37.5) indicated no impact.

- Stressful life events experienced by the care giver which were measured using the Life Stress Scale adapted from Tennant and Andrews (43). There are nine statements on life's stressful events in the instrument (Pregnancy problems, separation or divorce, marital problems, a close family friend or another relative died, problems with your children, your own job loss, money problems), and the answers were Yes or No. Those who had fewer than three stressful life events were divided into one category, while those who had three or more stressful life events will be placed in a different category, to generate a binary variable.

IV. Clinical and treatment factors included status of the care giver (positive or negative), place of ART collection (hospital, health center, dispensary), WHO stage of the disease (I, II, III, IV), and presence of a treatment supporter (Yes, No), which were collected from the participant's files.

3.7 Data collection tools and procedures

A structured interview administered questionnaire was used to address the study objectives and was translated to Swahili Language. Data were collected by the Principle Investigator and 2 research assistants. The data collection tool was in digital form using advanced Digital Data Collecting Tool (Kobo collect), and data was filled offline to solve internet availability challenge. Data was collected for approximately 3 weeks.

3.8 Validity and reliability

Questions were adapted from a validated tool which was the interviewer administered form obtained from a similar study (39) but with some modified questions that were used to collect information from parents and care givers. Before actual data collection time, the interviewer administered form (tool) was pre tested among 30 children with their care givers from one selected CTC clinic outside the municipal to ensure that the questions were well understood

before the start of data collection. Two research assistants received one day of training, where they were familiarized with the study's objectives, data collection procedures, the interviewer administered form, and the ethical principles guiding this research.

3.9 Data analysis

Data was analyzed using R-studio software version 1.0.136 of 2016 after cleaning and checking for any errors or missing values. The appropriate numerical codes were assigned for the variables. Frequencies and percentages for categorical variables, were generated for the variables of interest. Bivariate analysis was conducted to identify associations between HIV status disclosure and the factors of interest whereby chi-square test was used to compare the prevalence of HIV status disclosure between different demographic groups, psychosocial and clinical related factors. Factors with a p-value of <0.25 in the bivariate analyses were included in the multivariable model. Multivariable Modified Poisson regression analysis was conducted to identify the independent factors associated with HIV status disclosure after controlling for other variables. The crude and adjusted prevalence ratios with corresponding 95% confidence intervals are presented. A significance level of $p < 0.05$ was used.

3.10 Ethical consideration

This study requested ethical approval and clearance from the Institutional Ethical Review Board of Muhimbili University of Health and Allied Sciences (MUHAS) with approval number MUHAS-REC-04-2024-2215. Potential study participants received a clear explanation of the research objectives, and those who willingly agreed to take part provided their informed consent in writing. Confidentiality was strictly maintained, and all data collected was kept private, ensuring that no participant identification was revealed in any form. The study had no physical or psychological risk to participants and it prioritized their rights, treating them with respect, dignity, and upholding their privacy and confidentiality.

CHAPTER FOUR

4.0 RESULTS

4.1 Demographic characteristics of caregivers and children

A total of 300 respondents were interviewed. Majorities (73%) were female (219 respondents). With regards to age distribution, caregivers were categorized into three age groups and majority, comprising 67.7% of respondents, were aged 45 years or older (203 respondents). 51.3% of the respondents were single and 35% attained a secondary level of education. Regarding family composition, 54.3% (163 respondents) had 3-4 children. The Socio-economic quintile was used to group the respondents into 5 categories where there was an equal distribution of participants among the socio-economic groups (Table 2).

Regarding the children demographics, the results show that they were fairly evenly split between the age groups, with 51.33% (154 respondents) aged 10 years and older. There were more female children (58.67%, 176 respondents), and in terms of parental status, 51.67% (155 respondents) had both parents alive. The majority of children were in WHO clinical stage 1 (51.33%, 154 respondents), and most of the children had a treatment supporter (59.33%, 178 respondents). The caregiver-child relationship varied, with 71.67% (215 respondents), being biological parents (Table 3).

4.2 The prevalence of HIV status disclosure to HIV-infected children attending CTCs in Morogoro Municipality

Of the 300 children surveyed, 49.3% (95% confidence interval (CI) = 45%-56%) were aware of their HIV status. Among the 148 children who knew their HIV status, 64.2% (95 respondents) found out at age 10 years or older and 52.7% (78 respondents) were informed by healthcare workers. Regarding the method of disclosure, 78.4% (116 respondents) experienced a gradual process of disclosure, and 17.6% (26 respondents) were not sure about how they were told. Among the 148 children who knew their HIV status, a significant majority 91.9% (136 respondents) were aware that they were taking medication for HIV (Table 4).

Table 2: Demographic characteristics of caregiver in health facilities at Morogoro, Tanzania (n=300)

Variable	Number	Percent
Sex		
Male	81	27
Female	219	73
Age in years		
< 25	16	5.3
25-44	81	27
>= 45	203	67.7
Marital status		
Married	146	48.7
Single	154	51.3
Level of education		
No education	29	9.7
Primary level	100	33.3
Secondary level	105	35
Above secondary	66	22
Number of children 6 – 14 years at caregiver's home		
0 - 2 children	120	40
3 - 4 children	163	54.3
>=5 children	17	5.7
Socio-economic status		
Poorest	60	20
Poor	60	20
Medium	60	20
Wealthy	60	20
Wealthiest	60	20

Table 3: Demographic characteristics of children in health facilities at Morogoro, Tanzania (n = 300).

Variable	Number	Percent
Age		
6-9	146	48.7
10+	154	51.3
Sex		
Male	124	41.3
Female	176	58.7
Parental status		
Orphan	49	16.3
Both parents alive	155	51.7
Single parented	96	32
Presence of the child's treatment supporter		
No	122	40.7
Yes	178	59.3
Caregiver child relationship		
Biological parent	215	71.7
Others	85	28.3

Table 4: Disclosure of HIV Status among children in health facilities at Morogoro, Tanzania (n = 148)

Variable	Number	Percent
Age at which child knew their HIV status		
6-9	53	35.8
10+	95	64.2
Person responsible for disclosure		
Caregiver	19	12.8
Healthcare worker	78	52.7
Caregiver and HCW	51	34.5
How the child was told about his/her HIV status		
As a one-time event	6	4.0
As a gradual process	116	78.4
Not sure	26	17.6
Awareness of the child on taking medication for HIV		
Yes	136	91.9
No	12	8.1

4.3 Factors associated with HIV status disclosure to HIV infected children attending CTC in Morogoro Municipality.

4.3.1 Demographic factors associated with HIV status disclosure

Figure 2 shows that the prevalence of HIV status disclosure increased with increasing age of the child. It was 1.8%, 52.1%, 90.8% among children aged 6-8, 9-11, and 12-14 respectively. The findings in table 5 reveal that, after adjusting for other variables, each additional year of the child's age was associated with a 19% higher prevalence of disclosure (aPR= 1.19, 95% CI 1.13–1.25, $p < 0.001$). Although not statistically significant, male caregivers were less likely to disclose compared to female caregivers (aPR =0.93, 95% CI 0.60-1.44, p=0.751), and children who didn't have biological caregivers were less likely to be disclosed (aPR= 0.92, 95% CI 0.65-1.30, p=0.623). Compared to those with above secondary education, caregivers

with primary education were less likely to disclose, although statistical significance was not attained in the multivariable model (aPR = 0.74, 95% CI 0.53-1.03, p=0.077). In the univariable analysis, children from wealthy households were more likely to be informed of their HIV status compared to their counterparts from poor households. However, in the multivariable analysis, the association was weaker and not significant. . Parental status of the child, caregiver's age and the number of children (6-14 years) at caregiver's home were not associated with HIV status disclosure.

Table 5: Demographic factors associated with HIV positive status disclosure among HIV infected children in health facilities at Morogoro, Tanzania (n = 300).

Variable	Disclosure prevalence n/N (%)	cPR(95%CI)	p-value	aPR[b](95%CI)	p-value
Child's age(years)		1.42(1.31-1.53)[a]	<0.001	1.19(1.13-1.25) [a]	**<0.001**
Child' sex					
Male	64/124 (51.6)	1.08(0.78-1.49)	0.637	1.03(0.71-1.48)	0.885
Female	84/176 (47.7)	Reference		Reference	
Age of caregiver (years)		1.01(1.00-1.03) [a]	0.131	1.01(0.99-1.02) [a]	0.270
Sex of caregiver					
Male	42/81 (51.9)	1.07(0.74-1.52)	0.706	0.93(0.60-1.44)	0.751
Female	106/219 (48.4)	Reference		Reference	
Parental status of the child					
Orphan	29/49 (59.2)	Reference		Reference	
Both parents alive	75/155 (48.4)	0.82 (0.54-1.27)	0.357	1.08 (0.60-1.98)	0.792
Single parented	44/96 (45.8)	0.77 (0.49-1.25)	0.285	1.23 (0.67-2.23)	0.508
Child caregiver relationship					
Biological parents	98/215 (45.6)	Reference		Reference	
Others	50/85 (58.8)	1.29 (0.91-1.80)	0.142	0.92 (0.65-1.30)	0.623
Marital status of caregiver					
Married	93/146 (63.7)	Reference		Reference	
Single	55/154 (35.7)	0.56 (0.40-078)	0.001	1.02(0.82-1.26)	0.868
Education level of caregiver					
None	18/29 (62.1)	0.84 (0.46-1.49)	0.559	0.94(0.66-1.33)	0.715
Primary	21/100 (21.0)	0.28 (0.16-0.49)	<0.001	0.74(0.53-1.03)	0.077
Secondary	57/105 (54.3)	0.74 (0.48-1.15)	0.169	0.99(0.78-1.25)	0.908
Above secondary	52/66 (78.8)	Reference		Reference	
Number of children 6-14 years at caregiver's home		1.19(1.02-1.38) [a]	0.023	0.97(0.90-1.05) [a]	0.484
Socio-economic status					
Poorest	10/60 (16.7)	Reference		Reference	
Poor	16/60 (26.7)	1.60 (0.74-3.65)	0.244	0.79(0.50-1.22)	0.288
Medium	29/60 (48.3)	2.90 (1.46-6.26)	0.004	0.91(0.61-1.36)	0.656
Wealthy	46/60 (76.7)	4.60 (2.42-9.66)	<0.001	0.99(0.66-1.49)	0.968
Wealthiest	47/60 (78.3)	4.70 (2.48-9.86)	<0.001	0.95(0.63-1.44)	0.809

[a] included in the regression model as a continuous variable; cPR=crude prevalence ratio; aPR=adjusted prevalence ratio

[b] Adjusted for psychosocial, clinical, and treatment factors.

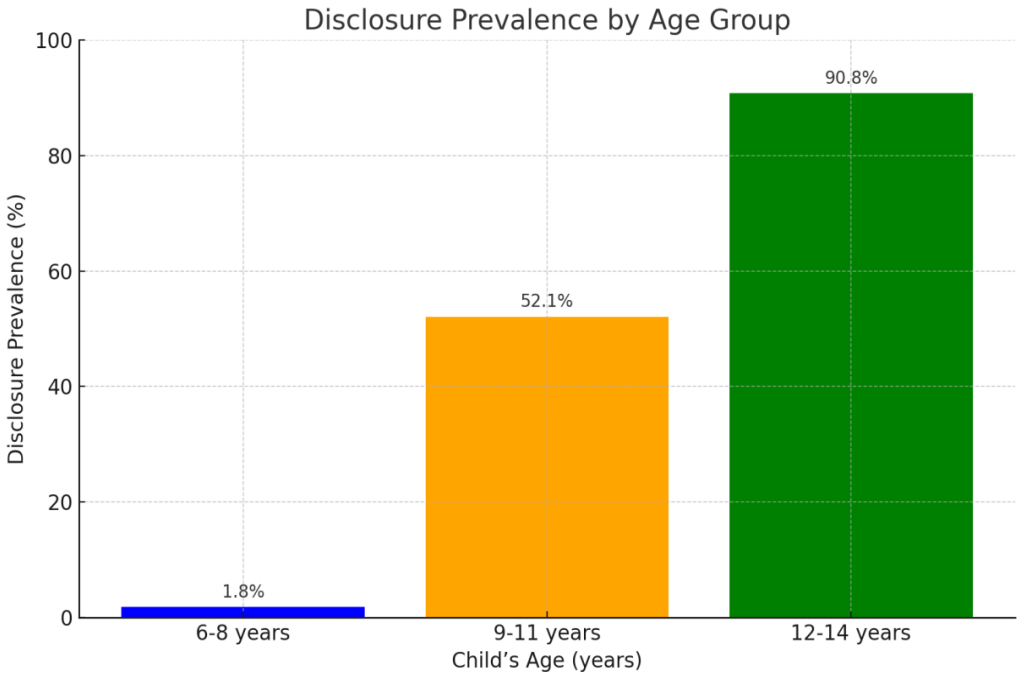


Figure 3: HIV status disclosure prevalence by child's age

4.3.2 Psychosocial factors associated with HIV status disclosure

The children whose HIV status had no impact on the family were more likely to be disclosed (aPR = 1.45, C.I 1.05-2.01, p = 0.023). Univariable results showed that caregivers with 3 or more stressful life events were less likely to disclose compared to those with <3 stressful life events However, after adjusting for other variables, the association was not statistically significant (aPR =0.89, CI 0.61-1.30, p = 0.545). Furthermore, caregivers with negative beliefs towards disclosure were less likely to disclose (29.1%) compared to those with positive beliefs (76.6%). However, after taking into account other variables, the association was not statistically significant (aPR= 0.89, 95% CI 0.73-1.09, p=0.260) (Table 6).

Table 6: Psychosocial factors associated with HIV status disclosure to infected children attending CTC in Morogoro Municipality.

Variable	Disclosure prevalence n/N (%)	cPR(95%CI)	p-value	aPR(95%CI)	p-value
Stressful life events experienced by the caregiver					
>=3 events	15/112 (13.4)	0.21 (0.11-0.35)	<0.001	0.89 (0.61-1.30)	0.545
<3 events	82/126 (65.1)	Reference		Reference	
No stressful event	51/62 (82.3)	1.26 (0.89-1.79)	0.189	0.95 (0.77-1.18)	0.675
Impact of child's illness on the family					
Had impact	19/153(12.4)	Reference		Reference	
Had no impact	129/147 (87.8)	7.07(4.48-11.81)	<0.001	1.45 (1.05-2.01)	**0.023**
Caregiver's beliefs towards disclosure					
Positive beliefs	98/128 (76.6)	Reference		Reference	
Negative beliefs	50/172 (29.1)	0.38 (0.27-0.53)	<0.001	0.89 (0.73-1.09)	0.260

cPR=crude prevalence ratio; aPR=adjusted prevalence ratio - Adjusted for demographic, clinical and treatment factors.

4.3.3 The clinical and treatment factors associated with HIV status disclosure to infected children attending CTC in Morogoro Municipality.

The children who had treatment supporters were more likely to be disclosed (aPR =8.18, 95% CI 4.51-14.82, $p < 0.001$). Univariable results showed that children at HIV Stage 3 were more likely to be disclosed compared to those at stage 1. However, after adjusting for other variables, the association was not statistically significant (aPR = 1.09, 95% CI 0.84-1.41, p=0.537). Furthermore caregivers who were HIV positive were more likely to disclose compared to those who were HIV negative. However, after taking into account other variables, the association was not statistically significant (aPR = 1.06, 95% CI 0.73-1.53, p=0.763). Compared to children who collected ART from health centers, children who collected ART from hospitals were more likely to be disclosed. However, after taking into account other variables, the association was not statistically significant (aPR = 1.07, 95% CI 0.83-1.38, p=0.619) (Table 7).

Table 7: The clinical and treatment factors associated with HIV status disclosure to infected children attending CTC in Morogoro Municipality.

Variable	Disclosure prevalence n/N (%)	cPR(95%CI)	p-value	aPR(95%CI)	p-value
WHO clinical stage of HIV of the child from the last visit					
Stage 1	81/154 (52.6)	Reference		Reference	
Stage 2	25/96 (26.0)	0.50 (0.31-0.76)	0.002	0.96 (0.74-1.24)	0.748
Stage 3	31/38 (81.6)	1.55 (1.01-2.32)	0.038	1.09 (0.84-1.41)	0.537
Stage 4	11/12 (91.7)	1.74 (0.88-3.13)	0.084	0.99 (0.70-1.41)	0.952
Presence of the child's treatment supporter					
No	4/122 (3.3)	Reference		Reference	
Yes	144/178 (80.9)	24.67(10.43-80.25)	<0.001	8.18 (4.51-14.82)	**<0.001**
HIV status of care giver					
Positive	101/218 (46.3)	0.79 (0.55-1.15)	0.201	1.06 (0.73-1.53)	0.763
Negative	40/68 (58.8)	Reference		Reference	
Do not know	7/14 (50.0)	0.85 (0.35-1.78)	0.692	1.24 (0.78-1.95)	0.359
Place of ART collection					
Hospital	39/128 (30.5)	0.48 (0.33-0.69)	<0.001	1.07 (0.83-1.38)	0.619
Health center	109/172 (63.4)	Reference		Reference	

cPR=crude prevalence ratio; aPR=adjusted prevalence ratio- Adjusted for demographic and psychosocial factors.

CHAPTER FIVE

5.0 DISCUSSION

This study aimed to determine the prevalence of HIV status disclosure and the factors associated with HIV status disclosure among children attending CTCs at health facilities in Morogoro Municipal. The findings of this study have demonstrated a low prevalence of HIV status disclosure among HIV infected children. Older age of the child, the disease having no impact on the family, and presence of the child's treatment supporter were the factors associated with HIV status disclosure to infected children.

5.1 The prevalence of HIV status disclosure

This study found that the prevalence of disclosure was similar to a study conducted in Ethiopia which reported a disclosure rate of 50%(44), and a study conducted in Uganda, which reported a disclosure rate of 56% among HIV-infected children(27).

However, the prevalence is high compared to several studies. A study conducted in South Africa reported that only 23.7% of HIV-infected children had received either partial or full disclosure of their status(45). This aligns with findings from a systematic review, which showed disclosure rates in sub-Saharan Africa ranging from 9% to 72%, with one South African study reporting a 34% rate(46). Low disclosure rates (1.7% to 41%) were also noted in another study conducted in Ethiopia(47). Similarly a study conducted in Tanzania's Southern Highlands Zone discovered a lower disclosure rate of 33% (19). Additionally, another Tanzanian longitudinal study on the factors linked to HIV status disclosure to orphans and vulnerable children with HIV revealed a 31% disclosure rate (21).

Even though our study prevalence is higher than studies by Bulali et al. and Bajaria et al. from Tanzania, our disclosure rate is lower than that of Zimbabwe, where the percentage of disclosure was 67% (26).

Regarding the person responsible for disclosure, slightly more than half of the respondents were informed solely by healthcare workers. This highlights the role healthcare workers play in the disclosure process, a factor also highlighted in studies from Ethiopia and Nigeria, where healthcare workers were crucial in facilitating HIV status disclosure to children(48,49).

Regarding the method of disclosure, about three quarters experienced a gradual process of disclosure. The gradual disclosure process is advocated by many experts as it allows children to assimilate the information and cope with the psychological impact of their diagnosis over time(50). Studies have shown that gradual disclosure is associated with better psychological outcomes for children compared to sudden, one-time disclosure(51).

Among the children who knew their HIV status, a significant majority, were aware that they were taking medication for HIV. Awareness of HIV medication is crucial for adherence to treatment and overall health outcomes. Research indicates that children who are aware of their HIV status and understand that they are taking medicine for HIV are more likely to adhere to treatment, which is vital for their health and well-being (51).

5.2 Demographic factors associated with HIV status disclosure

This study reveals that the likelihood of disclosing HIV status to children was increasing with child's age. Among children who knew their HIV status, almost two thirds found out at age 10 or older. These findings align with several previous studies which reported that children were disclosed at the age 12 years and above (17,31,32,52,53). A similar study stated that older children were more likely to be aware of their status possibly because of increased maturity, independence, and self-care responsibilities (16).

There is a great deal of evidence that delay in telling children about their HIV status has negative implications for future health and wellbeing (54). For example, poor medication adherence can result in low virological suppression and the virus becoming drug resistant, the child unknowingly transmitting the virus to others (55), and failure of the child to assume independence and responsibility in HIV treatment and care(55).

Caregiver's level of education was not significantly aSssociated with HIV status disclosure, where caregivers with primary education were less likely to disclose. Similarly, a study conducted in Dire Dawa, Eastern Ethiopia, found no significant association between caregivers' level of education and the disclosure of HIV status to children where caregivers with no formal education were less likely to disclose (28). This study findings differ from a South African study concluded that, higher educated caregivers were unlikely to tell their children that they were HIV positive (33). This could be due to the fact that in some regions, higher education might be associated with increased awareness of HIV-related stigma, leading educated caregivers to be more cautious about disclosure. In contrast, in other regions, higher education might correlate with better access to information and support networks, facilitating disclosure.

5.3 Psycho social factors associated with HIV status disclosure to HIV infected children

The children whose HIV status/illness had no impact on the family were more likely to be disclosed in our study. This finding highlights the influence of family dynamics and the perceived consequences of HIV on disclosure decisions (56). Families dealing with children who are HIV positive may face emotional, financial, and social stressors related to the child's illness. These stressors can affect the caregivers' decision-making process regarding HIV disclosure to their children. This was shown in a study conducted in Malawi which showed that, 35% of children whose illness had no impact on the family were more likely to be disclosed (39). Contrary, a study conducted in western Kenya found no significant association between the impact of HIV on the family and the likelihood of disclosing HIV status to children (16). Cultural norms and beliefs about HIV and illness can vary significantly between countries. In some cultures, there may be a stronger stigma associated with HIV, influencing families to delay or avoid disclosure to prevent social stigmatization.

In this study, caregiver's belief towards disclosure was not significantly associated with disclosure. A similar study conducted in Uganda showed that although caregivers with positive attitudes towards disclosure were more likely to inform their children about their HIV status, the association was not statistically significant (53).

5.4 The clinical and treatment factors associated with HIV status disclosure

In our study, children with a designated supporter were significantly more likely to be disclosed of their HIV status. This was similar to a study conducted in Kilimanjaro which showed that those with a treatment supporter were 2.9 times more prone to disclosure compared to those who didn't have a treatment supporter (22). The observation could be due to supporters increased knowledge and understanding on HIV management, emotional encouragement by the supporter, and practical assistance by the supporter (medication adherence and clinic appointments). This can alleviate some of the family's burdens, making it easier to focus on disclosure.

Place of ART collection was not significantly related to HIV status disclosure in our study. This was also observed in a study conducted in Southern Ethiopia (28).

5.5 Limitations

Our study has several limitations. The design of the study (cross sectional) presented a limitation in establishing causation of HIV status disclosure. The reliance on self-report measures could introduce recall bias or subjective interpretations, potentially affecting the accuracy of the reported data. Furthermore, the results of our study can't be generalized since it only included participants from Morogoro Municipal. Despite the limitations, our study addressed a critical and sensitive issue in public health which has a meaningful impact on health care practices and well-being of children. Also, the use of stratified random sampling technique ensures different subgroups within the children population are represented. Furthermore, the use of a standardized tool (questionnaire) ensured uniformity of questions and responses to avoid bias on how questions are answered. Finally, our study has filled the research gap, which will provide a ground for further studies.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The prevalence of HIV status disclosure among children in this study was notably low. Majority of the children were disclosed by HCWs and the disclosure was gradual. Factors such as the child's age, a child having a treatment supporter, and the child's illness not having impact on the family were the significant factors that were associated with HIV status disclosure.

6.2 Recommendations

i. Health authorities of Morogoro Municipal should ensure that the healthcare providers abide with the WHO recommendations. Despite disclosing children at older ages, even younger children from 6 years should also be disclosed.

ii. Health facility incharges should encourage the active involvement of treatment supporters in the disclosure process who can provide emotional support to both the child and the caregiver. All children attending CTCs should be assigned to treatment supporters who can be CHWs, HCWs, and even the caregiver.

iii. Lastly, the health authorities should provide more training to healthcare workers on providing supportive mechanisms to ensure that the child's illness does not impact family dynamics of caregivers. This could include;

- Health Education: Workshops on HIV/AIDS management, treatment adherence, and understanding the disease can empower caregivers and children with knowledge, reducing fear and misinformation.
- Life Skills Training: Programs that teach children living with HIV essential life skills, such as problem-solving, decision-making, and effective communication, can improve their overall well-being and self-esteem.

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APPENDICES

Appendix I: Questionnaire

DATE OF DATA COLLECTION:

REGION: Morogoro

DISTRICT: Morogoro Municipality

PART A: SOCIO-DEMOGRAPHIC DATA OF THE CAREGIVER

A1. What is your relationship with the child?

1. Mother ☐ Uncle ☐
2. Father ☐ Grandparent ☐

Aunt ☐ Sibling ☐

Legal guardian ☐

Other (please specify) …

A2. What is your age?

…….in years

A3. Gender?

1. Male ☐ 2. Female ☐

A4. What is your current marital status?

Married ☐ Widowed ☐

Single ☐ Divorced ☐

Separated☐ cohabiting ☐

A5. What is the highest level of formal education you have completed?

None ☐ College (certificate/diploma) ☐

Primary ☐ University ☐

Secondary ☐

A6. How many children of 6-14 years of age live in your home?

…….

A7. Does your household have any of the following? (tick all that apply)

Electricity 1. Yes ☐ 2. No ☐

A radio? Yes ☐ No ☐

A television Yes ☐ No ☐

A cellular phone Yes ☐ No ☐

A bed with a mattress Yes ☐ No ☐

A sofa set? Yes ☐ No ☐

A table and chair(s) Yes ☐ No ☐

A refrigerator? Yes ☐ No ☐

A bicycle Yes ☐ No ☐

Motorcycle Yes ☐ No ☐

A car Yes ☐ No ☐

A8. What kind of toilet facility is used by members of your household?

	YES	NO
Flush toilet	☐	☐
Ventilated improved latrine	☐	☐
Pit latrine with a slab	☐	☐

Pit latrine with no slab ☐ ☐

Bucket toilet ☐ ☐

No facility/bush/field ☐ ☐

A9. In the last year, did your household have sufficient food?

Yes ☐ No ☐

A10. What do you currently spend most of your time doing? (Please mark only one answer)

Full-time or part-time job (salary or own business) ☐

Recovering from injury / illness ☐

Farming ☐ Caring for an ill person ☐

Looking for work ☐ Studying ☐

Home duties / caring for children ☐

A11. What is your HIV status?

Positive

Negative

I don't now

PART B: CHILD'S DEMOGRAPHICS AND CLINICAL FACTORS

B1. What is your child's age?

……in years

B2. Gender

Female ☐ Male ☐

B3. What is the family status of the child?

Orphan ☐ single parented ☐

Both parents are alive ☐

B4. WHO clinical staging of HIV disease

Stage 1 ☐ Stage 3 ☐

Stage 2 ☐ Stage 4 ☐

B5.Which of the following health conditions does your child have or has had in the last year?

Fever

Diarrhea

Pneumonia

Tuberculosis

Skin disease

Under nutrition

Other (please specify)

……

B6. Where is the child's permanent clinic for ART collection?

At a Hospital ☐

At a Health Center ☐

At a Dispensary ☐

B7. Does your child have a treatment supporter?

Yes ☐

No ☐

PART C. DISCLOSURE OF HIV STATUS TO YOUR CHILD

C1. Does your child know that he/she has HIV?

Yes ☐ No ☐ (if no, Go to C7)

C2. Who disclosed the HIV status to your child? (Tick all that apply)

Myself ☐ Aunt ☐

Healthcare worker ☐ Grandparent ☐

Uncle ☐ Legal guardian ☐

Other (please specify)

C3. Were HIV related issues such as causes, transmission and treatment, discussed with the child prior to disclosure of HIV status?

Yes ☐ Not sure ☐

No ☐

C4 How was your child told about his/her HIV status?

As a one-time event ☐ Not sure ☐

As a gradual process ☐

C5. How old was your child when his/her HIV status was first disclosed?

…… in years

C6. Which of the following statements best describes the reason for telling your child his HIV status? (Tick all that apply) YES NO

The child is old enough to understand his/her condition	
It is the child's right to know his/her status	
The healthcare worker insisted that	
the child should be told of his/her condition	

The child did not want to take medicines because
he/she did not know why he/she was taking them,
hence disclosing will promote adherence to medication
The child's condition got worse
The parent's health condition got worse

C7. Which of the following statement best describes the reasons that prevent you from telling your child about his/her HIV status? (Tick all that apply)

	YES	NO
Fear of children's inability to handle the news (mental immaturity)		
Fear of stigma and discrimination		
Fear of the child's inability to keep the disease a secret		
Lack of support from the healthcare workers		
Lack of knowledge on how to disclose		
Feeling of guilty or shame		
The child not showing signs of sickness		

C8. Please answer the following general questions about HIV disclosure

i. Does the child know that he /she is taking medicines for HIV?

Yes ☐ No ☐

ii. Does the child ever ask questions about why he /she is taking medicine?

Yes ☐ No ☐

iii. Does the child ever refuse to take medicines that he or she is supposed to take?

Yes ☐ No ☐

iv. Do you ever not give medicines to the child because you do not want to give them in front of other people?

Yes ☐ No ☐

v. Do you ever have problems with giving the medicines because the child does not know why he/she taking them?

Yes ☐ No ☐

vi. Does the child ever have problems taking the medicines on time or taking them every day?

Yes ☐ No ☐

vii. Do other children avoid playing with the child because of his/her HIV status?

Yes ☐ No ☐

viii. Do other children tease or call the child hurtful names because of his/her HIV status?

Yes ☐ No ☐

ix. Has your child been rejected by friends or family because of his illness?

Yes ☐ No ☐

x. Does your child seem to have little pleasure in doing things lately?

Yes ☐ No ☐

xi. Has your child been feeling down, depressed or hopeless?

Yes ☐ No ☐

C9. Who do you think is the best person to disclose HIV status to children living with HIV?

Primary caregiver ☐ Healthcare worker ☐Other (please specify) ……

C10. Do you think you have adequate knowledge on how to disclose HIV status to your child?

Yes ☐ Not sure ☐

No ☐

PART D: CAREGIVER'S BELIEFS TOWARDS DISCLOSURE

Please answer the following questions on what you believe about disclosure

	Strongly agree	agree	disagree	Strongly disagree
Disclosing a child's HIV status can help them understand their health condition				
Disclosing a child's HIV status should be the responsibility of healthcare professionals rather than caregivers				
Withholding a child's HIV status can protect them from psychological distress				
Disclosing a child's HIV status can improve their adherence to treatment				
Disclosing a child's HIV status can positively impact their relationships with family members				

PART E: IMPACT OF THE CHILD'S ILLNESS ON THE FAMILY

For each statement, please indicate at the present time if you would strongly agree, agree, disagree or strongly disagree (Please circle appropriate numbers)

Strongly agree 4

Agree 3

Disagree 2

Strongly disagree 1

The illness is causing financial problems for the family	1	2	3	4
Time is lost from work because of hospital appointments	1	2	3	4
I am cutting down hours I work to care for my child	1	2	3	4
Additional income is needed in order to cover medical expenses	1	2	3	4
I stopped working because of my child's illness	1	2	3	4
Because of the illness we are not able to travel out of the city	1	2	3	4
It is hard to find a reliable person to take care of my child	1	2	3	4
I think about not having more children because of the illness	1	2	3	4
I don't have much time left over for other family members after caring for my child	1	2	3	4
Fatigue is a problem for me because of my child's illness	1	2	3	4
Nobody understands the burden I carry	1	2	3	4
Travelling to the hospital is a strain on me	1	2	3	4
Learning to manage my child's illness has made me feel better about myself	1	2	3	4
I worry about what will happen to my child, in the future	1	2	3	4
It is hard to give much attention to the other children because of the needs of my child	1	2	3	4

PART F: STRESSFUL LIFE EVENTS EXPERIENCED BY THE CARE GIVER

In the last year, have any of the following happened to you? (Tick all that apply)

	Yes	No
Pregnancy problems	□	□
Separation or divorce	□	□
Marital problems	□	□
A close family friend or another relative (e.g. aunt, cousin, grandparent) died	□	□
Problems with your children	□	□
Your own job loss (not voluntary)	□	□
Money problems	□	□
Insufficient food	□	□

Appendix II: Hojaji

NAMBA YA UTAMBULISHO:

TAREHE YA KUKUSANYA TAARIFA

MKOA

WILAYA

SEHEMU A. TAARIFA ZA KIDEMOGRAFIA NA KIJAMII ZA MZAZI/MLEZI

A1. Je, una uhusiano gani na mtoto?

Mama ☐ Mjomba ☐

Baba ☐ Babu ☐

Shangazi ☐ Ndugu ☐

Mlezi wa kisheria ☐

Nyingine (tafadhali taja) ...

A2. Je una umri gani?

.....

A3. Jinsia?

Mwanaume ☐ Mwanamke ☐

A4. Je, hali yako ya ndoa kwa sasa ikoje?

Sina ndoa ☐ Mjane/mgane ☐

Nimeoa/nimeolewa ☐ Tumetalikiana ☐

A5. Je, ni kiwango gani cha juu cha elimu rasmi ulichomaliza?

Sijasoma ☐

Elimu ya msingi ☐

Elimu ya sekondari ☐

Elimu ya chuo Kikuu ☐

A6. Je! ni watoto wangapi wenye umri wa miaka 6-14 wanaishi nyumbani kwako?

A7. Je, kaya yako ina chochote kati ya yafuatayo?

Umeme? Ndiyo ☐ Hapana ☐

Redio? Ndiyo ☐ Hapana ☐

Televisheni? Ndiyo ☐ Hapana ☐

Kitanda chenye godoro? Ndiyo ☐ Hapana ☐

Seti ya sofa? Ndiyo ☐ Hapana ☐

Jokofu? Ndiyo ☐ Hapana ☐

Baiskeli Ndiyo ☐ Hapana ☐

Pikipiki Ndiyo ☐ Hapana ☐

Gari Ndiyo ☐ Hapana ☐

A8. Ni aina gani ya choo kinachotumiwa na wanakaya wako?

Choo cha kuvuta maji ☐

Choo cha kumwaga maji ☐

Choo cha shimo☐

Hakuna choo ☐

A9. Je, katika mwaka uliopita, kaya yako ilikuwa na chakula cha kutosha?

Ndiyo ☐ Hapana ☐

A10. Je, kwa sasa unatumia muda wako mwingi kufanya nini? (Tafadhali weka alama kwenye jibu moja tu)

Kazi ya wakati wote/kazi ya muda au (kulipwa mshahara au biashara yako mwenyewe) ☐

Kipindi cha kupona kutokana na jeraha/ ugonjwa ☐

Kilimo ☐ Kumtunza mgonjwa ☐

Kutafuta kazi ☐ Kusoma ☐

Majukumu ya nyumbani / kulea watoto ☐

A11. Je hali yako ya maambukizi ya VVU ikoje?

Chanya ☐

Hasi ☐

Sifahamu ☐

SEHEMU B: DEMOGRAFIA YA MTOTO NA TAARIFA ZA KLINIKI NA MATIBABU

B1. Mtoto wako ana umri gani?

B2. Jinsia ya mtoto wako ni ipi?

Mwanamke ☐

Mwanaume ☐

B3. Je, hali ya kifamilia ikoje?

Yatima ☐ ana mzazi mmoja ☐

Wazazi wote wako hai ☐

B4. Je! Mtoto yupo katika hatua gani ya ugonjwa? (chukua taarifa kutoka kwenye kadi)

Hatua ya 1 ☐ Hatua ya 3 ☐

Hatua ya 2 ☐ Hatua ya 4 ☐

B5. Je, mtoto wako amekua na changamoto zifuatazo za kiafya kwa sasa na mwaka uliopita?

Homa Ndiyo ☐ Hapana ☐

Kuharisha Ndiyo ☐ Hapana ☐

Nimonia Ndiyo ☐ Hapana ☐

Kifua kikuu Ndiyo ☐ Hapana ☐

Ugonjwa wa ngozi Ndiyo ☐ Hapana ☐

Utapiamlo Ndiyo ☐ Hapana ☐

Nyingine ……

B6. Je, kliniki ya kuchukulia dawa za mtoto ni wapi?

Hospitali ☐

Kituo cha afya ☐

Dispensari ☐

B7. Je, mtoto wako ana msaidizi anaemfatilia afya yake na umezaji dawa zaidi ya wewe?

Ndiyo ☐

Hapana ☐

SEHEMU C. KUFICHUA HALI YA VVU KWA MTOTO WAKO

C1. Je, mtoto wako anajua kwamba ana VVU?

Ndiyo ☐ Hapana ☐ (kama hapana, Nenda D2)

C2. Nani alifichua hali ya VVU kwa mtoto wako?

Mimi mwenyewe ☐ Shangazi ☐

Mhudumu wa afya ☐ Babu ☐

Mjomba ☐

Nyingine (tafadhali taja)

C3. Je, masuala yanayohusiana na VVU kama vile sababu, maambukizi na matibabu yalijadiliwa na mtoto kabla ya kufichuliwa kuhusu hali ya VVU?

Ndiyo ☐ Sina uhakika ☐

Hapana ☐

C4. Je, ufichuzi wa VVU kwa mtoto wako ulifanyikaje?

Kama tukio la mara moja ☐ Sina uhakika ☐

Kama mchakato wa taratibu ☐

C5. Mtoto wako alikuwa na umri gani wakati hali yake ya VVU ilipofichuliwa kwa mara ya kwanza?

.....

C6. Ni kauli ipi kati ya zifuatazo inaelezea vyema sababu ya kumwambia mtoto wako hali yake ya VVU? (Weka yote yanayotumika)

	Nakubali kabisa	nakubali	sikubali	sikubali kabisa
Mtoto ana umri wa kutosha kuelewa hali yake.				
Ni haki ya mtoto kujua hali yake.				
Mhudumu wa afya alisisitiza kwamba mtoto aelezwe kuhusu hali yake.				
Mtoto aliuliza kuhusu ugonjwa wake				
Mtoto hakutaka kutumia dawa kwa sababu hakujua ni kwa nini anazitumia, hivyo kufichua kutahimiza ufuasi wa dawa				
Hali ya mtoto ilizidi kuwa mbaya				
Hali ya afya ya mzazi ilizidi kuwa mbaya.				
Nyingine (tafadhali taja) ……				

C7. Je, ni kauli gani kati ya zifuatazo inaelezea vyema sababu inayokuzuia kumwambia mtoto wako kuhusu hali yake ya VVU?

	Nakubali kabisa	nakubali	sikubali	sikubali kabisa
Hofu ya kutoweza kwa watoto kupokea taarifa (kutopevuka kiakili).				
Hofu ya unyanyapaa na ubaguzi.				

Hofu ya kutoweza kwa mtoto kutunza
ugonjwa kuwa siri.
Ukosefu wa usaidizi kutoka kwa
wahudumu wa afya.
Ukosefu wa maarifa ya jinsi ya kufichua.
Kuhisi hatia au aibu.
Kwa sababu mtoto haonyeshi dalili
za ugonjwa.

C8. Tafadhali jibu maswali ya jumla yafuatayo kuhusu ufichuzi wa VVU

i. Je, mtoto anajua kwamba anatumia dawa za VVU?
Ndiyo ☐ Hapana ☐

ii. Je, mtoto huwa anauliza maswali kuhusu kwa nini anatumia dawa?
Ndiyo ☐ Hapana ☐

iii. Je, mtoto amewahi kukataa kutumia dawa anazopaswa kutumia?
Ndiyo ☐ Hapana ☐

iv. Je, huwa humpi mtoto dawa inavyotakiwa kwa sababu hutaki kumpa mbele ya watu wengine?
Ndiyo ☐ Hapana ☐

v. Je, umewahi kuwa na matatizo ya kutoa dawa kwa sababu mtoto hajui kwa nini anazitumia?
Ndiyo ☐ Hapana ☐

vi. Je, mtoto huwa na matatizo ya kutumia dawa kwa wakati au kuzitumia kila siku?
Ndiyo ☐ Hapana ☐

vii. Je! watoto wengine huepuka kucheza na mtoto kwa sababu ya hali yake ya VVU?
Ndiyo ☐ Hapana ☐

viii. Je! watoto wengine wanamdhihaki au kumwita mtoto majina ya kuumiza kwa sababu ya hali yake ya VVU? Ndiyo ☐ Hapana ☐

ix. Je, mtoto wako amekataliwa na marafiki au familia kwa sababu ya ugonjwa wake?

Ndiyo ☐ Hapana ☐

x. Je, mtoto wako anaonekana kuwa na furaha kidogo katika kufanya mambo hivi karibuni?

Ndiyo ☐ Hapana ☐

xi. Je! mtoto wako amekuwa akihisi huzuni, au kutokuwa na tumaini?

Ndiyo ☐ Hapana ☐

C9. Je, unadhani nani ni mtu bora kufichua hali ya VVU kwa watoto wanaoishi na VVU?

Mzazi/mlezi ☐ Mhudumu wa afya ☐ Mwingine (tafadhali taja) ……

C10. Je, unafikiri una ujuzi wa kutosha kuhusu jinsi ya kufichua hali ya VVU kwa mtoto wako?

Ndiyo ☐ Sina uhakika ☐

Hapana ☐

SEHEMU D: IMANI YA MZAZI/MLEZI JUU YA UFICHUZI

	Nakubali sana	Nakubali	Nakataa	Nakataa kabisa
Kufichua hali ya VVU ya mtoto kunaweza kumsaidia kuelewa hali yake ya afya				
Kufichua hali ya VVU ya mtoto inapaswa kuwa jukumu la wataalamu wa afya badala ya walezi				
Kuzuia hali ya VVU ya mtoto kunaweza kumlinda kutokana na mfadhaiko wa kisaikolojia				
Kufichua hali ya VVU ya mtoto kunaweza kuboresha uzingatiaji wao wa matibabu				

Kufichua hali ya VVU ya mtoto kunaweza kuathiri vyema uhusiano wao na wanafamilia				

SEHEMU YA E: ATHARI ZA UGONJWA WA MTOTO KWA FAMILIA

Kwa kila tamko, tafadhali onyesha kwa sasa ikiwa utakubali sana, utakubali, hutokubali, au hutokubali kabisa (Tafadhali zungushia nambari zinazofaa)

Nakubali sana 4

nakubali 3

sikubali 2

Sikubaliani kabisa 1

Ugonjwa unasababisha matatizo ya kifedha kwa familia 1 2 3 4
Muda unapotea kazini kwa sababu ya miadi ya hospitali 1 2 3 4
Ninapunguza saa ninazofanya kazi ili kumtunza mtoto wangu 1 2 3 4
Mapato ya ziada yanahitajika ili kulipia gharama za matibabu 1 2 3 4
Niliacha kufanya kazi kwa sababu ya ugonjwa wa mtoto wangu 1 2 3 4
Kwa sababu ya ugonjwa hatuwezi kusafiri nje ya jiji 1 2 3 4
Ni vigumu kupata mtu wa kutegemewa wa kumtunza mtoto wangu 1 2 3 4
Nafikiri kuhusu kutokuwa na watoto zaidi kwa sababu ya ugonjwa 1 2 3 4
Sina muda mwingi uliobaki kwa wanafamilia wengine baada ya kumtunza mtoto wangu 1 2 3 4
Uchovu ni shida kwangu kwa sababu ya ugonjwa wa mtoto wangu 1 2 3 4
Hakuna anayeelewa mzigo ninaobeba 1 2 3 4
Kusafiri kwenda hospitalini ni shida kwangu 1 2 3 4
Kujifunza kudhibiti ugonjwa wa mtoto wangu kumenifanya nijihisi bora 1 2 3 4
Nina wasiwasi kuhusu kitakachompata mtoto wangu, katika siku zijazo 1 2 3 4
Ni vigumu kuwajali watoto wengine kwa sababu ya mahitaji ya mtoto wangu 1 2 3 4

SEHEMU YA F: MATUKIO YENYE KULETA MSONGO WA MAWAZO ALIYOYAPATA MZAZI/MLEZI WA MTOTO

Katika mwaka uliopita, je, lolote kati ya yafuatayo lilikutokea? (Weka alama kwa yote yaliyotokea)

	Ndiyo	hapana
Matatizo ya ujauzito	□	□
Kutengana au talaka	□	□
Matatizo ya ndoa	□	□
Kufiwa na rafiki wa karibu wa familia au jamaa mwingine (k.m. shangazi, binamu, babu)	□	
Matatizo na watoto wako	□	□
Kupoteza kazi yako mwenyewe (si kwa hiari)	□	□
Matatizo ya pesa	□	□
Kutokua na chakula cha kutosha	□	□

Appendix III: Informed Consent

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES, DIRECTORATE OF RESEARCH & PUBLICATIONS

ID-NO ……

Consent to participate in this study

Hello, my name is Caroline C. Sawe, I am working on research with objective of assessing the factors associated with HIV status disclosure to children attending CTC clinics in Morogoro Municipal, Morogoro region.

Purpose of study:

The purpose of this study is to collect information about the factors associated with HIV status disclosure to infected children attending CTC clinics in Morogoro municipal. We invite you to participate in this study because you are a parent/caregiver of the infected children. If you choose to participate, you will be given a questionnaire to complete that has questions relating to HIV status disclosure. The questionnaire will take approximately 20 minutes to complete, and we will collect information of both the parent/caregiver and the child.

Confidentiality: I assure you that all the information collected from you will be kept confidential. Only the research team will have access to this information. We will not include any identifying information in the records of the information you provide us

Risk: We do not expect any harm to happen to you as a result of participating in this study.

Right to withdraw and alternatives:

It is voluntary for you to participate in this study. You can choose not to participate in this study and refusal will not involve any penalty or loss of any benefits.

Benefits: The results from this study will help to raise awareness on HIV status disclosure among infected children and establish a baseline for future studies. The study will also identify the possible factors associated with HIV status disclosure to children and provide recommendations for addressing them. Ultimately, this will improve the well-being of children and improve their quality of life.

Who to contact

If you ever have questions about this study; please contact principal investigator; caroline sawe email; sawecaroline60@gmail.com. If you ever have questions about rights as a participant you may call **Prof. Bruno Sunguya**; Chairperson of college research and publication communities; P.O.BOX 65001, Dar es Salaam Tel +255685217272

I_____ have read/understood the contents in this form. My questions have been answered; I agree to participate in this study.

Signature of participant_____

Signature of investigator_____

Date of signed consent_____

Appendix IV: Fomu Ya Ridhaa

CHUO KIKUU CHA AFYA NA SAYANSI VISHIRIKA MUHIMBILI, KURUGENZI YA UTAFITI NA MACHAPISHO.

Namba ya utambulisho ……

Idhini ya kushiriki katika utafiti huu

Habari, jina langu ni Caroline C. Sawe, ninafanya utafiti kwa lengo la kutathmini mambo yanayohusiana na ufichuzi wa hali ya VVU kwa watoto wanaohudhuria kliniki za CTC katika Manispaa ya Morogoro, mkoa wa Morogoro.

Kusudi la masomo:

Madhumuni ya utafiti huu ni kukusanya taarifa kuhusu mambo yanayohusiana na ufichuzi wa hali ya VVU kwa watoto walioambukizwa wanaohudhuria kliniki za CTC katika manispaa ya Morogoro. Tunakualika kushiriki katika utafiti huu kwa sababu wewe ni mzazi/mlezi wa watoto walioambukizwa. Ukichagua kushiriki, utapewa dodoso la kujaza ambalo lina maswali yanayohusiana na ufichuzi wa hali ya VVU. Hojaji itachukua takriban dakika 20 kukamilika, na tutakusanya taarifa za mzazi/mlezi na mtoto.

Usiri: Ninakuhakikishia kwamba taarifa zote zitakazokusanywa kutoka kwako zitawekwa siri. Timu ya utafiti pekee ndiyo itaweza kufikia taarifa hii. Hatutajumuisha maelezo yoyote ya utambuzi katika rekodi za maelezo unayotupatia

Hatari: Hatutarajii madhara yoyote yakutokea kutokana na kushiriki katika utafiti huu.

Haki ya kujiondoa na njia mbadala:

Ni kwa hiari kwako kushiriki katika utafiti huu. Unaweza kuchagua kutoshiriki katika hili utafiti na kukataa hakutahusisha adhabu yoyote au hasara ya manufaa yoyote.

Faida: Matokeo kutoka kwa utafiti huu yatasaidia kuongeza uelewa juu ya ufichuzi wa hali ya VVU miongoni mwa watoto walioambukizwa na kuweka msingi wa tafiti zijazo. Utafiti pia utabainisha sababu zinazowezekana zinazohusiana na ufichuzi wa hali ya VVU kwa watoto na

kutoa mapendekezo ya kushughulikia. Hatimaye, hii itaboresha ustawi wa watoto na kuboresha ubora wa maisha yao

Nani wa kuwasiliana naye

Ukiwahi kuwa na maswali kuhusu utafiti huu; tafadhali wasiliana na mpelelezi mkuu; Caroline aliona barua pepe; sawecaroline60@gmail.com. Ukiwahi kuwa na maswali kuhusu haki kama mshiriki unaweza kumpigia simu Prof. Bruno Sunuya; Mwenyekiti wa jumuiya za utafiti na uchapishaji wa chuo; P.O.BOX 65001, Dar es Salaam Tel +255685217272

Nimesoma/ nimeelewa yaliyomo katika fomu hii. Maswali yangu yamejibiwa; Ninakubali kushiriki katika utafiti huu.

Saini ya mshiriki _____

Saini ya mpelelezi _____

Tarehe ya kibali kilichotiwa saini _____

Appendix V: Approval for ethical clearance

UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR – RESEARCH, PUBLICATIONS AND INNOVATIONS

Ref. No.DA.282/298/01.C/2215 Date: 29/04/2024

MUHAS-REC-04-2024-2215
CAROLINE SAWE
SHOOL OF PUBLIC HEALTH AND SOCIAL SCIENCES
MUHAS

RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: FACTORS ASSOCIATED WITH HIV STATUS DISCLOSURE TO HIV INFECTED CHILDREN ATTENDING CARE AND TREATMENT CENTERS IN MOROGORO MUNICIPALITY

Reference is made to the above heading,

I am pleased to inform you that the Chairperson has on behalf of the University Senate, approved ethical clearance of the above-mentioned study, on recommendations of the Senate Research and Publications Committee meeting accordance with MUHAS research policy and Tanzania regulations governing human and animal subjects research.

APPROVAL DATE: 29/04/2024
EXPIRATION DATE OF APPROVAL: 29/04/2025

STUDY DESCRIPTION:
Purpose:
The purpose of this observational cross sectional study is to investigate the factors associated with HIV status disclosure to HIV-infected children attending Care and Treatment Centers in Morogoro Municipality, Tanzania.

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided: https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%2015574.pdf and in the MUHAS archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain Data Transfer Agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain Material Transfer Agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country.
8. Apply for and obtain permission to publish the results from National Institute for Medical Research. The application should be before submitting to a publisher and not concurrently through the email publications@nimr.or.tz.
9. Any researcher, who contravenes or fail to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III section 10 (2)
10. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
11. PI is required to be versed with necessary laws and regulatory policies that govern research in Tanzania. Some guidance is available on our website https://drp.muhas.ac.tz/.

Dr. Nahya Salim Masoud,
Chairperson, MUHAS Research and Ethics Committee

Muhimbili University of Health and Allied Sciences
DIRECTOR
Research, Publications & Innovations
Box 65001

Appendix VI: Introduction letter

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA MOROGORO

Unapojibu tafadhali taja

Kumb. Na. R.10/MMC/PF-24/ 13/05/2024

Dkt. Caroline C. Sawe
S.L.P
DAR ES SALAAM

YAH: KIBALI CHA KUFANYA UTAFITI.

Husika na kichwa cha habari hapo juu.

2. Halmashauri ya Manispaa Morogoro inakupa kibali cha kufanya utafiti kuhusu **"Factors Associated with HIV status disclosure to HIV infected children Attending Care and Treatment Centers in Morogoro Municipality".**

3. Utafiti huu utafanyika katika VItuo vya tiba na matunzo vya Serikali Sabasaba, Mafiga, Kingolwira, Mjimpya, Mwembesongo na Malipula kwa muda wa wiki tatu (3) kuanzia tarehe ya barua hii hadi tarehe 03 Juni, 2024.

Naomba apewe ushirikiano.

Maneno F. Matawa
Kny: Mkurugenzi wa Manispaa
MOROGORO

KNY MKURUGENZI WA MANISPAA
MOROGORO

Nakala:
Mganga Mfawidhi

- Sabasaba,
- Mafiga
- Kingolwira
- Mji Mpya
- Mwembesongo
- Mazimbu

Halmashauri ya Manispaa Morogoro, S.L.LP 166 Morogoro, Simu/Nukushi Na. +255 023 2935242,
Tovuti: www.morogoro.go.tz, Barua Pepe: Info@morogoromc.go.tz

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

AnuaniyaSimu:"MKUUWAMKOA"
SimuNambari:(023)2934305/2934306
Fax Nambari: (023) 260 4988
Email: ras.morogoro@tamisemi.go.tz
Tovuti www.morogoro.go.tz
Unapojibu tafadhali taja:

Ofisi ya Mkuu wa Mkoa,
Boma Road,
Idara ya Afya,
S.L.P 650,
MOROGORO

Kumb.Na.DC.123/161/01B/77

07 Mei,2024

Mkurugenzi
Halmashauri ya Manispaa
S.L.P 166
MOROGORO

Mganga Mfawidhi
Hospitali ya Rufaa ya Mkoa
S.L.P 110
MOROGORO

YAH: KUMTAMBULISHA DR. CAROLINE C. SAWE

Mtajwa hapo juu ni mwanachuo wa Chuo Kikuu cha Sayansi Shirikishi Muhimbili mwenye usajili NO. HD/MUH/T.720/2022 ambaye anasoma kwa njia ya masafa (Msc.MPH)

2. Katika masomo yake anapaswa kufanya utafiti unaohusu **''Factors Associated with HIV status disclosure to HIV infected children Attending Care and Treatment Centers in Morogoro Municipality''.**

3. Kwa barua hii namtambulisha kwako ili Uweze kumpa ushirikiano anaouhitaji ili aweze kufanya utafiti.

4. Nambatisha na kibali cha kimaadili toka chuoni (Ethical Clearance).

5. Asante kwa ushirikiano wako.

Dr. K. B. Ukio
Kny: **KATIBU TAWALA MKOA**
MOROGORO

Appendix VII: Digital Receipt



turnitin

Digital Receipt

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File size:	493.65K
Page count:	46
Word count:	9,387
Character count:	52,550
Submission date:	15-Jul-2024 07:27PM (UTC+0300)
Submission ID:	2321343932

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Appendix VIII: Plagiarism Report



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ORIGINALITY REPORT

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