

**UNDERSTANDING COMMUNITY CASE WORKERS' HIV SERVICE  
DELIVERY PRACTICES TO ORPHANS AND VULNERABLE CHILDREN  
IN DAR ES SALAAM, TANZANIA**

**Asheri Barankena, MD**

**Master of Public Health - Distance Learning Dissertation**

**Muhimbili University of Health and Allied Sciences**

**October 2019**

**Muhimbili University of Health and Allied Sciences  
Department Of Public Health and Social Sciences**



**UNDERSTANDING COMMUNITY CASE WORKERS' HIV SERVICE DELIVERY  
PRACTICES TO ORPHANS AND VULNERABLE CHILDREN IN DAR ES SALAAM,  
TANZANIA**

**By**

**Asheri Barankena, MD**

**A Dissertation Submitted in (partial) Fulfillment of the Requirement for the  
Degree of Master of Public Health – Distance Learning of**

**Muhimbili University of Health and Allied Sciences**

**October 2019**

**CERTIFICATION**

The undersigned certify that she has read and hereby recommend for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation entitled; *Understanding Community Case Workers' HIV service delivery practices to orphans and vulnerable children in Dar es Salaam, Tanzania*, in (partial) fulfillment of the requirements for the degree of Master of Public Health of Muhimbili University of Health and Allied Sciences.

---

**Dr Gloria Sakwari** (Supervisor)

---

Date

**DECLARATION AND COPYRIGHT**

I, **Asheri Barankena**, 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** \_\_\_\_\_

This dissertation is a copyright material protected under the Berne convention, the Copyright Act 1999 and other international and national enactments in that behalf, on intellectual property. It may not be reproduced by any means, in full or in part, except for short extracts in fair dealing, for research or private study, critical scholarly review or discourse with an acknowledgment, without written permission of the Directorate of Postgraduate Studies on of both the author and the Muhimbili University of Health and Allied Sciences.

## ACKNOWLEDGEMENT

The preparation of this dissertation was an opportunity to embrace, appreciate and realize the knowledge acquired during my time in studies. I would not have succeeded in anything without my God who made everything possible. My sincere gratitude goes to Dr Gloria Sakwari, my supervisor; for her dedicated supervision, constructive criticism, instructions and her patience. She has provided an enormous support and guidance.

Special Thanks to all academic staff of the School of Public Health and Social Sciences (SPHSS) for their support and guidance.

I also take this opportunity to express my heartfelt thanks to the leaders from Dar es Salaam City, Ilala MC, Ubungo MC, Kinondoni MC, Kigamboni MC and Temeke MC for allowing me to conduct this study in their Region and respective Districts, also for assistance during the process of data collection.

Finally, special thanks go to my family who gave me emotional as well as spiritual support throughout my studies.

## **DEDICATION**

This dissertation is dedicated to all Orphans and Vulnerable Children (OVC) out there whom have had different challenges in their life. It is my hope that this dissertation will contribute to expanded insight for better services for them and their families.

To my loving and understanding Wife, Dr Christina Mmasa and my beautiful daughters, Briella and Darriella, I love u all.

## **ABSTRACT**

**Introduction:** Generally, Tanzania has approximately 1.3 million orphans due to HIV and traditionally orphans are provided with services within extended families in the community. The MoHCDGEC has established a structure to provide services for OVC in the community using volunteers known as Community Case Workers (CCWs). In Tanzania only 52.2% of people living with HIV know their status, and this makes. With this gap in identifying new clients who are HIV positive, linkage for ART initiation for those who are HIV positive, supporting them to adhere to ART and eventually have viral suppression, community support is key and CCWs' role and how competent they are is important to establish.

**Aim of the study:** To assess CCWs' HIV service delivery practices to OVC in Dar es Salaam, Tanzania

**Methodology:** This study is a cross-sectional in design. Data collection used a questionnaire which involved face-to-face interviews with a sample of CCWs. The sampled 414 CCWs providing services to OVC in Dar es Salaam were interviewed during community monthly meetings.

Data analysis involved descriptive as well as multivariate analyses. Pearson's Chi-square test (for categorical variables) and multivariate analysis were used to assess factors associated with CCWs' practices on HIV service delivery. Inference was made at a significance level of 5%. Ethical clearance was sought from MUHAS and permission for conducting the study was sought from RAS and respective DEDs. Participants were required to give a written consent.

**Results:** Findings showed good level of CCWs' practices on the three outcomes; SDP on Need assessment (low 3%, medium 76% and high 22%); SDP on Care plan development (low 2%, medium 64% and high 34%) and SDP on Referral issuance (low 0.2%, medium 33.8% and high 65.9%). HIV Service delivery practices is associated with HIV/AIDS knowledge; CCWs with the highest HIV/AIDS knowledge are likely to have the high level of practices on Need assessment (aOR=2.50, 95% CI 1.40-4.46). And CCWs belonging in the highest HIV/AIDS knowledge tertile were 3.15 times more likely than those in the lowest knowledge tertile to perform higher in terms of referral issuance (aOR=3.15, 95% 1.82-5.47)

**Conclusion and Recommendation:** A major predictor of HIV service delivery practices is CCWs' HIV/AIDS knowledge; the higher the HIV/AIDS knowledge the better the HIV Service delivery practices outcomes. Other associated factors are sex, supportive supervision, case load and area of residence.

## TABLE OF CONTENTS

CERTIFICATION .....	i
DECLARATION AND COPYRIGHT.....	ii
ACKNOWLEDGEMENT .....	iii
DEDICATION .....	iv
TABLE OF CONTENTS.....	vi
LIST OF TABLES .....	ix
LIST OF FIGURES .....	ix
ABBREVIATIONS .....	x
DEFINITION OF KEY ITEMS.....	xi
CHAPTER ONE .....	1
1. INTRODUCTIN .....	1
1.1 BACKGROUND INFORMATION.....	1
PROBLEM STATEMENT, RATIONALE, RESEARCH QUESTIONS AND OBJECTIVES .....	3
1.2 PROBLEM STATEMENT .....	3
1.3 RATIONALE AND JUSTIFICATION OF THE STUDY .....	3
1.4 CONCEPTUAL FRAMEWORK.....	5
1.5 RESEARCH QUESTIONS .....	6
1.6 OBJECTIVES .....	6
1.6.1 Broad Objective .....	6
1.6.2 Specific Objectives .....	6
CHAPTER TWO .....	7
2.1 LITERATURE REVIEW.....	7
2.1.1 OVC current situation in Tanzania.....	7
2.1.2 CCWs' Service Delivery .....	7
2.1.3 CCWs' Knowledge on HIV .....	8
2.1.4 Factors associated with community case workers' service delivery practices .....	9
CHAPTER THREE .....	11



3.0 METHODOLOGY .....	11
3.1 Study area: .....	11
3.2 Study Population .....	11
3.3 Study Design .....	11
3.3.1 Inclusion criteria .....	11
3.3.2 Exclusion criteria .....	12
3.4 Sample Size .....	12
3.4.1 Sampling Procedure .....	12
3.5 Study Instruments and data collection procedures .....	13
3.5.1 Study Instruments .....	13
3.5.2 Data collection procedures.....	14
3.5.3 Study Variables.....	15
3.6 Data processing and analysis.....	16
3.7 Variability and Reliability: .....	17
3.8 Ethical Consideration .....	18
CHAPTER FOUR.....	19
4. RESULTS: .....	19
4.0 Introduction .....	19
4.1 Characteristics of the respondents .....	19
4.2 Individual responses on HIV Service delivery practices questions .....	22
4.3 Level of HIV/AIDS Knowledge.....	22
4.4 Factors associated with CCWs' HIV service delivery practices .....	23
4.4.1 Level of HIV/AIDS Knowledge .....	23
4.4.2 Respondents characteristics as factors associated with HIV service delivery practices .....	24
4.4.3 Other factors associated with CCWs HIV service delivery practices .....	31
CHAPTER FIVE .....	33
5. DISSCUSSION .....	33
5.0 INTRODUCTION.....	33

5.1 HIV SERVICE DELIVERY PRACTICES (SDP).....	33
5.2 FACTORS ASSOCIATED WITH HIV SERVICE DELIVERY PRACTICES .....	34
5.3 LIMITATION OF THE STUDY .....	35
5.4 DISSEMINATION PLAN .....	36
5.5 CONCLUSION AND RECOMMENDATIONS:.....	36
5.5.1 CONCLUSION.....	36
5.5.2 RECOMMENDATIONS.....	37
6. REFERENCES.....	38
7. APPENDICES .....	41
7.0 APPENDIX 1: ENGLISH QUESTIONNAIRE.....	41
7.1 APPENDIX 2: DODOSO LA KISWAHILI.....	47
7.2 APPENDIX 3: INFORMED CONSENT ENGLISH VERSION .....	53
7.3 APPENDIX 4: INFORMED CONSENT KISWAHILI VERSION .....	54
7.4 APPENDIX 5: APPROVAL OF ETHICAL CLEARANCE .....	56
7.5 APPENDIX 6: SUPPLEMENT RESULTS .....	57

### LIST OF TABLES

Table 1. Frequency distribution of respondents' characteristic (n=414).....	20
Table 2. Frequency distribution of CCWs' level of HIV service delivery practices on Need assessment, Care plan development and Referral issuance .....	21
Table 3. PCA on HIV/AIDS knowledge (Tertile on HIV/AIDS knowledge) .....	22
Table 4. Association between HIV service delivery practices on Need assessment, Care plan development & Referral issuance and level of HIV/AIDS knowledge .....	23
Table 5. Percentage of CCWs in level of SDP on Need assessment, Care plan development & Referral issuance by respondents' characteristics .....	25
Table 6. Ordered logistic regression model of the adjusted effect of knowledge tertiles on practices related to Need assessment by respondent characteristics (n=414).....	28
Table 7. Ordered logistic regression model of the adjusted effect of knowledge tertiles on practices related to Care plan development by respondent characteristics (n=414).....	29
Table 8. Ordered logistic regression model of the adjusted effect of knowledge tertiles on practices related to Referral issuance by respondent characteristics (n=414) .....	30
Table 9. Individual responses on HIV SDP questions.....	57
Table 10. Correct responses on HIV SDP questions .....	59
Table 11. Individual responses on HIV/AIDS prevention and Transmission .....	61
Table 12. Correct responses on HIV/AIDS knowledge.....	62

### LIST OF FIGURES

Figure 1. Diagrammatic conceptual framework: Service delivery Practices for orphans and Vulnerable Children.....	5
Figure 2. Percentage of motivational and hindering factors for CCWs.....	31
Figure 3 Percentage of CCWs who are willing to continue working as CCWs .....	32

**ABBREVIATIONS**

<b>AIDS:</b>	Acquired Immune Deficiency Syndrome
<b>ANOVA:</b>	Analysis of Variance
<b>ART:</b>	Anti-Retroviral Therapy
<b>CBHSP:</b>	Community-Based HIV/AIDS Services Provider
<b>CCW:</b>	Community Case Worker
<b>CDC:</b>	Centers for Disease Control and Prevention
<b>DED:</b>	District Executive Director
<b>CHSSP:</b>	Community Health and Social Welfare Systems Strengthening Program
<b>DMO:</b>	District Medical Officer
<b>GOT:</b>	Government of Tanzania
<b>HIV:</b>	Human Immunodeficiency Virus
<b>HTS:</b>	HIV Testing Services
<b>JSI:</b>	John Snow Inc
<b>LTFU:</b>	Lost to Follow-up
<b>MC:</b>	Municipal Council
<b>MUHAS:</b>	Muhimbili University of Health and Allied Sciences
<b>MOHCDGEC:</b>	Ministry of Health, Community Development, Gender, Elderly and Children
<b>MVC:</b>	Most Vulnerable Children
<b>OVC:</b>	Orphans and Vulnerable Children
<b>PEPFAR:</b>	U.S. President's Emergency Plan for AIDS Relief
<b>RAS:</b>	Regional Administrative Secretary
<b>SDP:</b>	Service Delivery Practices
<b>SPHSS:</b>	School of Public Health and Health Sciences
<b>SPSS:</b>	Statistical Package for the Social Sciences
<b>UNAIDS:</b>	Joint United Nations Programme on HIV/ Acquired Immune Deficiency Syndrome
<b>USAID:</b>	United States Agency for International Development

**DEFINITION OF KEY ITEMS**

1. **Orphans and Vulnerable Children (OVC):** Children who have lost one or both parents, are HIV infected, affected or at risk of getting infected.
2. **Most Vulnerable Children (MVC):** Children under the age of 18 years characterized by severe deprivation as to endanger their health, wellbeing, and long-term development.
3. **Case Management:** A systematic, organized process for identifying, assessing, planning, providing support, referring and linking, and monitoring OVC and their caregivers to achieve a state of wellbeing where they are stable and secure enough to meet their needs (i.e. financial, protection, social, emotional, health, education) and resilient enough to withstand modest shock.
4. **Service delivery (Case Management approach):** Is provision of services by a systematic, organized process for identifying, assessing, planning, providing support, referring and linking, and monitoring OVC and their caregivers to achieve a state of wellbeing where they are stable and secure enough to meet their needs (i.e. financial, protection, social, emotional, health, education) and resilient enough to withstand modest shocks.
5. **Practices:** For the purpose of this study, practices are defined as CCWs' capability to do customary action of performance adequately during the course of their work. The CCWs have three main customary actions of performance; Need Assessment, Care plan development and review, and Referrals and linkages.
6. **Community Case Workers (CCWs):** Are a government community-based cadre who receive the 5-day National Integrated Case Management Training and who are expected to provide case management services to OVC/MVC households.

**CCWs provide services to Household with at-least one of the follow criteria:**

1. Household is headed by child (under 18 years old)
2. Household is headed by an elderly caregiver (60 years or older)
3. Household cares for one or more single or double orphan
4. Caregiver is chronically ill and unable to meet basic needs of children
5. Caregiver is a drug user

6. Caregiver or adolescent age 10-19 in household is a sex worker
7. One or more adolescent girls aged 10-19 who are sexually active
8. Adolescent girl age 10-19 in the household is pregnant or has a child of her own
9. One or more household members are HIV positive
10. One or more children in the household have tuberculosis
11. One or more children in the household are severely malnourished
12. One or more children in the household have been or are abused or at risk for abuse
13. One or more children are living and or working on the streets
14. One or more children are working in mining

## CHAPTER ONE

### 1. INTRODUCTIN

#### 1.1 BACKGROUND INFORMATION

Tanzania has a total population of 44.9 million people where as 50.1% are children below 18 years of age (1). Among these children in 2.6 million have been identified to be orphans and it estimated that 1.3 million orphans are due to HIV and AIDS (2). Nevertheless children living with HIV are estimated to be 110,000 (2) which renders OVC and HIV/AIDS to be double burdens for children living in Tanzania. Service for Orphans in-particular services that are HIV sensitive cannot be over emphasized.

In response to needs for OVC, MOHCDGEC has established National Integrated Case Management systems that provide a platform where OVC can receive required services. The National Integrated case management uses community volunteers known as Community Case workers to provide services to OVC in the households within their locality. CCWs are trained using the National Integrated Case Management Curriculum which includes HIV/AIDS. CCWs are trained for five days and are provided with 10-20 Households within their street or village. These households must have one or more children who meet at least one of the fourteen criteria for OVC. Each CCW visits Households he/she serve at least once a month to provide different services for OVC, the services provided include financial education, protection, social welfare, emotional, health, education, and for health the focus is on the whole range of the HIV cascade. HIV services which CCWs provide are: HIV basic information; HIV prevention messages; identification of risks for HIV and linkage to HIV testing; ART Adherence support; Disclosure support; Referrals for CTC linkage, ART initiation, CD4/Viral load testing tracking; and tracking for missed appointment and loss to follow up.

CCWs play a major role in HIV/AIDS whereas they work to identify children, link them to ART initiation and support their viral suppression. The role played by CCWs is expected to

contribute to global goals as well as National goals. Tanzania is still behind in reaching the UNAIDS 90-90-90 goals. UNAIDS aims at reaching 90-90-90 goals whereas by 2020, 90% of all people living with HIV will know their HIV status, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy, and 90% of all people receiving antiretroviral therapy will have viral suppression. At the moment Tanzania sits at 52.2% for the first 90 (3), and this makes Tanzania achievement the lowest amongst the countries supported by PEPFAR in the fight against HIV/AIDS. With gaps in identifying new clients who are HIV positive, linkage for ART initiation for those who are HIV positive, supporting them to adherence to ART and eventually have viral suppression, community support is key component. CCWs come in for children who are on ART, where there is gap as only 18.4% of children 0-14 who are on ART have viral suppression (3) which, earmark a very low percentage. It is important to examine the roles which community volunteers play especially volunteers who care for children. CCWs are among the volunteers whose role is specifically to care for children who are disadvantaged, the OVC.



## **PROBLEM STATEMENT, RATIONALE, RESEARCH QUESTIONS AND OBJECTIVES**

### **1.2 PROBLEM STATEMENT**

Tanzania like other Sub Saharan countries has not been spared from the rampant HIV infection among its population. In Tanzania there is no established system for foster care however there are NGOs and individuals as well as relatives who take care to the OVC. Tanzanian government established a new government cadre the CCWs to ensure improvement in HIV service delivery for the OVC. For this new cadre to bring about the desired changes among OVC HIV service delivery practices is of paramount importance. The population served by CCWs is among the most affect by HIV. At the moment in Tanzania only 52.2% of estimated number of people living with HIV know their status, 47% are on ART and 42% have attained viral suppression. To reach HIV/AIDS epidemic control identifying new clients who are HIV positive linking them to ART services and support their adherence to achieve viral suppression requires different stakeholders and cadres at all levels of HIV/AIDS services including community volunteers (CCWs). Tanzania achievement in these goals is the lowest amongst the countries fighting against the rampant HIV/AIDS burden.

The fact that the CCWs are volunteers, practices on their daily work and factors to make them work to archive government goals need to be highlighted. Little is known about CCWs' work practices and factors which are associated with their work. Hence the study aims at assessing the practices of the CCWs in delivering the required services to the community served that is OVCs in Dar es Salaam.

### **1.3 RATIONALE AND JUSTIFICATION OF THE STUDY**

There wide coverage of CCWs in Tanzania (17,946 CCWs in 74 Councils) whereas these councils have higher numbers of people living with HIV compared to other councils. CCWs practices is required for CCWs to be able to execute their duties and improve services among OVC. The study will inform the department of social welfare and other stakeholders on the CCWs' service delivery practices and factors which are associated with and/ or factors which could improve service delivery. The aim of the study being assessing CCWs' service delivery practices on OVC HIV related services, findings will be used to inform DSW of service delivery practices and if there are any weakness on practices and factors associated with, particularly

CCWs' knowledge on HIV/AIDS thereafter provide required actions to support CCWs. The study will in the end help to inform key stakeholders (MoHCDGEC, RHMTs, CHMTs, ward and village level health teams) on CCWs practices and therefore improving service delivery to OVC which is the main goal of the country.

#### 1.4 CONCEPTUAL FRAMEWORK

HIV service delivery practices can be influenced by knowledge of CCWs on HIV/AIDS and can as well be influenced by several other factors, some of them being social demographic characteristics, level of Education, Experience on community work, and other trainings including Community based HIV/AIDS services training, counseling training and other health related trainings. Service delivery practices may as well be influence by age, sex and marital status, volunteerism, Workload, Distance, and Availability of tools, Supportive supervision and incentives.

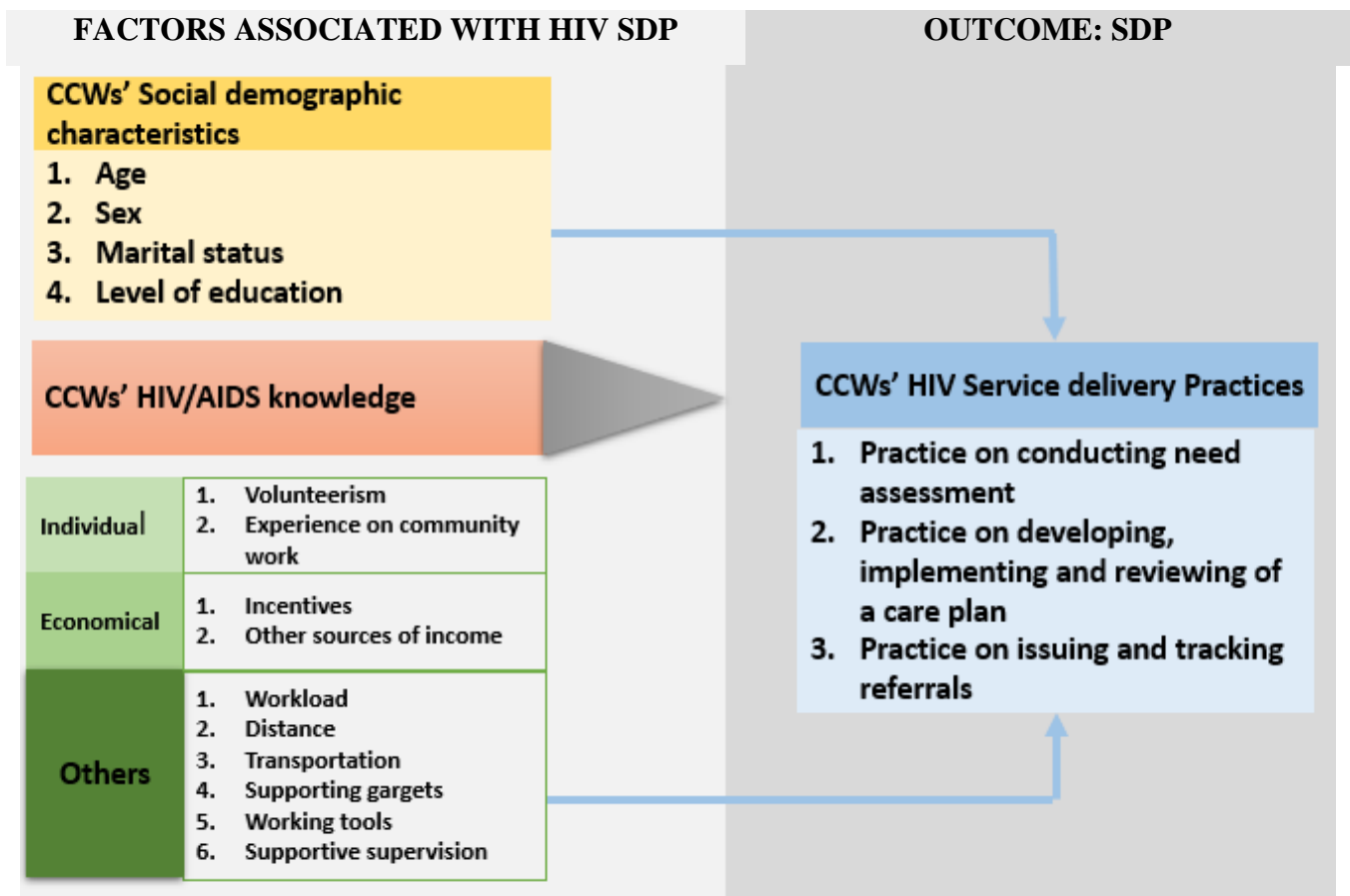


Figure 1. Diagrammatic conceptual framework: Service delivery Practices for orphans and Vulnerable Children

## **1.5 RESEARCH QUESTIONS**

The following research questions will guide the study to assess CCWs' HIV service delivery practices and how is it associated with other factors including CCWs knowledge on HIV.

1. What are the CCWs' HIV service delivery practices and their associated factors?
2. What are CCWs' HIV service delivery practices towards OVC?
3. What is CCWs' knowledge on HIV?
4. What are other factors associated with CCWs' HIV service delivery practices?

## **1.6 OBJECTIVES**

### **1.6.1 Broad Objective**

To assess CCWs' HIV service delivery practices and factors associated with, in Dar es salaam.

### **1.6.2 Specific Objectives**

1. To assess CCWs' HIV service delivery practices to OVC
2. To assess CCWs' knowledge on HIV/AIDS
3. To identify factors associated with CCWs' service delivery practices to OVC

## **CHAPTER TWO**

### **2.1 LITERATURE REVIEW**

#### **2.1.1 OVC current situation in Tanzania**

As of 2016, an estimated 1,300,000 children in Tanzania had lost one or both parents to HIV/AIDS estimates by UNAIDS. The number of children orphaned due to HIV/AIDS as well as other causes is significantly higher, encompassing approximately 2,600,000 children (4). About 8 percent of all children are vulnerable children, as identified within the framework of the National Coasted Plan of Action for Most Vulnerable Children. An estimated 110,000 children in Tanzania under the age of 15 are infected with HIV/AIDS, according to a 2016 UNAIDS survey estimate. Children who are orphaned or made vulnerable by HIV/AIDS face a range of challenges, including stigma and discrimination, abuse, exploitation, neglect, poverty, and illness and depression. According to Vincent-Whitman et al, in Tanzania; 3 percent of children under age 18 has a parent who was very sick from HIV/AIDS, 7 percent live in a household in which at least one adult (a parent or other household member) is very sick, and 1 percent live in a household where at least one adult has been very sick and died during the 12 months preceding the survey (5). Forty percent of all children under age 18 are living in households at or below the national poverty level (6). Orphans in Tanzania are less likely to attend school compared to non-orphans. More than 50 percent of OVC live in households with grandparents as their primary guardian (6). Households caring for OVC often face significant burdens. Grandmothers caring for OVC are among the most vulnerable and marginalized members of society and are subject to unequal work opportunities, inheritances, and property laws. Widows often work long hours for low wages to make up for income lost following their husbands' deaths (7).

#### **2.1.2 CCWs' Service Delivery**

CCWs service delivery through Case management approach includes the following steps; Identifying and assessing needs, Care plan development, implementation and review AND Referrals and linkages to other service providers to achieve a state of wellbeing where they are stable and secure enough to meet their needs (i.e. financial, protection, social, emotional, health,

education) and resilient enough to withstand modest shocks. There are no studies that have looked at the CCWs practices and how they perform their duties, however in a study conducted in Zimbabwe several CHW characteristics were significantly associated with more pregnancy referrals: female gender (incidence rate ratio [IRR] for referring an additional woman=1.13;  $P<.05$ ), larger household size (IRR=1.01;  $P<.05$ ; range, 0–16 people), and longer job tenure (IRR=1.01;  $P<.01$ ; range, 1–30 years) while Middle-aged (IRR=0.89;  $P<.05$ ) and older CHWs (IRR=0.81;  $P<.01$ ), as well as those who were married (IRR=0.88;  $P<.05$ ), made fewer referrals (8). In another study conducted in Kisumu Kenya CHWs over 40 years of age were likely to display good performance in their job ( $P < 0.001$ ). In addition, the performance of CHWs was influenced by training partners ( $P < 0.03$ ) (9).

In another study in rural Uganda which studies community health volunteers service delivery found that seventy-eight percent of the CHVs had  $\geq 80\%$  of pregnant women under their care delivering in health units, 71% had  $\geq 95\%$  of the children on schedule for routine immunization, while 27% screened  $\geq 75\%$  of the children under 5 years for malnutrition. More refresher trainings were associated with better overall performance, while overseeing more than the recommended 20–30 households reduced overall performance(10).

A study in Uganda also found out that capacity-building program including supervision supportive of autonomy, skills and knowledge enhancement, and adapted to the different subgroups of volunteers, leads to good practices. This contributes to better task performance among the volunteers(11).

### **2.1.3 CCWs' Knowledge on HIV**

There are no studies which have looked at the knowledge of CCWs but other studies have looked at the the knowledge on HIV of other community volunteers. A study that looked at Lay counselors found that average score on a 10-item knowledge test included in the national survey on topics related to their work was 74.5%. More than 50% of the lay counselors provided incorrect answers to the questions related to the earliest age at which an HIV antibody test can be used, to the interpretation of discordant HIV test results, and to the prevalence of HIV among women. In-person observations were conducted with 25 lay counselors providing services to 47

(12). Counseling skills were rated using a 3-point scale (1 = unsatisfactory, 2 = average, 3 = high practices). Mean scores were 2.0 or higher for most competencies (12).

Another study conducted Malawi among health care workers found out HIV/AIDS knowledge score on a scale of 0–15 was high ( $13.4 \pm 1.9$ ; range 2–15). The means scores on the HIV knowledge items were different among HCW subgroups: HIV knowledge was 14.3 for Health Care Practitioners; 13.5 for nursing students, and 12.7 for support staff. Response of “Do Not Know (DNK)” for HIV/AIDS was, 0%–13% (13).

#### **2.1.4 Factors associated with community case workers’ service delivery practices**

Studies highlight different factors that hinders or influence Community health workers service delivery.

Most studies for community health worker highlight several factors that hinder community work. These factors include dissatisfaction with incentives, overwhelming workloads, inadequate healthcare infrastructure, unsupportive supervision, long distance, lack of transport, and unsupportive families

were identified as being factors hindering CHW in their daily service provision activities the community.

CHWs identified lack of incentives and irregular salaries, especially considering increasing workloads or alternative employment opportunities, as demotivating and disrespectful (14–22). Dissatisfaction was rooted in the CHWs inability to meet basic household needs after expecting a high income (17). CHWs felt burdened by unexpected large and draining workloads compounded by evening, nighttime, and weekend work schedules (14,15,18,19,23,24). These hours strained commitments to household and family responsibilities (20,21,23). CHWs in other studies were left frustrated by difficulties which were cause by the healthcare system lack of transportation, medicines, vaccines, or supplies to fulfill their job responsibilities(14–18,21,24). In other studies, lack of supportive supervision was a hindering factor, as CHW did not receive enough supportive supervision which lead to difficulties in implementing their activities(15,17,18,23,24).

Most of the community health volunteers (68%) managed 20 households, the required number of households per community health volunteer and the rest (32%) managed 25 and above

households. Slightly above 30% of the community health volunteers said it's not easy to manage 20 households citing lack of motivation in terms of allowances, transport, and long distance between households, illiterate community making it hard to understand health messages and challenging questions asked by the community members. Other reasons given were; they (community health volunteers) were not recognized by ministry of health staff, lack of equipment like the reporting tools, hardship areas and lack of cooperation from the community members.(25)



## CHAPTER THREE

### 3.0 METHODOLOGY

#### 3.1 Study area:

This study was conducted in ten wards from five municipal councils (MCs) of the Dar es salaam Region. The Dar es Salaam region has five Municipal Councils namely Temeke MC, Kigamboni MC, Ilala MC, Kinondoni MC and Ubungo MC. The region is located on the shores of the Indian Ocean in east Tanzania, with coordinates 6°48'S 39°17'E. It has a land area of 1,590 square Kilometers and has a population of 4,364,541 inhabitants according to the 2012 Population and Housing Census report (1).

Dar es Salaam has 5,084 CCWs (28% of all CCWs in Tanzania), making it the region with the largest number of CCWs. Dar es Salaam CCWs provide service to 26,000 households with OVC. Among the CCWs in Dar es Salaam, 74% are females and 26% are males. Dar es Salaam CCWs have an average age of 37 years for both males and females, with a range between 19 to 61 years. There are 61 wards with CCWs. Dar es Salaam was selected due to high number of CCWs with the highest diversity, so that findings can give a representative picture of other communities or cities like Dar es Salaam.

#### 3.2 Study Population

The population for this study was CCWs providing community-level HIV-related services to OVC and their families in Dar es Salaam Region for at least six months at the time this study was conducted.

#### 3.3 Study Design

A Descriptive cross-sectional study using quantitative method was used; cross sectional study intended to measure CCWs' HIV service delivery practices and factor associated with, including CCWs knowledge on HIV/AIDS.

##### 3.3.1 Inclusion criteria

- CCWs providing services to OVC and their families.
- CCWs who have worked with OVC and their families for six months or more consecutively at the time of this study.

### 3.3.2 Exclusion criteria

- CCWs who have had 3 months or more outside their working areas.

### 3.4 Sample Size

The sample was calculated using the formula for single proportion assuming a large population.

$$n = \frac{z^2 p (100-p)}{e^2}$$

Where  $z=1.96$  (at 95% confidence interval)

$p$ = unknown (so 50% was used)

$e$ = Margin of error = 5%.

Therefore, the minimum sample size is 385

Using 10% as an estimate for non-respondent the Minimum Sample size is 434

#### 3.4.1 Sampling Procedure

Two stage sampling was used to select sampled CCWs whereas: From five municipals: simple random sampling was used to select two wards from each, making a total of 10 wards; Ilala MC; Kipawa and Tabata: Kinondoni MC; Mwananyamala and Wazo: Ubungo MC; Kwembe and Saranga: Kigamboni MC; Kigamboni and Mjimwema AND Temeke MC; Tandika and Sandali) which were included in the study. Then for each of the sampled wards a list of active CCWs from their respective District Social Welfare Officers was used as a sampling frame. From the sampling frame, 434 CCWs were selected using probability proportionate to size (PPS) to ensure that the sample is representative of all the CCWs in the respective ward. During CCWs' ward level monthly meetings held on December 2018 and January 2019, selected CCWs were interviewed.

### **3.5 Study Instruments and data collection procedures**

#### **3.5.1 Study Instruments**

An interview using a questionnaire was used to collect data at ward level. The questionnaire had various sections as follows;

#### **1. Demographic characteristics**

Socio–demographic characteristics of the CCWs were recorded. These are sex (male and female), age (in years), marital status (married/cohabiting, ever married (currently divorced, separated, or widowed), and single), formal education attainment (never attended, primary, and secondary or higher), source of income (temporary or permanent employment, business, volunteerism, and others).

#### **2. Measure of HIV Service delivery practices:**

This study used self-reported information to assess CCWs’ HIV service delivery practices. Questions measuring practices consist of 30 items. All questions were answered with options of “Yes,” “No,” or “Don’t know (DNK)” with the correct and incorrect response score as 1 and 0, respectively. Further treatment of these questions is documented in detail under section 9: Plan for data processing and analysis. The scores were summed up to 30. The questions have been derived from the CCWs’ job description, job aids and their recording tools (MoHCDGEC’s tools including National MVC Registration form, National MVC monthly service form, Care-plan form, National MVC referral form and National CCWs’ supportive supervision tool). The questions are on Need assessment, Care plan development, review and referrals. These questions have also taken into consideration the literature review of African studies and National Integrated Case Management Curriculum. Other stakeholders (including one National Integrated Case Management National Trainers and two members of the Department of Social welfare under MoHCDGEC) who have expertise in CCWs work and context, reviewed the questions.

These questions have also been translated to Kiswahili and reviewed by key stakeholders (Appendix 2) The questions were pre-tested by administering them to 20 CCWs (5% of the sample size) in Kijitonyama ward (not included in the study) to improve their clarity and address common misunderstandings.

### **3. Measure of factors associated with HIV service delivery practices:**

#### **3.a: Measure of knowledge on HIV/AIDS:**

Questions measuring knowledge about HIV/AIDS consist of 19 questions. All questions were answered with options of “True,” “False,” or “Don’t know (DNK)” with the correct and incorrect response score as 1 and 0, respectively. The scores were summed up to 19. The questions have been developed by modifying the validated 45-items of the HIV-Knowledge Questionnaire (HIV-K-Q) (26). The questions include questions about HIV transmission, risk factors, HIV testing, ART initiation, ART adherence, patient monitoring and prevention. These questions have also taken into consideration the literature review of African studies and different Tanzania national guidelines. Mtengezo et al (13) in Malawi developed a tool to assess HIV/AIDS knowledge by modifying existing tools to fit their context and came up with a tool with 15 questions (9,13,26).

In addition, the questions were pre-tested by administering them to 20 CCWs (5% of the sample size) in Kijitonyama ward (not included in the study) to improve their clarity and address common misunderstandings.

#### **3.b: Other factors which are associated with CCWs’ practices:**

This study also assessed other factors likely to associate with the CCWs’ HIV service delivery practices; the community’s perception (10), workloads, lack of equipment, reporting tools, incentives including payment (14,15,18), transportation, long distance (14–18) and supportive supervision (15,17).

#### **3.5.2 Data collection procedures**

Training of 2 research assistants was done before data collection commenced to ensure understanding of the content in the questionnaire before use.

Investigator assigned number of research assistants per ward depending with the number of selected CCWs for each ward and the date when ward level meetings were held. Each research assistant was provided with the names of CCWs to interview during the December 2018 and January 2019 ward level meetings. So long as each ward monthly meetings are held for one day, Investigator deployed 2 research assistants to increase chances of interviewing enough

number of CCWs for each ward. Investigator together with research assistants conduct a face to face interview and administer the questionnaire to each selected CCWs.

Investigator and research assistants assigned serial numbers on the questionnaire administered, using their name initials and continues numbers for each questionnaire filled (example AB001) for easy record tracking.

### 3.5.3 Study Variables

#### 3.5.3.1 *Dependent variables*

This study analyzed three dependent or outcome variables which were used to assess HIV service delivery Practices (SDP). The practices were; (1) need assessment, (2) care plan development, and (3) referrals issuance. Each of these variables were classified in three categories of practices as low, medium, and high. The total number of scores determined classification of respondents in each category as described in the questionnaire. A score of '1' for a correct response and '0' for an incorrect one was assigned to each of the questions defining the SDP. Since each of the SDP has 10 questions, the summation of scores ranged from 0 for a respondent with incorrect answers to all the questions, to 10 for a respondent who correctly answered all the questions. This means that the higher the score the better the practices and vice versa. The dependent variables finally have the following mathematical representation;

$$\text{Need assessment} = \begin{cases} \text{LOW if sum of scores is } 0 - 3 \\ \text{MEDIUM if sum of scores is } 4 - 7 \\ \text{HIGH if sum of scores is } 8 - 10 \end{cases}$$

$$\text{Care plan development} = \begin{cases} \text{LOW if sum of scores is } 0 - 3 \\ \text{MEDIUM if sum of scores is } 4 - 7 \\ \text{HIGH if sum of scores is } 8 - 10 \end{cases}$$

$$\text{Referral issuance} = \begin{cases} \text{LOW if sum of scores is } 0 - 3 \\ \text{MEDIUM if sum of scores is } 4 - 7 \\ \text{HIGH if sum of scores is } 8 - 10 \end{cases}$$

### ***3.5.3.2 Independent Variables***

There are several independent variables for this study. The main independent variable is CCWs' level of knowledge on HIV/AIDS. From the questionnaire, individual questions assessing HIV/AIDS knowledge are numbered 12 through 30. All these questions were used in the construction of a variable for the "CCWs' level of knowledge of HIV/AIDS" using principal component analysis (PCA).

Socio-demographic characteristics of the CCWs were included amongst the independent variables. These are sex (male and female), age (in years), marital status, formal education attainment, source of income

Other variables included as independent variables are the duration for which the CCW has been in service as a volunteer, trainings ever received, and the workload in terms of the number of households to which the CCW provide services.

### **3.6 Data processing and analysis**

Data entry was done using EpiInfo (version 3.5), after which checks for inconsistencies, duplicates, and other mismatches were done. Further data cleaning, codes assignment and labeling was performed. Data analysis was performed using Statistical Program for Social Scientist (SPSS) version 16. Summary descriptive statistics such as frequencies was used to describe the data.

This study analyzed three dependent or outcome variables which are used to assess HIV service delivery Practices (SDP). The practices are; (1) need assessment, (2) care plan development, and (3) referrals issuance. Each of these variables was classified in three categories of practices as low, medium, and high.

From the questionnaire, individual questions assessing HIV/AIDS knowledge are numbered 12 through 30. All these questions were used in the construction of a variable for the "CCWs' level of knowledge of HIV/AIDS" using principal component analysis (PCA) (27). The PCA process resulted in three groups of the CCWs' level of knowledge of HIV/AIDS. These groups

are known as knowledge tertiles. The knowledge tertiles are named as LOW for a third of the CCWs with the lowest level of HIV/AIDS knowledge; MEDIUM for the next one-third of the CCWs with middle level of knowledge of the HIV/AIDS questions; and HIGH for the last one-third of the CCWs with above average level of the knowledge of HIV/AIDS.

Bivariate analysis was done to examine the relationship between each of the SDPs and the independent variables. Chi-square test was used to compare the degree of association between level of knowledge on HIV/AIDS and other independent factors on each of the outcomes – practices in need assessment, care plan development, and referrals issuance. For continuous independent variables, ANOVA was used to compare mean values across the levels of the outcomes.

Multivariate analysis was conducted using logistic regression (in the form of ordered logit models because categories of the outcomes are ordered) to determine the independent variables that are significantly associated with HIV service delivery practices. A p-value of less than 0.05 was considered statistically significant.

### **3.7 Variability and Reliability:**

**Validity:** in this study there were several measures taken to improve validity of the results. Among these measures are using correctly estimated sample size, using random methods for similar selections, appropriate research tool (including proper administration of the tool during data collection) by deducing from existing similar studies and different expert opinions and use of appropriate statistical analysis of the collected data.

**Reliability:** during this research study, several other measures were also applied to enhance reliability. A set of questions were used to measure on element of a variable, example HIV/AIDS knowledge; more than one questions were used to measure knowledge on prevention and transmission, HIV testing, ART initiation, ART adherence and Patient monitoring. Each category had several questions.

### **3.8 Ethical Consideration**

Ethical clearance was obtained from MUHAS Senate Research and Publications committee with ethical clearance no. DA.287/298/01A (Appendix 5). Following an introductory letter from MUHAS, permission for conducting this study was sought from Dar es Salaam City Council Authority and respective Municipal Councils Authorities. Informed consent was sought and obtained from participants before they participate in the study and signed consent form. Specifically, participants were informed about the objectives of the study and that their participation was voluntary. It was clearly clarified that the information to be obtained was for research purposes and would therefore be strictly anonymous and dealt with confidentiality.

Additionally, participants were free to decline or withdraw at the start or in the course of the study without any repercussion, which lead to 4.6% of the selected participants declined to take part in the study.



## CHAPTER FOUR

### 4. RESULTS:

#### 4.0 Introduction

The study involved 414 CCWs providing services to Orphans and Vulnerable Children in Dar es Salaam. Out of 434 sampled CCWs, 414 CCWs agreed to participate in the study and responded to the questionnaire, leading to a response rate of 95%.

#### 4.1 Characteristics of the respondents

The study population mean age is 39.9 (SD=10.3) whereas majority are females (79.5) while males comprised of 20.5% of the CCWs. Most CCWs report to have attained primary level education (48.1%), where as 41.6% attained secondary education and a few, 10.4% attended college or university education. CCWs who reported to be married or living together were 54.8%, while 15.2% reported to ever married and 30% were single. Majority of CCWs also reported to be self-employed (72%), while 9.2% report volunteerism (including being a CCW) as their source of income, 4.8% are permanently employed, 4.6% are temporarily employed and 9.4% are retired, unemployed, housewives or others. Sixty seven percent of CCWs reported to volunteer as other cadres at the community while 32.9% of CCWs are just CCWs only. 87.7% of CCWs have number of households within the recommended limit where as 12.3% of CCWs had 21 households or more. In the last one month, 74.6% CCWs reported to have received at least one supportive supervision visit from their supervisor or government official, while a quarter (25.1%) of CCWs did not receive any supportive supervision visit (Table 1).

**Table 1. Frequency distribution of respondents' characteristic (n=414)**

<b>Variable</b>	<b>Respondents n (%)</b>
<b>OVERALL</b>	<b>414 (100.0)</b>
<b>Sex</b>	
Female	329 (79.5)
Male	85 (20.5)
<b>Age category (in years)</b>	
20–29	93 (22.5)
30–39	125 (30.2)
40–49	129 (31.2)
50+	67 (16.2)
Min = 21; Max = 71; Mean = 39.5; SD = 10.3; Median = 39.3	—
<b>Marital status</b>	
Married or living together	227 (54.8)
Ever married	63 (15.2)
Single	124 (30.0)
<b>Education</b>	
Primary	199 (48.1)
Secondary	172 (41.6)
College/University	43 (10.4)
<b>District</b>	
Ilala	68 (16.4)
Kigamboni	53 (12.8)
Kinondoni	109 (26.3)
Temeke	55 (13.3)
Ubungo	129 (31.2)
<b>Source of your income</b>	
Self-employed	298 (72.0)
Volunteerism (including being a CCW)	38 (9.2)
Permanently employed	20 (4.8)
Temporarily employed	19 (4.6)
Retired /Unemployed /Housewife/ Other	39 (9.4)
<b>CCWs engaged in other voluntary works</b>	
None	136 (32.9)
At least one	278 (67.1)
<b>Case load (number of households served)</b>	
0-20 Households	363 (87.7)
21+ Households	51 (12.3)
<b>Supportive supervision in the last one month</b>	
Never	105 (25.4)
At least once	305 (74.6)

HIV Service delivery practices: Needs assessment, Care plan development and Referral issuance

This study has analyzed three (outcome variables) HIV service delivery practices; namely Need Assessment, Care plan development and Referral issuance. It was found that 76% and 22% CCWs had medium and high level of practices on Need Assessment respectively while a small percentage (3%) had low level. The results also showed that 64% and 34% of CCWs have medium and high level of practices on Care plan development respectively while a small percentage (2%) have low level of practices on Care plan development. Results on Referral issuance showed that 33.8% and 65.9% of CCWs have medium and high level of practices on Referral issuance respectively while a small percentage (0.2%) have low level of practices on Referral issuance (Table 2).

**Table 2. Frequency distribution of CCWs' level of HIV service delivery practices on Need assessment, Care plan development and Referral issuance**

<b>SDP on Need Assessment</b>	<b>Respondent's n (%)</b>
Low	11 (3)
Medium	313 (76)
High	90 (22)
<b>Total</b>	<b>414 (100)</b>
<b>SDP on Care plan development</b>	<b>Respondents n (%)</b>
Low	8 (2)
Medium	264 (64)
High	142 (34)
<b>Total</b>	<b>414 (100)</b>
<b>SDP on Referral issuance</b>	<b>Respondents n (%)</b>
Low	1 (0.2)
Medium	140 (33.8)
High	273 (65.9)
<b>Total</b>	<b>414 (100)</b>

#### 4.2 Individual responses on HIV Service delivery practices questions

Out of the ten questions on HIV Service Delivery Practices on Need Assessment; Over 50% of CCWs responded correctly to seven questions, while less CCWs got three questions correctly answered;

*“Children with Severe Malnutrition are likely to be HIV infected”, (44.9% answered correctly). “I use the family and child asset assessment form to assess children needs only (48.1% answered correctly)”, and “I use the HIV Risk, Service and Adherence Assessment form to asses overall Household needs (17.4% answered correctly)” (Table 9).*

Out of the ten questions on HIV Service Delivery Practices on Care plan development; 50% or more CCWs responded correctly to eight questions on Care plan development. Two questions had below 50% correct response rate; *“I will force the caregiver who is HIV positive to start ART because it is for his/her own good (44.2% answered correctly); and “I can track services properly without a care plan” (37.7% answered correctly)” (Table 9).*

CCWs were also asked ten questions which assessed HIV Service Delivery practices on Referral issuance; nine questions were answered correctly by over 60% of the CCWs. One question had correct response from only 33.16% of CCWs *“When issuing a referral, I the CCW decide where the caregiver and the child should go for HIV services” (Table 9).*

#### 4.3 Level of HIV/AIDS Knowledge

Using Principle Component Analysis; HIV/AIDS knowledge questions were used to construct knowledge variable leading to three tertiles.

**Table 3. PCA on HIV/AIDS knowledge (Tertile on HIV/AIDS knowledge)**

HIV/AIDS Knowledge Tertiles	Respondents n (%)
Lowest (Q1)	138 (33.3)
Middle (Q2)	139 (33.57)
Highest (Q3)	137 (33.09)
<b>Total</b>	<b>414 (100)</b>

Out of the 20 questions on HIV/AIDS knowledge; Over 55% of CCWs responded correctly to 19 questions, while there was one question on HIV Prevention and Transmission, only 40.3% of CCWs correctly answered the question; *“The window Period is the period between HIV*

*infections and when HIV is detected by HIV test*". Those CCWs who were not able to provide correct answer; 19.1% got it wrong while 40.6% responded "do not know" (Table 11).

#### 4.4 Factors associated with CCWs' HIV service delivery practices

This study looked at the different factors and their association with HIV Service delivery practices as the outcome variable.

##### 4.4.1 Level of HIV/AIDS Knowledge

CCWs with the highest HIV/AIDS knowledge are more likely to have high level of practices on Need assessment (P-value of 0.001). Level of CCWs' HIV service delivery on Care plan development does not seem to have statistical different among HIV/AIDS knowledge tertiles (P=0.319), however CCWs with highest level of HIV/AIDS knowledge are more likely to have higher level of practices in HIV service delivery with respect with Referral issuance with a P-value of less than 0.001 (Table 4).

**Table 4. Association between HIV service delivery practices on Need assessment, Care plan development & Referral issuance and level of HIV/AIDS knowledge**

Knowledge tertile	Level of SDP practices on Need assessment (%)			P-value
	LOW n = 11 (%)	MEDIUM n = 313 (%)	HIGH n = 90 (%)	
Lowest (Q1)	5 (3.6)	111 (80.4)	22 (15.9)	P=0.001
Middle	3 (2.2)	114 (82.0)	22 (15.8)	
Highest (Q3)	3 (2.2)	88 (64.2)	46 (33.6)	
Overall	2.7	75.6	21.7	
Knowledge tertile	Level of SDP practices on Care plan development (%)			P-value
	LOW n = 8 (%)	MEDIUM n = 264 (%)	HIGH n = 142 (%)	
Lowest (Q1)	5 (3.6)	85 (61.6)	48 (34.8)	P=0.319
Middle	2 (1.4)	95 (68.4)	42 (30.2)	
Highest (Q3)	1 (0.7)	84 (61.3)	52 (38.0)	
Overall	1.9	63.8	34.3	
Knowledge tertile	Level of SDP practices on Referral issuance (%)			P-value
	LOW n = 1 (%)	MEDIUM n = 140 (%)	HIGH n =273 (%)	
Lowest (Q1)	0 (0.0)	65 (47.1)	73 (52.9)	P<0.001
Middle	1 (0.7)	44 (31.7)	94 (67.6)	
Highest (Q3)	0 (0.0)	31 (22.6)	106 (77.4)	
Overall	0.2	33.8	65.9	

#### 4.4.2 Respondents characteristics as factors associated with HIV service delivery practices

HIV service delivery practices on **Need Assessment**; males are likely to have high practices than females, while females are likely to have medium practices than males ( $P=0.029$ ). But there are no statistical differences in service delivery practices among other background characteristics; Age (0.547), Marital status ( $P=0.799$ ), Level of educations ( $P=0.782$ ), District from which CCWs operates ( $P=0.260$ ) and Source of Income ( $P=0.354$ ), CCW engage in other voluntary work ( $P=0.114$ ), Case load ( $P=0.396$ ), and Supportive supervision ( $P=0.091$ ).

HIV service delivery practices on **Care plan development** is not associated with any of the background characteristics. Sex ( $p=0.966$ ); Age (0.842), Marital status ( $P=0.936$ ), Level of educations ( $P=0.327$ ), District from which CCWs operates ( $P=0.260$ ) and Source of Income ( $P=0.354$ ), CCW engage in other voluntary work ( $P=0.062$ ), Case load ( $P=0.151$ ), and Supportive supervision ( $P=0.057$ ).

HIV service delivery practices on **Referral issuance**; males are likely to have high practices than females, while females are more likely to have medium practices than males ( $P=0.047$ ). It is also found out that CCWs with recommended number of households are more like to perform better than CCWs with over 20 households ( $P=0.001$ ). But there are no statistical differences in service delivery practices among other background characteristics; Age (0.064), Marital status ( $P=0.093$ ), Level of educations ( $P=0.332$ ), District from which CCWs operates ( $P=0.290$ ) and Source of Income ( $P=0.732$ ). CCW engage in other voluntary work ( $P=0.316$ ) and Supportive supervision ( $P=0.607$ ) (Table 5).

**Table 5. Percentage of CCWs in level of SDP on Need assessment, Care plan development & Referral issuance by respondents' characteristics**

Background characteristics		Level of practices on Need assessment				Level of practices on Care plan development Need assessment				Level of practices on Referral Issuance			
		Low (11)	Medium (313)	High (90)	p-value	Low (8)	Medium (264)	High (142)	p-value	low (n = 11)	medium (n = 313)	high (n = 90)	p-value
		n (%)	n (%)	n (%)		n (%)	n (%)	n (%)		n (%)	n (%)	n (%)	
Sex	Female	8(2.4)	258(78.4)	63(19.2)	0.029	7(2.1)	210(63.8)	112(34.0)	0.966	1(0.3)	120(36.5)	208(63.2)	0.047
	Male	3(3.5)	55(64.7)	27(31.8)		1(1.2)	54(63.5)	30(35.3)		0(0.0)	20(23.5)	65(76.5)	
Age	20–29	2(2.2)	66(71.0)	25(26.9)	0.547	2(2.2)	58(62.4)	33(35.5)	0.842	1(1.1)	24(25.8)	68(73.1)	0.064
	30–39	4(3.2)	101(80.8)	20(16.0)		1(0.8)	79(63.2)	45(36.0)		0(0.0)	41(32.8)	84(67.2)	
	40–49	3(2.30)	98(76.0)	28(21.7)		3(2.3)	81(62.8)	45(34.9)		0(0.0)	44(34.1)	85(65.9)	
	50+	2(3.0)	48(71.6)	17(25.4)		2(3.0)	46(68.7)	19(28.4)		0(0.0)	31(46.3)	36(53.7)	
Marital status	Married or living together	5(2.2)	169(74.5)	53(23.4)	0.799	4(1.8)	144(63.4)	79(34.8)	0.936	1(0.4)	87(38.3)	139(61.2)	0.093
	Ever married	2(3.2)	47(74.6)	14(22.2)		2(3.2)	40(63.5)	21(33.3)		0(0.0)	21(33.3)	42(66.7)	
	Single	4(3.2)	97(78.2)	23(18.6)		2(1.6)	80(64.5)	42(33.9)		0(0.0)	32(25.8)	92(74.2)	
Education	Primary	6(3.0)	152(76.4)	41(20.6)	0.782	6(3.0)	129(64.8)	64(32.2)	0.327	0(0.0)	75(37.7)	124(62.3)	0.332
	Secondary	4(2.3)	126(73.3)	42(24.4)		1(0.6)	106(61.6)	65(37.8)		1(0.6)	53(30.8)	118(68.6)	
	College/University	1(2.3)	35(81.4)	7(16.3)		1(2.3)	29(67.4)	13(30.2)		0(0.0)	12(27.9)	31(72.1)	

District	Ilala	1(1.5)	51(75.0)	16(23.5)	0.260	2(2.9)	41(60.3)	25(36.8)	0.146	0(0.0)	17(25.0)	51(75.0)	0.290
	Kigamboni	0(0.0)	40(75.5)	13(24.5)		0(0.0)	37(69.8)	16(30.2)		0(0.0)	24(45.3)	29(54.7)	
	Kinondoni	3(2.8)	75(68.8)	31(28.4)		0(0.0)	75(68.8)	34(31.2)		1(0.9)	37(33.9)	71(65.1)	
	Temeke	3(5.5)	42(76.4)	10(18.2)		4(7.3)	33(60.0)	18(32.7)		0(0.0)	19(34.6)	36(65.5)	
	Ubungo	4(3.1)	105(81.4)	20(15.5)		2(1.6)	78(60.5)	49(38.0)		0(0.0)	43(33.3)	86(66.7)	
Source of your income	Self-employed	6(2.0)	227(76.2)	65(21.8)	0.354	6(2.0)	184(61.7)	108(36.2)	0.295	1(0.3)	102(34.2)	195(65.4)	0.732
	Volunteerism	1(2.6)	28(73.7)	9(23.7)		0(0.0)	30(79.0)	8(21.1)		0(0.0)	10(26.3)	28(73.7)	
	Permanently employed	2(10.0)	14(70.0)	4(20.0)		0(0.0)	16(80.0)	4(20.0)		0(0.0)	5(25.0)	15(75.0)	
	Temporarily employed	1(5.3)	12(63.2)	6(31.6)		1(5.3)	11(57.9)	7(36.8)		0(0.0)	7(36.8)	12(63.2)	
	Retired/ Unemployed / Housewife/ Other	1(2.6)	32(82.1)	6(15.4)		1(2.6)	23(59.0)	15(38.5)		0(0.0)	16(41.0)	23(59.0)	
Other voluntary	None	2(1.470)	97(71.32)	37(27.21)	0.114	1(0.74)	97(71.32)	38(27.94)	0.062	1(0.74)	43(31.62)	92(67.55)	0.316
	At least one	9(3.24)	216(77.70)	53(19.06)		7(2.52)	167(60.07)	104(37.41)		0(0.00)	97(34.89)	181(65.11)	
Case load	0-20 Households	9(2.5)	272(74.9)	82(22.6)	0.396	6(1.7)	228(62.8)	129(35.5)	0.151	1(0.3)	111(30.6)	251(69.1)	0.001
	21+ Households	2(3.9)	41(80.4)	8(15.7)		2(3.9)	36(70.6)	13(25.5)		0(0.0)	29(56.9)	22(43.1)	
Supportive supervision	Never	0(0.00)	78(74.29)	27(25.71)	0.091	1(0.9)5	77(73.33)	24(22.71)	0.057	0(0.00)	39(37.14)	66(62.86)	0.607
	At least once	11(3.56)	232(76.05)	62(20.39)		7(2.27)	185(60.52)	114(37.22)		1(0.32)	100(32.69)	204(66.99)	



Adjusted odds ratios (OR) and their corresponding 95% confidence intervals (CI) from the random-effects logistic regression model of the effect of the HIV SDP are presented below. With respect to HIV Services delivery on Need Assessment; CCWs belonging in the highest HIV/AIDS knowledge tertile were 2.61 times more likely than those in the lowest knowledge tertile to perform higher in terms of need assessment (aOR=2.63, 95% CI 1.46-4.74). This effect was adjusted for sex, age, marital status, education, districts, CCWs engaging in other voluntary work, case load and supportive supervision in the last one month. Other factors did not show any statistical differences with respect to service delivery practices on Need assessment (Table 6).

With respect to HIV SDP on Care plan development; CCWs who received at least one supportive supervision in the last one month are 1.72 times likely to have higher practices than those who never received any supportive supervision in the last one month (aOR1.72, 95% CI 1.03-2.88). This effect was adjusted for level of HIV/AIDS knowledge, sex, age, marital status, education, districts, CCWs engaging in other voluntary work and case load. There was no difference among marital status; married or living together (aOR=1.00) - ever married (aOR1.06 95% CI 0.56-2.00) and single (aOR0.76 95% CI 0.44-1.31). there was no difference also among (Table 7).

CCWs belonging in the middle HIV/AIDS knowledge tertile were 1.88 times likely to issue referral than those in the lowest knowledge tertile (aOR=1.88, 95% CI 1.11-3.18). Those who belong in highest HIV/AIDS knowledge tertile were 3.15 times more likely to issue referral than those in the lowest knowledge tertile (aOR=3.15, 95% 1.82-5.47). This effect was adjusted for sex, age, marital status, education, districts, CCWs engaging in other voluntary work, case load and supportive supervision in the last one month. Other factors with significant predictive effect on the level of HIV SDP on Referral issuance included sex; where male CCWs were 2.53 times more likely to perform higher in referral issuance compared to females (aOR 2.53, 95% 1.34-4.81). CCWs from Kigamboni were less likely to have higher practices on Referral issuance compared to CCWs from Ilala (aOR=0.34, CI 0.14-0.81). Likewise, CCWs with higher case load (21+ households) than recommended number were less likely to have higher practices in Referral issuance (aOR=0.40, 95% CI 0.21-0.76). There were

no statistical differences among education levels; Primary (aOR 1.00), Secondary (aOR0.96 95% CI 0.57-1.59) and College/University (aOR0.89 95% CI 0.39-2.06). (Table 8)

**Table 6. Ordered logistic regression model of the adjusted effect of knowledge tertiles on practices related to Need assessment by respondent characteristics (n=414)**

Covariate	n	Adjusted odds ratio (aOR)	95% Confidence Interval		p - value
			Lower limit	Upper limit	
<b>Knowledge tertile</b>					
Lowest (Q1)	138	<b>1.00</b>	—	—	—
Middle	139	1.04	0.56	1.91	0.902
Highest (Q3)	137	2.63	1.46	4.74	<b>0.001</b>
<b>Sex</b>					
Female	339	1.00	—	—	—
Male	85	1.62	0.90	2.93	0.107
<b>Age category (in years)</b>					
20–29	93	1.00	—	—	—
30–39	125	0.53	0.25	1.12	0.099
40–49	129	0.71	0.34	1.50	0.367
50+	67	0.70	0.28	1.75	0.445
<b>Marital status</b>					
Married or living together	227	1.00	—	—	—
Ever married	63	0.98	0.48	2.03	0.965
Single	124	0.59	0.31	1.12	0.110
<b>CCW is engaged in other voluntary works</b>					
None	136	1.00	—	—	—
At least one	278	0.68	0.41	1.14	0.147
<b>Case load (number of households served)</b>					
0-20 households	363	1.00	—	—	—
21+ households	51	0.73	0.33	1.60	0.434
<b>Supportive supervision in the last month</b>					
Never	105	1.00	—	—	—
At least once	305	0.80	0.46	1.39	0.425

**Table 7. Ordered logistic regression model of the adjusted effect of knowledge tertiles on practices related to Care plan development by respondent characteristics (n=414)**

Covariate	n	Adjusted odds ratio	95% Confidence Interval		p - value
			Lower limit	Upper limit	
<b>Knowledge tertile</b>					
Lowest (Q1)	138	1.00	—	—	—
Middle	139	0.76	0.46	1.28	0.307
Highest (Q3)	137	1.05	0.63	1.75	0.844
<b>Sex</b>					
Female	339	1.00	—	—	—
Male	85	1.18	0.69	2.02	0.535
<b>Age category (in years)</b>					
20–29	93	1.00	—	—	—
30–39	125	1.00	0.52	1.91	0.999
40–49	129	0.89	0.46	1.72	0.729
50+	67	0.64	0.27	1.48	0.295
<b>Education</b>					
Primary	199	1.00	—	—	—
Secondary	172	1.46	0.91	2.36	0.12
College/University	43	0.87	0.40	1.90	0.72
<b>District</b>					
Ilala	68	1.00	—	—	—
Kigamboni	53	0.79	0.36	1.76	0.572
Kinondoni	109	0.77	0.40	1.48	0.436
Temeke	55	0.60	0.26	1.34	0.210
Ubungo	129	0.84	0.44	1.60	0.587
<b>CCW is engaged in other voluntary works</b>					
None	136	1.00	—	—	—
At least one	278	1.47	0.93	2.34	0.101
<b>Case load (number of households served)</b>					
0-20 households	363	1.00	—	—	—
21+ households	51	0.60	0.30	1.19	0.145
<b>Supportive supervision in the last month</b>					
Never	105	1.00	—	—	—
At least once	305	1.72	1.03	2.88	<b>0.039</b>

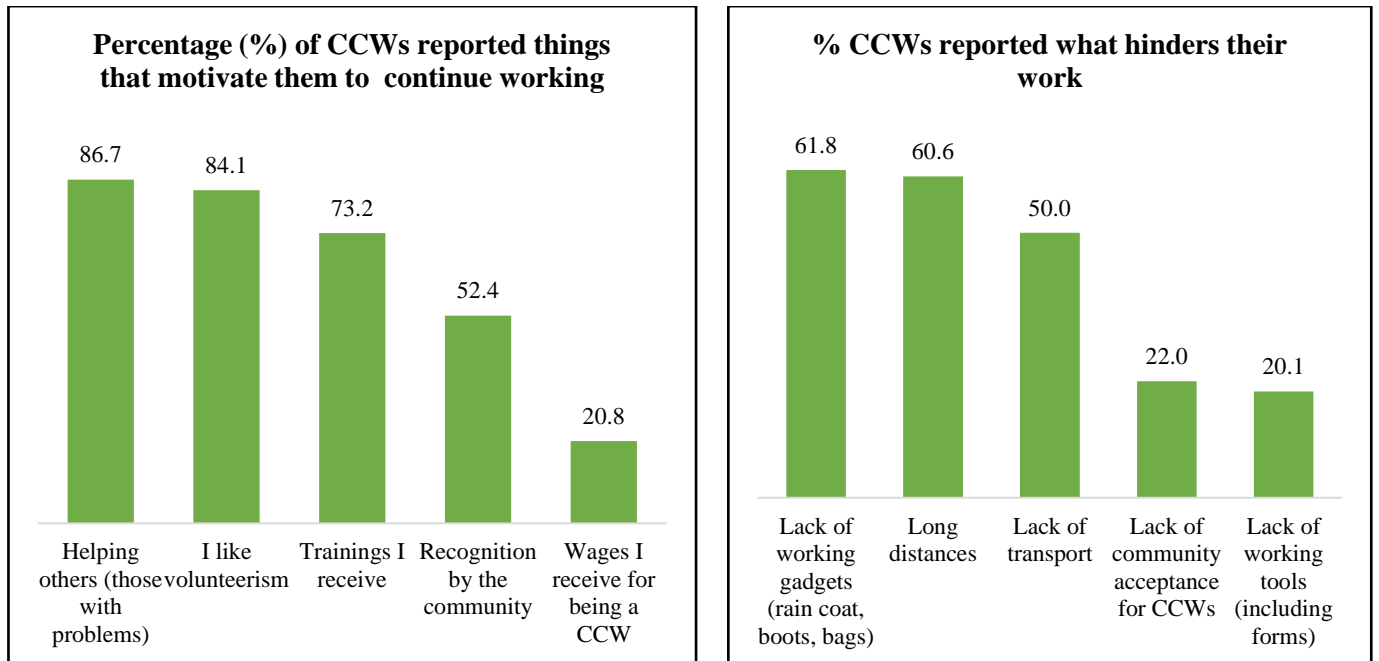
**Table 8. Ordered logistic regression model of the adjusted effect of knowledge tertiles on practices related to Referral issuance by respondent characteristics (n=414)**

Covariate	n	Adjusted odds ratio (aOR)	95% Confidence Interval		p - value
			Lower limit	Upper limit	
<b>Knowledge tertile</b>					
Lowest (Q1)	138	1.00	—	—	—
Middle	139	1.88	1.11	3.18	<b>0.019</b>
Highest (Q3)	137	3.00	1.71	5.27	<b>&lt;0.001</b>
<b>Sex</b>					
Female	339	1.00	—	—	—
Male	85	2.53	1.34	4.81	<b>0.004</b>
<b>Age category (in years)</b>					
20–29	93	1.00	—	—	—
30–39	125	0.95	0.46	1.93	0.878
40–49	129	0.93	0.45	1.93	0.854
50+	67	0.42	0.17	1.03	0.058
<b>Marital status</b>					
Married or living together	227	1.00	—	—	—
Ever married	63	1.75	0.88	3.49	0.111
Single	124	1.57	0.87	2.85	0.135
<b>District</b>					
Ilala	68	1.00	—	—	—
Kigamboni	53	0.34	0.14	0.81	<b>0.015</b>
Kinondoni	109	0.58	0.28	1.21	0.145
Temeke	55	0.71	0.29	1.71	0.446
Ubungo	129	0.56	0.27	1.16	0.118
<b>CCW is engaged in other voluntary works</b>					
None	136	1.00	—	—	—
At least one	278	0.78	0.48	1.28	0.332
<b>Case load (number of households served)</b>					
0-20 households	363	1.00	—	—	—
21+ households	51	0.40	0.21	0.76	<b>0.006</b>
<b>Supportive supervision in the last month</b>					
Never	105	1.00	—	—	—
At least once	305	1.40	0.82	2.39	0.213

#### 4.4.3 Other factors associated with CCWs HIV service delivery practices

##### 4.4.3.1 Motivational and hindering factors for CCWs

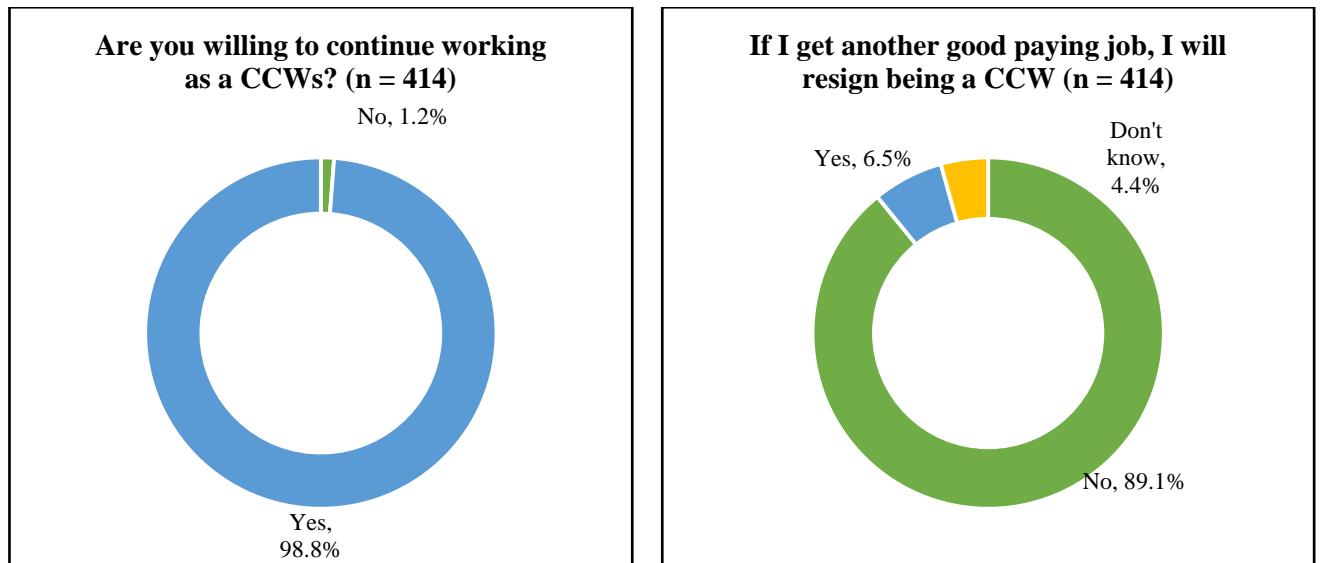
CCWs report that there are several factors which motivate them to continue working as CCWs, these factors include; helping others (86.7%), sense of volunteerism (84.1%), trainings received (73.2%), recognition by the community (52.4%) and wages they receive for being CCWs. Nevertheless, CCWs also mentioned some factors that hinders their work; lack of working gadgets (rain coast, boots, bags) (61.8%), long distance (60.6%), lack of transport (50.0%), lack of community acceptance (22.0%) and lack of working tools including forms (20.1%).



**Figure 2. Percentage of motivational and hindering factors for CCWs**

#### 4.4.3.2 Willingness to continue working as CCWs:

The majority of CCWs (98.8%) have reported to be willing to continue working as CCWs while a small percentage of CCWs (1.2%) are not willing to continue working as CCWs. At the same time when asked if they would resign from working as CCWs if they are to be offered a better paying job, 89.1% CCs said “No”, 4.4% did not know what they will do while 6.5% responded “Yes”, Pie chart below describe the distribution of willingness to continue or resign.



**Figure 3** Percentage of CCWs who are willing to continue working as CCWs

## CHAPTER FIVE

### 5. DISSCUSSION

#### 5.0 INTRODUCTION

This study assessed HIV service delivery practices and its associated factors among CCWs (n= 414, response rate 95%). Findings revealed good level of CCWs' practices on all three outcomes; SDP on Need assessment (low 3%, medium 76% and high 22%); SDP on Care plan development (low 2%, medium 64% and high 34%) and SDP on Referral issuance (low 0.2%, medium 33.8% and high 65.9%). Findings also revealed a statistically significant relationship between SDP on Need assessment and HIV/AIDS knowledge while SDP on Referral issuance had significant relationship with HIV/AIDS knowledge, age, areas of residence and caseload. SDP on care plan development did not show statistical relationship with HIV/AIDS knowledge as expected, nevertheless it showed association with supportive supervision received by the CCWs.

#### 5.1 HIV SERVICE DELIVERY PRACTICES (SDP)

Findings revealed good level of CCWs' practices on the three outcomes; SDP on Need assessment; SDP on Care plan development and SDP on Referral issuance. Overall most CCWs fall under medium and high levels of service delivery practices in all three SDP outcomes. This level of practices for CCWs in all three outcomes resembles a 74.5% of knowledge related to lay counselors work on a 10-item knowledge test included in the national survey on topics related to their work in Botswana (12). Another study also showed great levels of work performance (78% and 71%) in work-related for CHW in rural Uganda (10).

In spite of good levels of service delivery practices among CCWs there were a few surprising responses for service delivery practices questions; 55.1% of CCWs did not know whether severe malnutrition may be predictive of HIV infection. This poses questions on how soon do CCWs identify children at risk of having HIV infection and contribute to global active HIV case finding, which is the main aim of having CCWs or CHWs (28). A study in Uganda also found surprising response where as 43% of CHWs did not know that People can get HIV via Kissing (13). At the same time only a third of CCWs knew that a referral for HIV service requires discussion with caregivers for it to be successful. This response brings in an argument

on how successful referrals are going to be if the decision is made by CCWs rather than a discussion between the CCWs and the caregiver. Similarly, studies in other countries have revealed inadequate adherence to referral guidelines or poor implementation of referrals among CHW (29,30).

## **5.2 FACTORS ASSOCIATED WITH HIV SERVICE DELIVERY PRACTICES**

Findings revealed SDP on Need assessment depend on HIV/AIDS knowledge while SDP on Referral issuance had relationship with HIV/AIDS knowledge, age, areas of residence and caseload. SDP on care plan development did not show statistical relationship with HIV/AIDS knowledge as expected, nevertheless it showed association with supportive supervision received by the CCWs.

CCWs' SDP on Need assessment is statistical significantly associated with level of HIV/AIDS knowledge. CCWs in the highest percentile are two and a half times likely to have the high level of practices on Need assessment. This was also shown by a study in Uganda where more refresher trainings which influence knowledge were found to be associated with better overall practice (10). SDP on Need assessment is also influenced by sex whereas males are likely to have high practices than females ( $P=0.029$ ), which is contrary to the study in rural Zimbabwe where females performed well in pregnancy referrals (8). However, being a woman may influence referral in situation of pregnancy due to personal experience from the female workers as compared to none among males. It is important to acknowledge differences in gender task where women perform the task differently than men.

SDP on care plan development did not show statistical relationship with HIV/AIDS knowledge but is influenced by supportive supervision. CCWs who received at least one supportive supervision in the last one month are 1.72 times likely to have higher practices that those who did not receive supportive supervision. Other studies also show Positive feedback from supervisors related to supportive supervision was associated with improved performance (8).

SDP on Referral issuance had significant relationship with HIV/AIDS knowledge, sex, caseload and areas of residence. CCWs belonging in the highest HIV/AIDS knowledge tertile



were 3.15 times more likely than those in the lowest knowledge tertile to perform higher in terms of referral issuance which has similarly been shown by a study in Uganda (10). Male CCWs are 2.48 times more likely to perform higher in terms of referral issuance compared to females, which differ from the results in Zimbabwe (8) which might be brought by differences in task gender sensitive. CCWs with 21+ households are less likely to have high practices on referral issuance compared to CCWs with recommended number of Household with. A study in Uganda found similar results (10).

There were also other factors, which were mentioned by the CCWs to be important in improving their work. Among the factors mentioned to motivate the CCWs are sense of helping others, sense of volunteerism, trainings they received, recognition by the community and wages they receive for being CCWs, similar reasons were given by CHWs in the survey in Bangladesh (19). CCWs also listed factors which hinders them from performing their daily work; lack of working gadgets (rain coat, boots, bags), long distance, lack of transport, lack of community acceptance and lack of working tools including forms. Other studies have also mentioned similar factors (14–18,21,24) to be hindrance to proper service delivery among CHWs.

### **5.3 LIMITATION OF THE STUDY**

Study population did not include CCWs who have dropped out. Studying CCWs who have dropped out might have brought out a different conclusion when assessing their HIV service delivery practices and factor associated with their practices. Information or recall bias might as well limit this study as data collection based on interview only. No causal inference may be drawn from the findings because of snap shot nature of the correctional studies.

The study was conducted during CCWs monthly meetings, so there is therefore a possibility of desirability bias in the responses received. Attempts were made to reduce this by assuring respondents of confidentiality and by using investigators external to CCWs daily work.

#### **5.4 DISSEMINATION PLAN**

The results of this study are going to be disseminated through this dissertation which will be submitted to Muhimbili University of Health and Allied Sciences, School of Public Health and Social Sciences as well as Library repository. Findings will also be disseminated to the community (MoHCDGEC and other stakeholders involved with CCWs work) through different community, national and international fora. This study will also be published in a peer reviewed journal.

#### **5.5 CONCLUSION AND RECOMMENDATIONS:**

##### **5.5.1 CONCLUSION**

CCWs' HIV/AIDS knowledge is the major influence on HIV service delivery practices. HIV/AIDS knowledge had significant influence on Need Assessment and Referral issuance. HIV service delivery practices on care plan development is influenced by supportive supervision to CCWs. Nevertheless, there are other factors which are associated with service delivery practices. SDP on need assessed is also associated with sex where male have higher practices. Having a greater number of cases than recommended proved to be a factor that reduce practices in care planning and referral issuance. This is very important as failure to balance the services the desired outcomes may not be realized. This study has identified factors such as sense of helping others, sense of volunteerism, trainings they received, recognition by the community and wages received for being CCWs that may influence CCWs to continue working. Importantly, hindering factors have also been identified; lack of working gadgets (rain coat, boots, bags), long distance, lack of transport, lack of community acceptance and lack of working tools including forms. Additional research should be conduct to study skills and competence for CCWs and their related work.

### **5.5.2 RECOMMENDATIONS**

It is important for MoHCDGEC and other related stakeholders who in one way or the other work, interact or affect CCWs work to;

- i. Continue using CCWs to provide services to orphans and vulnerable children as they have general ranked good on the service delivery practices.
- ii. Provide more training on HIV/AIDS as knowledge of HIV/AIDS significantly influences service delivery practices and eventually improve quality of service to orphans and vulnerable children.
- iii. Strengthen supportive supervision structures to cover more CCWs and improve Case management service delivery model.
- iv. Ensure CCWs maintain the recommended Household Case load and do not exceed 20 households' marker per CCW for better management.
- v. Encourage males to engage in voluntary work for orphan and vulnerable children while providing technical support to females more to improve their practices.
- vi. Provide CCWs with required working gadgets (rain coat, boots, and bags), transport, and working tools including forms. CCWs must use the gadgets as provided.

## 6. REFERENCES

1. National Bureau of Statistics Ministry of Finance Dar es Salaam, Office of Chief Government Statistician President's Office, Finance, Economy and Development Planning Zanzibar. 2012 Population and Housing Census. The United Republic of Tanzania; 2013.
2. Joint United Nations Programme on HIV/AIDS (UNAIDS). UNAIDS report on the global AIDS epidemic 2010. Geneva: UNAIDS; 2010.
3. Ministry of Health Community Development Gender Elderly and Children (MoHCDGEC) United Republic of Tanzania, Ministry of Health (MoH) Zanzibar, National Bureau of Statistics (NBS), Office of Chief Government Statistician (OCGS). Tanzania HIV Impact Survey (THIS) 2016-2017 [Internet]. 2017 [cited 2018 Jul 31]. Available from: [http://www.nbs.go.tz/nbs/takwimu/this2016-17/Tanzania\\_SummarySheet\\_English.pdf](http://www.nbs.go.tz/nbs/takwimu/this2016-17/Tanzania_SummarySheet_English.pdf)
4. UNICEF. UNICEF\_Annual\_Report\_2010\_EN\_052711.pdf [Internet]. 2010 [cited 2018 Jul 29]. Available from: [https://www.unicef.org/publications/files/UNICEF\\_Annual\\_Report\\_2010\\_EN\\_052711.pdf](https://www.unicef.org/publications/files/UNICEF_Annual_Report_2010_EN_052711.pdf)
5. Vince-Whitman C, Pulizzi S, Scattergood P, Birdthistl B, Aldinger C, Jones J. RAPID ASSESSMENT AND ACTION PLANNING PROCESS (RAAPP) [Internet]. Geneva, Switzerland: HHD/EDC, WHO; 2000 [cited 2018 Jul 29]. Available from: [http://www.who.int/school\\_youth\\_health/assessment/raapp/sch\\_raapp\\_summary.pdf](http://www.who.int/school_youth_health/assessment/raapp/sch_raapp_summary.pdf)
6. Rwebangira MK, Tungaraza MB. Review and Assessment of Laws Affecting HIV/AIDS in Tanzania. Tanzania Women Lawyers Association (TAWLA); 2005 p. 1–33.
7. United Republic of Tanzania. UNGASS Reporting for 2010 Tanzania Mainland and Zanzibar [Internet]. 2010 [cited 2018 Jul 29]. Available from: [http://data.unaids.org/pub/report/2010/tanzania\\_2010\\_country\\_progress\\_report\\_en.pdf](http://data.unaids.org/pub/report/2010/tanzania_2010_country_progress_report_en.pdf)
8. Kambarami RA, Mbuya MN, Pelletier D, Fundira D, Tavengwa NV, Stoltzfus RJ. Factors Associated With Community Health Worker Performance Differ by Task in a Multi-Tasked Setting in Rural Zimbabwe. *Glob Health Sci Pract*. 2016 Jun 20;4(2):238–50.
9. Kawakatsu Y, Sugishita T, Kioko J, Ishimura A, Honda S. Factors influencing the performance of community health workers in Kisumu West, Kenya. *Prim Health Care Res Dev*. 2012 Oct;13(4):294–300.
10. Kuule Y, Dobson AE, Woldeyohannes D, Zolfo M, Najjemba R, Edwin BMR, et al. Community Health Volunteers in Primary Healthcare in Rural Uganda: Factors Influencing

- Performance. *Front Public Health* [Internet]. 2017 [cited 2018 Jul 31];5. Available from: <https://www.frontiersin.org/articles/10.3389/fpubh.2017.00062/full>
11. Vareilles G, Marchal B, Kane S, Petrič T, Pictet G, Pommier J. Understanding the motivation and performance of community health volunteers involved in the delivery of health programmes in Kampala, Uganda: a realist evaluation. *BMJ Open*. 2015 Nov 1;5(11):e008614.
  12. Ledikwe JH, Kejelepula M, Maupo K, Sebetso S, Thekiso M, Smith M, et al. Evaluation of a well-established task-shifting initiative: the lay counselor cadre in Botswana. *PloS One*. 2013;8(4):e61601.
  13. Mtengezo J, Lee H, Ngoma J, Kim S, Aronowitz T, DeMarco R, et al. Knowledge and Attitudes toward HIV, Hepatitis B Virus, and Hepatitis C Virus Infection among Health-care Workers in Malawi. *Asia-Pac J Oncol Nurs*. 2016;3(4):344–51.
  14. Gopalan SS, Mohanty S, Das A. Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) programme. *BMJ Open*. 2012;2(5).
  15. Banek K, Nankabirwa J, Maiteki-Sebuguzi C, DiLiberto D, Taaka L, Chandler CIR, et al. Community case management of malaria: exploring support, capacity and motivation of community medicine distributors in Uganda. *Health Policy Plan*. 2015 May 1;30(4):451–61.
  16. Mpembeni RNM, Bhatnagar A, LeFevre A, Chitama D, Urassa DP, Kilewo C, et al. Motivation and satisfaction among community health workers in Morogoro Region, Tanzania: nuanced needs and varied ambitions. *Hum Resour Health*. 2015 Jun 5;13:44.
  17. Zulu JM, Kinsman J, Michelo C, Hurtig A-K. Hope and despair: community health assistants' experiences of working in a rural district in Zambia. *Hum Resour Health* [Internet]. 2014 [cited 2018 Jul 29];12(1). Available from: <http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-90540>
  18. Takasugi T, Lee ACK. Why do community health workers volunteer? A qualitative study in Kenya. *Public Health*. 2012 Oct;126(10):839–45.
  19. Rahman SM, Ali NA, Jennings L, Seraji MHR, Mannan I, Shah R, et al. Factors affecting recruitment and retention of community health workers in a newborn care intervention in Bangladesh. *Hum Resour Health*. 2010 May 3;8:12.
  20. Alam K, Oliveras E. Retention of female volunteer community health workers in Dhaka urban slums: a prospective cohort study. *Hum Resour Health*. 2014 May 20;12:29.

21. Sharma R, Webster P, Bhattacharyya S. Factors affecting the performance of community health workers in India: a multi-stakeholder perspective. *Glob Health Action* [Internet]. 2014 Oct 13 [cited 2018 Jul 29];7. Available from:  
  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4197397/>
22. Khan SH, Chowdhury AM, Karim F, Barua MK. Training and retaining Shasthyo Shebika: reasons for turnover of community health workers in Bangladesh. *Health Care Superv.* 1998 Sep;17(1):37–47.
23. Ludwick T, Brenner JL, Kyomuhangi T, Wotton KA, Kabakyenga JK. Poor retention does not have to be the rule: retention of volunteer community health workers in Uganda. *Health Policy Plan.* 2014 May;29(3):388–95.
24. Callaghan-Koru JA, Hyder AA, George A, Gilroy KE, Nsona H, Mtimuni A, et al. Health workers' and managers' perceptions of the integrated community case management program for childhood illness in Malawi: the importance of expanding access to child health services. *Am J Trop Med Hyg.* 2012 Nov;87(5 Suppl):61–8.
25. Ahmad JN, Saitabau AN, Mafimbo NB, Kayegeri AJL. Factors Affecting of Health Services by Community Health Units. *J Community Public Health Nurs.* 2017 May 30;3(3):1–2.
26. Carey MP, Schroder KEE. Development and Psychometric Evaluation of the Brief HIV Knowledge Questionnaire. *AIDS Educ Prev Off Publ Int Soc AIDS Educ.* 2002 Apr;14(2):172–82.
27. Vyas S, Kumaranayake L. Constructing socio-economic status indices: how to use principal components analysis. *Health Policy Plan.* 2006 Nov;21(6):459–68.
28. Information NC for B, Pike USNL of M 8600 R, MD B, Usa 20894. LEADERSHIP AND MANAGEMENT [Internet]. World Health Organization; 2008 [cited 2019 Aug 25]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK310911/>
29. Chinbuah MA, Abbey M, Kager PA, Gyapong M, Nonvignon J, Ashitey P, et al. Assessment of the adherence of community health workers to dosing and referral guidelines for the management of fever in children under 5 years: a study in Dangme West District, Ghana. *Int Health.* 2013 Jun;5(2):148–56.
30. Oluseye OM, Kehinde DR, Akingbade O, Ogunlade OL, Onyebigwa OO, Oluwatosin OA. Knowledge and utilization of referral system among health care workers in selected primary health care centres in Oyo State, Nigeria. *J Community Med Prim Health Care.* 2019 Jan 1;31(1):67–75–75.

## 7. APPENDICES

### 7.0 APPENDIX 1: ENGLISH QUESTIONNAIRE

Understanding CCWs' service delivery practices to OVC in Dar es salaam

Date of interview: \_\_\_/\_\_\_/\_\_\_ (dd-mm-yy) Street: \_\_\_\_\_

Ward name: \_\_\_\_\_ Council: \_\_\_\_\_

#### Section I: Introductory & Demographic Questions

1. What is your sex?
  - (1) Male
  - (2) Female
2. What is your date of birth? / /  (dd-mm-yy)
3. What is your marital status? (*tick one*)
  - (1) Single
  - (2) Married
  - (3) Cohabiting
  - (4) Divorced
  - (5) Separated
  - (6) Widowed
4. What is your highest level of education? (*tick one*)
  - (1) Primary school
  - (2) Secondary school
  - (3) College
  - (4) University
  - (5) No formal education
5. What is the source of your income? (*tick all that applies*)
  - (1) Permanent employed
  - (2) temporarily employed
  - (3) Self-employed
  - (4) Housewife
  - (5) Unemployed
  - (6) Retired
  - (7) Volunteerism (including being a CCW)
  - (99) Other, specify: \_\_\_\_\_

6. For how long have you worked as a volunteer at your community? (*tick one*)
- (1) Three months
  - (2) Four to Six months
  - (3) Seven to Twelve months
  - (4) One to two years
  - (5) Three to Five years
  - (6) Six to Ten years
  - (7) Ten years and above
7. Which other training have you ever received over the years? (*tick all that applies*)
- (1) Community based HIV/AIDS service training (14-days training - HBC)
  - (2) Community Health Worker Training (one-year training)
  - (3) Para social worker Training (14-days training)
  - (4) Maternal, Neonatal and Child health training (MNCH)
  - (5) Basic Counseling training
  - (6) Lay workers training
  - (99) Other, specify: \_\_\_\_\_
8. How many households do you provide service to? (*tick one*)
- 1-5 Households
  - 6-10 Households
  - 11-15 Households
  - 16-20 Households
  - 21-25 Households
  - 26-30 Households
  - 31-40 Households
  - 41-50 Households
  - 51 and above
9. How many of your households did you visit **last month**? (*tick one*)
- All households
  - Most/almost all households
  - Few households
  - Zero households
10. How many of your households did you visit **last three months**? (*tick one*)
- All households
  - Most/almost all households
  - Few households
  - Zero households
11. How many times you visited by your supervisor or government official **last month**? (*tick one*)
- Once
  - Twice



- Thrice  
 Zero times

12. How many times you visited by your supervisor or government official **last three months?**  
*(tick one)*

- Once  
 Twice  
 Thrice  
 four times  
 Zero times

## Section II: HIV knowledge Questions

*These questions will measure your level of knowledge on HIV services, please provide information that you know, do not guess (check only one response for each statement).*

SN	Statements	True	False	Do not know
<b>A</b>	<b>HIV prevention and Transmission</b>			
12	There is a female condom that can help decrease a woman's chance of getting HIV			
13	A person can get HIV by sharing a glass of water with someone who has HIV			
14	Showering or washing ones' genitals/private parts after sex keeps a person from getting HIV			
15	All pregnant women infected with HIV will have babies born with AIDS			
16	People are likely to get HIV by deep kissing, putting their tongue in their partners' mouth, if their partner has HIV			
17	Having sex with more than one partner can increase a person's chance of being infected with HIV			
18	A person can get HIV from oral sex			
19	The window period is the period between HIV infection and when HIV is detected by HIV test			
<b>B</b>	<b>HIV testing</b>			
20	HIV testing is available for only those who are very sick			
21	Taking a test for HIV one week after having sex will tell a person if she or he has been infected with HIV			
22	It is not important for pregnant women to have an HIV test			
23	Children below 16 years can have HIV test without caregivers' consent			
<b>C</b>	<b>ART initiation</b>			
24	All HIV positive people (children and adults) are initiated ART immediately after they are diagnosed with HIV			
25	It is not important to provide counseling and adherence to			

	HIV positive people before ART initiation			
<b>D</b>	<b>ART Adherence</b>			
26	For ART to work properly it important to take medicine by 95% and above v			
27	Disclosure about HIV status does not help people living with HIV to have good adherence			
<b>E</b>	<b>Patient Monitoring</b>			
28	People who have been infected with HIV quickly show serious signs of being infected			
29	It is not important for HIV positive clients to attend their clinic visits as scheduled			
30	Community volunteers can see CD4 results of the clients using the patient card at home			

### Section III: CCWs' service delivery Practices

SN	Statements	Yes	No	No
<b>A</b>	<b>Need Assessment</b>			
31	Children with the below symptoms/signs are likely to be HIV infected (tick Yes, No or Do not know for each symptom/sign)			
	a Severe Malnutrition			
	b Headache			
	c Pulmonary Tuberculosis			
	d Fracture			
	e Child with recurrent skin diseases			
32	For all children who are HIV positive, I will ask them directly if they are aware of their HIV status.			
33	I will conduct need assessment during the first contact with them family			
34	I use the family and child asset assessment form to assess children needs only			
35	I use the HIV Risk, Service and Adherence Assessment form to asses overall Household needs.			
36	All families have their strengths and weaknesses			
<b>B</b>	<b>Care plan</b>			
37	I will force the caregiver who is HIV positive to start ART because it is for his/her own good			
38	After needs are identified, as CCW I prepare a care plan without involving the Caregiver and the child who understand things			
39	I will prepare one Care for each child in the household			
40	I oversee the implementation of a care plan and I update the care plan after one year			

41	All the activities that I do with the family will be documented in the care plan			
42	I will not share the care plan with the family because they might know what is next is decide not to participate			
43	I always review the care plan monthly			
44	I always review the care plan quarterly			
45	I always review the care plan semi annually			
46	I can track services properly without a care plan			
<b>C</b>	<b>Referrals</b>			
47	There is no need to fill in the referral form when issuing a referral			
48	When issuing a referral, I the CCW decide where should the caregiver and the child go for HIV services			
49	After issuing a referral, I will make a follow up to see if the caregiver and the child visited the health facility			
50	After issuing a referral I will follow up to see the referral feedback slips			
51	Health and other social service providers will fill in the referral feedback slips and give them to caregivers or OVC.			
52	I do not discuss with caregivers and OVC on possible obstacles for them to access different services because it is not important			
53	When I issue referrals, I accompany some OVC when their caregivers are not available			
54	For children below 16 years I always fill in a consent form before I take them for HIV testing when they are caregivers is not escorting them.			
55	I use the service directory to discuss with caregivers and OVC of where possible they can get the required services			
56	I do not confirm the availability of the services at the service delivery point before I issue the referral			

#### Section IV: Factors associated with CCWs' service delivery

57. What are things that motivate you to continue working as CCW? (*tick all that applies*)

- (1) I like volunteerism
- (2) Recognition by the community
- (3) Helping others (those with problems)
- (4) Wages I receive for being a CCW
- (5) Trainings I receive

58. What hinder your work as a CCWs (*tick all that applies*)

- (1) long distances

- (2) lack of transport
- (3) lack of working tools (including forms)
- (4) lack of working gadgets (rain coat, boots, bags)
- (5) lack of community acceptance for CCWs

59. Are you willing to continue working as CCWs? (*tick one*)

- (1) Yes
- (2) No
- (3) I do not know

60. If I get another good paying job, I will resign being a CCW (*tick one*)

- (1) Yes
- (2) No
- (3) I do not know

## 7.1 APPENDIX 2: DODOSO LA KISWAHILI

Uelewe juu ya ufanyakazi wa wahudumu wa kujitolea ngazi ya jamii kwa watoto wanaoishi katika mazingira hatarishi mkoa wa Dar es slaam

Tarehe: \_\_\_/\_\_\_/\_\_\_ (siku-mwezi-mwaka) Mtaa: \_\_\_\_\_

Kata: \_\_\_\_\_ Wilaya: \_\_\_\_\_

### Sehemu ya kwanza: Utambulisho

1. Jinsi yako ni
  - (1) Kiume
  - (2) Kike
2. Tarehe yako ya kuzaliwa? / /  (siku-mwezi-mwaka)
3. Hali ya ndoa? (*chagua moja*)
  - (1) Sijaolewa/sijaoa
  - (2) Nimeoa/nimeolewa
  - (3) Naishi na mwezi
  - (4) Nimetaliki
  - (5) Tumeachana
  - (6) Mjane/Mgane
4. Unaelimu ya kiwango gani? (*chagua moja*)
  - (1) Shule ya msingi
  - (2) Shule ya sekondari
  - (3) Chuo
  - (4) Chuo kikuu
  - (5) Sijasoma
5. Je ni shughuli gani inakuingizia kipatao? (*chagua yanayofaa*)
  - (1) Nimeajiriwa (ajira ya kudumu)
  - (2) Nimeajiriwa (ajira ya muda mfupi)
  - (3) Nimejiajiri
  - (4) Mama wa nyumbani
  - (5) Sina kazi
  - (6) Nimestaafu
  - (7) Kazi za kujitolea (ikiwemo na hii CCW)
  - (99) Nyingenezo, taja: \_\_\_\_\_
6. Ni kwa muda gani umefanya kazi kama muhudumu wa kujitolea ngazi ya jamii (CCW)? (*chagua moja*)
  - (1) Miezi mitatu
  - (2) Miezi minne hadi sita

- (3) Miezi saba hadi miezi kumi na mbili
- (4) Mwaka mmoja hadi miaka miwili
- (5) Miaka mitatu hadi miaka mitano
- (6) Miaka sita hadi miaka kumi
- (7) Zaidi ya miaka kumi

7. Ni mafunzo ya aina gani umewahi kupata? (*chagua yote yanayofaa*)

- (1) HBC-Mafunzo ya wahudumu wa VVU/UKIMWI (siku 14 - HBC)
- (2) Mafunzo ya watoa huduma wa kwenye jamii CHW (mafunzo ya mwaka mmoja)
- (3) Mafunzo ya wasaidizi ya afya ustawi ngazi ya jamii (Para social worker) (siku -14)
- (4) Mafunzo ya wahudumu wa afya ya mama na mtoto (MNCH)
- (5) Ushauri nasaha
- (6) Muhudumu wa kujitoea katika kituo cha afya
- (99) Nyingine, taja: \_\_\_\_\_

8. Je unahudumia kaya ngapi? (*chagua moja*)

- Kaya 1-5
- Kaya 6-10
- Kaya 11-15
- Kaya 16-20
- Kaya 21-25
- Kaya 26-30
- Kaya 31-40
- Kaya 41-50
- Kaya Zaidi ya 51

9. Je ni kaya ngapi ulizitembelea mwezi huu?? (*chagua moja*)

- Kaya zote
- Kaya nyingi kati ya nilizinazo (Zaidi ya nusu)
- Kaya chache kati ya nilizonazo (chini ya nusu)
- Sijatembelea kaya yoyote

10. Je ni kaya ngapi ulizitembelea ndani ya miezi nitatu iliyopita? (*chagua moja*)

- Kaya zote
- Kaya nyingi kati ya nilizinazo (zaidi ya nusu)
- Kaya chache kati ya nilizonazo (chini ya nusu)
- Sijatembelea kaya yoyote

11. Je ni mara ngapi umewahi kutembelewa na kiongozi wako au kiongozi wa serikalini ndani ya mwezi mmoja uliopita? (*chagua moja*)

- Mara moja
- Mara mbili
- Mara tatu

Sijawahi kutembelewa

12. Je ni mara ngapi umewahi kutembelewa na kiongozi wako au kiongozi wa serikalini ndani ya miezi mitatu iliyopita? (*chagua moja*)

- Mara moja  
 Mara mbili  
 Mara tatu  
 Sijawahi kutembelewa

### Sehemu ya pili: Uelewa juu ya VVU

*Sehemu hii inapoma uelwe ya juu ya VVO, toa taarifa ile unayoifahamu, usibashiri (chagua jibu moja tu kwa kila swali).*

SN	Swali	Kweli	Si kweli	Sifahamu
<b>A</b>	<b>Maambukizo ya VVU</b>			
12	Kondomu ya kike inaweza kupunguza uwezekano wa mwanamke kupata maambukizo ya VVU			
13	Mtu anaweza kupata maambukizo ya VVU kwa kushiriki vyombo vya kulia chakula na mtu aishiye na VVU			
14	Kuoga na kuosha sehemu za siri baada ya kujamiiana na mtu mwenye VVU kunaepusha mtu kupata maambukizo ya VVU			
15	Wajawazito wote wenye VVU huzaaa watoto wenye VVU pia			
16	Watu wanaweza kupata VVU kwa kubusu ndimi, kama wenzi wao wana VVU			
17	Kufanya ngono na mtu Zaidi ya mmoja kunaongeza uwezekano wa kupata maambuki ya VVU			
18	Mtu anaweza upata maambukizo ya VVU kwa kufanya ngono kupitia mdomo			
19	Kipindi tuli ni kipindi kati ya kuambukizwa VVU na kutambulika una maambukizi kwa kutumia vipimo vya hospitali.			
<b>B</b>	<b>Upimaji wa VVU</b>			
20	Upimaji wa VVU unapatikana kwa watu wale wanaoumwa sana tu			
21	Kufanya kupimo cha VVU baada ya kufanya ngono ndani ya wiki moja kutang'amua kama mtu huyo amepata maambukizi ya VVU			
22	Sio muhimu kwa wajawazito kufanya kipimo cha VVU			
23	Watoto chini ya miaka 16 wanaweza kwenda kufanya kipimo cha VVU bila ridhaa ya mzazi			

<b>C Uanzishwaji wa dawa za VVU (ARV)</b>				
24	Watu wote wanaoishi na VVU (watoto na watu wazima) wanapaswa kuanza dawa mara tu wakigundulika kuwa na VVU			
25	Sio muhimu kutoa unasihi kabla ya MVIU kuanza dawa			
<b>D Ufuasi wa dawa</b>				
26	Ili dawa zifanya kazi vizuri ni muhimu kwa MVIU kunywa dawa kwa Zaidi ya aslimia 95% na zaidi			
27	Kuweka wazi hali ya maambukizi ya VVU hakumsaidii MVIU kuwa na ufuasi mzuri wa dawa			
<b>E Ufuatiliaji wa WAVIU</b>				
28	Watu wote wanaopata maambukizi ya VVU huonyesha dalili za magonjwa haraka sana			
29	Sio muhimu kwa MVIU kuhudhuria kliniki kama alivyopangiwa			
30	CCW anaweza kuona kiwango cha CD4 kwenye kadi ambayo MVIU anayo nyumbani			

### Sehemu ya tatu: Utoaji wa huduma wa CCW

SN	Swali	Ndiyo	Hapana	Sijui
<b>A Tathmini ya mahitaji</b>				
31	Mtoto akiwa na dalili hizi hapa chini anakuwa na uwezekani mkubwa wa kuwa na VVU			
	a Utapiamlo mkali			
	b Kuumwa na kichwa			
	c Kifua kikuu			
	d Kuvunjika			
	e Mtoto mwenye mgonjwa ya Ngozi ya mara kwa mara			
32	Kwa watoto ambao wana VVU huwa nawauliza moja kwa moja wao wenyewe kama wanafahamu hali zao za VVU.			
33	Huwa nafanya tathmini ya mahitaji siku ile ya kwanza nnapokutana na kaya yenyewe uhutaji			
34	Huwa natumia fomu ya tathmini ya mahitaji ya kaya kufanya tathmini ya mahitaji ya mtoto tu.			
35	Huwa natumia dodoso la VVU, huduma na ufuaisi wa dawa kufanya tathmini ya kaya			
36	Familia zote zina uwezo na mapungufu			
<b>B Mpango wa huduma</b>				
37	Huwa nawalazimisha wazazi/walezi wenye maambukizi ya VVU kuanza dawa kwaajili ya faida zao wenyewe			
38	Baada ya kujua mahitaji yao, mimi kama CCW naadana mpango wa huduma bila kushirikisha mazazi/mlezi wala			



	mtoto			
39	Pia huwa naandaa mpango wa huduma kwa kila mtoto ndani ya kaya (kila mtoto na mpango wake wa huduma)			
40	Huwa nafaya ufuatikiaji wa mpango wa huduma na kuuhuisha moja kwa mwaka			
41	Kila shughuli ninayoifanya katika kaya huwa naijaza pia kwenye mpango wa huduma			
42	Huwa siwapi wala kuwaonyeha mpango wa huduma wanafamilia kwasababu watajua nini kitatokea huko mbele na hivyo kukataa kuendele kupata huduma kutoka kwangu			
43	Huwa napitia mpango wa huduma kila mwezi			
44	Huwa napitia mpango wa huduma kila robo mwaka			
45	Huwa napitia mpango wa huduma kila nusu mwaka			
46	Naweza kuendelea kutoa huduma za kila mwezi bila kuwa na mpango wa huduma			
<b>C</b>	<b>Rufaa</b>			
47	Hakuna sababu ya kujaa fomu ya rufaa waati wa kutoa rufaa			
48	Ninapotoa rufaa, mimi CCW huwa naamua wapi wateja wangu wanapaswa kwenda kwaajili ya huduma za VVU			
49	Baada ya kutoa rufaa, huwa nafuatilia kama kwa mtoto na mzazi amekwenda kwenda kituo cha afya kupata huduma husika			
50	Baada ya kutoa rufaa huwa nafuatilia kuhakikisha napata mrejesho wa rufaa hiyo			
51	Watoa huduma wa afya na huduma za kijamii huwa wanajaza mrejesho wa rufaa na kuwapatia watoto au wazazi/walezi			
52	Huwa sijadili na wazazi/walezi au watoto juu ya vikwazo mbalimbali vinavyoweza athiri upatikanaji wa huduma kwasababu sio muhimu			
53	Ninapotoa rufaa huwa nawasindikiza watoto kipindi ambacho wazazi hawapo			
54	Kwa watoto wa chnini ya miaka 16, huwa nampa mzazi ajaze ridha ya wao kwenda kupima VVU kama wazazi/walezi hao hawatawasindika kwenye kitua cha kutolea huduma			
55	Huwa natumia kitabu cha huduma kujadili na wazazi/walezi na watoto juu ya wapo pa kwenda kupata huduma			
56	Huwa siulizi kama huduma zinapatikana kabla ya kumpa mtu rufaa ya kwenda kwenye kituo hicho			

**Sehemu ya nne: Sababu zinazoweza athiri utoaji huduma wa CCWs**

57. Ni vitu gani vinavyoklupa chachu kuendelea kufanya kazi ya kujitolea? (*chagua yote yanayofaas*)

- (1) Napenda kujitolea
- (2) Napenda kutambulika na jami
- (3) Napenda kusaidia wengine hasa wenye matatizo
- (4) Malipo ninayopata kupitia kazi hii
- (5) Mafunzo mbalimbali nnayoyapata kupiti kuwa CCWs

58. Je ni vikwanzo gani vinakwamisha kazi zako za kila siku? (*chagua yote yanayofaa*)

- (1) Umbali mrefu
- (2) Ukosefu wa usafiri
- (3) Upatiakanaji mgumu wa fomu
- (4) Ukosefu wa vifaa vya kazi kama makoti ya mua na mabegi
- (5) Kutokukubalika kwenye jamiii

59. Je uko tayari kuendele ana kazi hii ya kujitolea? (*chagua moja*)

- (1) Ndiyo
- (2) Hapana
- (3) Sijui

60. Kama ukipata kazi nyingine inayolipa Zaidi, utaacha kufanya kazi hii? (*chagua moja*)

- (1) Ndiyo
- (2) Hapana
- (3) Sijui

**7.2 APPENDIX 3: INFORMED CONSENT ENGLISH VERSION**

**Introduction:** My name is Asheri Barankena I’m working on this research project with the objective of understanding community case workers’ HIV service delivery practices to orphans and vulnerable children in Dar es salaam, Tanzania. We will be interviewing Community case workers who are providing services to OVC households in Dar es salaam.

**Purpose of the study**

The purpose of the interview is to collect information from Community case workers who are providing services to OVC households in Dar es salaam. The findings of this study will help the principal investigator to write a dissertation which is a partial fulfilment of Master of Public Health for the academic year 2017/2018

If you agree to participate in this study the following will occur:

You will sit with interviewer and answer questions.

You will be interviewed only once for approximately 20-30 minutes.

**Confidentiality and consent:**

I’m going to ask you some questions. Your answers are completely confidential. Your name will not be written on this form and will never be used in connection with any of the information you tell me. Your honest answers to these questions will help us to understand HIV service delivery to OVC and its associated factors. Can I go ahead? We would greatly appreciate your help in responding to this survey. The interview will take about 20-30 minutes. Are you willing to participate?”

**Who to contact?**

If you ever have questions about this study, you should contact Principal Investigator Asheri Barankena -mobile 0713632181, Muhimbili University of Health and Allied Sciences (MUHAS), P.O. Box 65001, Dar es Salaam.

If you have questions about your right as a participant, you may contact **Chairman of the College Research and Publications Committee Dr. Bruno Sunguya, Dar es Salaam, P.O. Box 65001, Dar es Salaam. Tel: 2150302-6 and Dr Gloria Sakwari – supervisor, phone number 0767591202.**

**Agreement of the Participant**

Do you agree?

es  
 no

I .....Have read and understood the contents in this form. My questions have been answered. I agree to participate in this study.

Signature of participants .....

Signature of research assistant.....

Date of signed consent .....

### 7.3 APPENDIX 4: INFORMED CONSENT KISWAHILI VERSION CHUO KIKUU CHA AFYA NA TIBA MUHIMBILI

#### FOMU YA RIDHAA

Namba ya Utambulisho .....

#### **Ridhaa ya Kushiriki katika utafiti huu**

Habari! Naitwa ..... ni mkusanya takwimu katika utafiti huu wenye lengo la kuangalia utoaji huduma kwa watoto waliofiwa na mzazi/wazazi na wanaoishi na katika mazingira hatarishi zaidi katika mkoa wa Dar es salaam.

#### **Malengo ya Utafiti**

Utafiti huu una lengo la kukusanya taarifa zihusuzo utoaji huduma kwa watoto waliofiwa na mzazi/wazazi na wanaoishi na katika mazingira hatarishi zaidi mkoani Dar es salaam. Unaombwa kushiriki katika utafiti huu.

#### **Ushiriki.**

Ukikubali kushiriki katika utafiti huu yafuatayo yatatokea:

1. Utapewa maelekezo na mtafiti namna ya kujaza dodoso, utaulizwa maswali na muuliza maswali atajaza dodoso kwa muda wako wa dakika 20 hadi 30.
2. Hakuna taarifa zozote za utambulisho tutakazokusanya wakati wa usaili isipokua umri, kiwango cha elimu na hali yako ya ndoa.

#### **Usiri**

Nakuhakikishia kwamba taarifa zote zitakazokusanywa kutoka kwako zitakuwa ni siri, ni watu wanaofanya kazi katika utafiti huu tu ndio wanaweza kuziona taarifa hizi. Hatutaweka jina lako au taarifa yoyote ya utambulisho kwenye kumbukumbu za taarifa utakazotupa.

#### **Madhara**

Utaulizwa maswali juu ya ufahamu wako kuhusu sababu zinazohusishwa na utoaji huduma kwa watoto waliofiwa na mzazi/wazazi na wanaoishi na katika mazingira hatarishi zaidi katika mkoa wa Dar es salaam

#### **Haki ya kujitoa na mbadala wowote**

Kushiriki katika utafiti huu ni uchaguzi wako, kama utachagua kutokushiriki au utaamua kusimamisha kushiriki hutapata madhara yoyote. Unaweza kusimamisha kushiriki katika tafiti hii muda wowote hata kama ulisharidhia kushiriki. Kukataa kushiriki au kujitoa katika utafiti hakutasababisha adhabu yoyote au upotevu wa faida yoyote unayotakiwa kupata.

**Endapo Utadhurika;**

Hatutegemi madhara yoyote kutokea kwa kushiriki kwako katika utafiti huu.

**Watu wa kuwasiliana nao:**

Kama una maswali katika utafiti huu unaweza kuwasiliana na mratibu mkuu wa utafiti Asheri Barankena, Chuo Kikuu cha Muhimbili, S.L. P. 65001, Dar es Salaam (Simu. no.0713632181). Kama utakuwa na maswali yoyote kuhusu haki zako kama mshiriki unaweza kupiga simu kwa **Mwenyekiti wa kamati ya chuo ya utafiti na machapisho Dk. Bruno Sunguya, simu namba 2150302-6 na S.L.P 65001, Dar es Salaam. Simu namba: 2150302-6 na Dr Gloria Sakwari msimamizi mkuu simu ya mkononi 0767591202.**

**Sahihi**

Unakubali?

Mshiriki ameku

Mshiriki ameka

Mimi \_\_\_\_\_ nimesoma/nimeielewa hii fomu, maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Sahihi ya mshiriki \_\_\_\_\_

Sahihi ya shahidi (kama hawezi kusoma na kuandika) \_\_\_\_\_

Sahihi ya mtafiti \_\_\_\_\_

Tarehe ya makubaliano \_\_\_\_\_

## 7.4 APPENDIX 5: APPROVAL OF ETHICAL CLEARANCE

### MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES

P.O. Box 65001  
DAR ES SALAAM  
TANZANIA  
Web: [www.muhas.ac.tz](http://www.muhas.ac.tz)



Tel G/Line: +255-22-2150302/6 Ext. 1015  
Direct Line: +255-22-2151378  
Telefax: +255-22-2150465  
E-mail: [dpgs@muhas.ac.tz](mailto:dpgs@muhas.ac.tz)

Ref. No. DA.287/298/01A/

2nd November 2018

Mr. Asheri Barankena  
MPH-Distance Learning  
**MUHAS.**

**RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED:  
"UNDERSTANDING COMMUNITY CASE WORKER'S HIV SERVICE  
DELIVERY COMPETENCE TO ORPHANS AND VALNERABLE CHILDREN  
IN DAR ES SALAAM, TANZANIA"**

Reference is made to the above heading.

I am pleased to inform you that, the Chairman has, on behalf of the Senate, approved ethical clearance for the above-mentioned study. Hence you may proceed with the planned study.

The ethical clearance is valid for one year only, from 31st October, 2018 to 30th October 2019. In case you do not complete data analysis and dissertation report writing by 30th October, 2019, you will have to apply for renewal of ethical clearance prior to the expiry date.

Dr. Bruno Sunguya  
**ACTING: DIRECTOR OF POSTGRADUATE STUDIES**

cc: Director of Research and Publications  
cc: Dean, School of Public Health and Social Sciences

## 7.5 APPENDIX 6: SUPPLEMENT RESULTS

**Table 9. Individual responses on HIV SDP questions**

A total of 414 individual responded to questions on HIV Service delivery practices. Below is the distribution of answers to each question. Each question was responded with Yes, No or I don't know.

Need Assessment	Number of respondents	% responded		
		YES	NO	DON'T KNOW
<b><u>Children with the below symptoms/signs are likely to be HIV infected (Symptoms)</u></b>				
Severe Malnutrition	414	44.9	50.7	4.4
Headache	414	14.7	78.0	7.3
Pulmonary Tuberculosis	414	74.6	21.0	4.4
Fracture	414	2.4	94.4	3.1
Child with recurrent skin diseases	414	72.2	24.2	3.6
For all children who are HIV positive, I will ask them directly if they are aware of their HIV status.	414	21.5	60.1	18.4
I will conduct need assessment during the first contact with them family	414	74.6	23.9	1.5
I use the family and child asset assessment form to assess children needs only	414	51.0	48.1	1.0
I use the HIV Risk, Service and Adherence Assessment form to asses overall Household needs.	414	80.4	17.4	2.2
All families have their strengths and weaknesses	414	67.9	31.2	1.0
Care plan development	Number of respondents	% responded		
		YES	NO	DON'T KNOW
I will force the caregiver who is HIV positive to start ART because it is for his/her own good	414	55.3	44.2	0.5
After needs are identified, as CCW I prepare a care plan without involving the Caregiver and the child who understand things	414	9.2	90.6	0.2
I will prepare one Care for each child in the household	414	95.4	4.1	0.5

I oversee the implementation of a care plan and I update the care plan after one year	414	32.6	65.5	1.9
All the activities that I do with the family will be documented in the care plan	414	70.1	29.0	1.0
I will not share the care plan with the family because they might know what is next is decide not to participate	414	21.0	77.5	1.5
I always review the care plan monthly	414	30.0	69.6	0.5
I always review the care plan quarterly	414	87.0	12.6	0.5
I always review the care plan semi annually	414	47.8	50.7	1.5
I can track services properly without a care plan	414	61.6	37.7	0.7
		<b>% responded</b>		
	<b>Number of respondents</b>	<b>YES</b>	<b>NO</b>	<b>DON'T KNOW</b>
There is no need to fill in the referral form when issuing a referral	414	7.3	91.3	1.5
When issuing a referral, I the CCW decide where should the caregiver and the child go for HIV services	414	66.4	33.1	0.5
After issuing a referral, I will make a follow up to see if the caregiver and the child visited the health facility	414	97.6	2.4	0.0
After issuing a referral I will follow up to see the referral feedback slips	414	95.7	3.6	0.7
Health and other social service providers will fill in the referral feedback slips and give them to caregivers or OVC.	414	64.7	33.6	1.7
I do not discuss with caregivers and OVC on possible obstacles for them to access different services because it is not important	414	13.0	85.0	1.9
When I issue referrals, I accompany some OVC when their caregivers are not available	414	84.5	1.9	1.9
For children below 16 years I always fill in a consent form before I take them for HIV testing when they are caregivers are not escorting them.	414	75.1	22.0	2.9
I use the service directory to discuss with caregivers and OVC of where possible they can get the required services	414	81.4	2.9	3.1



I do not confirm the availability of the services at the service delivery point before I issue the referral	414	15.9	81.4	2.7
---	-----	------	------	-----

**Table 10. Correct responses on HIV SDP questions**

A total of 414 individuals responded to HIV Service delivery practices questions and below is the percentage distribution of the correct responses for each HIV Service delivery practices question.

Statements	Answers	% CCWs who answered correctly
<b>Need Assessment</b>		
Children with the below symptoms/signs are likely to be HIV infected (tick Yes, No or Do not know for each symptom/sign)		
a   Severe Malnutrition	Yes	44.9
b   Headache	No	78.0
c   Pulmonary Tuberculosis	Yes	74.6
d   Fracture	No	94.4
e   Child with recurrent skin diseases	Yes	72.2
For all children who are HIV positive, I will ask them directly if they are aware of their HIV status.	No	60.1
I will conduct need assessment during the first contact with them family	Yes	74.6
I use the family and child asset assessment form to assess children needs only	No	48.1
I use the HIV Risk, Service and Adherence Assessment form to asses overall Household needs.	No	17.4
All families have their strengths and weaknesses	Yes	67.9
<b>Care plan development</b>		
I will force the caregiver who is HIV positive to start ART because it is for his/her own good	No	44.2
After needs are identified, as CCW I prepare a care plan without involving the Caregiver and the child who understand things	No	90.6
I will prepare one Care for each child in the household	Yes	95.4
I oversee the implementation of a care plan and I update the care plan after one year	No	65.5
All the activities that I do with the family will be documented in the care plan	Yes	70.1
I will not share the care plan with the family because they might know what is next is decide not to participate	No	77.5
I always review the care plan monthly	No	69.6
I always review the care plan quarterly	Yes	87.0
I always review the care plan semi annually	No	50.7

I can track services properly without a care plan	No	37.7
<b>Referral issuance</b>		
There is no need to fill in the referral form when issuing a referral	No	91.3
When issuing a referral, I the CCW decide where should the caregiver and the child go for HIV services	No	33.1
After issuing a referral, I will make a follow up to see if the caregiver and the child visited the health facility	Yes	97.6
After issuing a referral I will follow up to see the referral feedback slips	Yes	95.6
Health and other social service providers will fill in the referral feedback slips and give them to caregivers or OVC.	Yes	64.7
I do not discuss with caregivers and OVC on possible obstacles for them to access different services because it is not important	No	85.0
When I issue referrals, I accompany some OVC when their caregivers are not available	Yes	84.5
For children below 16 years I always fill in a consent form before I take them for HIV testing when they are caregivers are not escorting them.	Yes	75.1
I use the service directory to discuss with caregivers and OVC of where possible they can get the required services	Yes	81.4
I do not confirm the availability of the services at the service delivery point before I issue the referral	No	81.4

#### Knowledge on HIV prevention and Transmission

A total of 414 individual responded to questions about HIV/AIDS knowledge. Below is the distribution of answers to each question. Each question was responded with True, False or I don't know. Responses on HIV/AIDS knowledge is presented in the following tables: Table 9 knowledge on prevention and transmissions, Table 10 knowledge on HIV Testing, ART initiation, and ART Adherence; and Table 11 knowledge on Patient Monitoring.

Table 11. Individual responses on HIV/AIDS prevention and Transmission  
**knowledge questions**

	Number of respondents	% responses		
		TRUE	FALSE	DONT KNOW
There is a female condom that can help decrease a woman's chance of getting HIV	414	75.6	6.8	17.6
A person can get HIV by sharing a glass of water with someone who has HIV	414	3.1	96.1	0.7
Showering or washing ones' genitals/private parts after sex keeps a person from getting HIV	414	6.8	87.0	6.3
All pregnant women infected with HIV will have babies born with AIDS	414	3.4	95.9	0.7
People are likely to get HIV by deep kissing, putting their tongue in their partners' mouth, if their partner has HIV	414	64.0	29.0	7.0
Having sex with more than one partner can increase a person's chance of being infected with HIV	414	89.1	8.7	2.2
A person can get HIV from oral sex	414	62.8	26.8	10.4
The window period is the period between HIV infection and when HIV is detected by HIV test	414	40.3	19.1	40.6
<b>Knowledge on HIV Testing, ART initiation, and ART Adherence</b>				
	Number of respondents	% responses		
		TRUE	FALSE	DONT KNOW
<b><u>HIV Testing</u></b>				
HIV testing is available for only those who are very sick	414	1.9	97.8	0.2
Taking a test for HIV one week after having sex will tell a person if she or he has been infected with HIV	414	21.3	72.0	6.8
It is not important for pregnant women to have an HIV test	414	2.7	97.1	0.2
Children below 16 years can have HIV test without caregivers' consent	414	39.9	57.7	2.4
<b><u>ART Initiation</u></b>				
All HIV positive people (children and adults) are initiated ART immediately after they are diagnosed with HIV	414	94.2	5.3	0.5
It is not important to provide counseling and adherence to HIV positive people before ART initiation	414	10.1	86.0	3.9

**ART Adherence**

For ART to work properly it important to take medicine by 95% and above	414	89.1	3.4	7.5
Disclosure about HIV status does not help people living with HIV to have good adherence	414	31.2	65.7	3.1

**Knowledge on Patient Monitoring**

	Number of respondents	% responses		
		TRUE	FALSE	DON'T KNOW
People who have been infected with HIV quickly show serious signs of being infected	414	11.59	86.71	1.69
It is not important for HIV positive clients to attend their clinic visits as scheduled	414	3.62	95.41	0.97
Community volunteers can see CD4 results of the clients using the patient card at home	414	55.07	38.41	6.52

**Table 12. Correct responses on HIV/AIDS knowledge**

A total of 414 individuals responded to HIV/AIDS knowledge questions and below is the percentage distribution of the correct responses for each HIV/AIDS question.

Statements	Answers	% CCWs who answered correctly
<b>HIV prevention and Transmission</b>		
There is a female condom that can help decrease a woman's chance of getting HIV	T	75.6
A person can get HIV by sharing a glass of water with someone who has HIV	F	96.1
Showering or washing ones' genitals/private parts after sex keeps a person from getting HIV	F	87.0
All pregnant women infected with HIV will have babies born with AIDS	F	95.9
People are likely to get HIV by deep kissing, putting their tongue in their partners' mouth, if their partner has HIV	T	64.0
Having sex with more than one partner can increase a person 's chance of being infected with HIV	T	89.1
A person can get HIV from oral sex	T	62.8
The window period is the period between HIV infection and when HIV is	T	40.3

detected by HIV test		
<b>HIV testing</b>		
HIV testing is available for only those who are very sick	F	97.8
Taking a test for HIV one week after having sex will tell a person if she or he has been infected with HIV	F	72.0
It is not important for pregnant women to have an HIV test	F	97.1
Children below 16 years can have HIV test without caregivers' consent	F	57.7
<b>ART initiation</b>		
All HIV positive people (children and adults) are initiated ART immediately after they are diagnosed with HIV	T	94.2
It is not important to provide counseling and adherence to HIV positive people before ART initiation	F	86.0
<b>ART Adherence</b>		
For ART to work properly it important to take medicine by 95% and above	T	88.9
Disclosure about HIV status does not help people living with HIV to have good adherence	F	65.7
<b>Patient Monitoring</b>		
People who have been infected with HIV quickly show serious signs of being infected	F	86.7
It is not important for HIV positive clients to attend their clinic visits as scheduled	F	95.4
Community volunteers can see CD4 results of the clients using the patient card at home	T	55.1