

Community-based HIV services during Differentiated Service Delivery Models: a cross-sectional survey from nine regions in Tanzania

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Abstract

Introduction: To combat the HIV epidemic and reach the 90-90-90 goals, community-based HIV/AIDS services (CHBS) plays a great role. However, how well CHBS works in the era of adopting differentiated service delivery models for care and treatment has not been adequately evaluated. We hence assessed CBHS programs implemented by various partners with a focus on the coverage; program needs; linkage and referral process; consistent use of guidelines and training curricula and challenges faced by providers and clients.

Methods: It was a cross-sectional study conducted in July 2020 in 9 regions using both quantitative and qualitative methods. Quantitative data were analyzed using STATA version 12 and qualitative data were managed using Thematic Content Analysis.

Results: Twenty six implementing partners were offering CBHS in biomedical, behavioral, and structural areas. Their focus was on PLHIV, orphans, and key and vulnerable populations. The majority of PLHIV had a positive perception of different CBHS. Key factors in the perceived effectiveness of community HIV services were the consistent use and availability of guidelines and training curricula, standard operating procedures, and readiness of essential commodities and supplies. Out of 1391 PLHIV who were involved, 67.4% and 25.0% were tested at the health facility and communities respectively. About 69.8% were referred after confirming their seropositivity and forms were not given to about 57.5% when referred from health facilities to communities for CBHS. There was a deficit of 45% in health workers across different cadres, a deficit in all categories of supplies and equipment example the HIV test kit by 53.8%. Challenges for CBHS included financial hindrances, HIV-related stigma, and discrimination, distance to health facilities, and poor incentives for community health workers.

Conclusion: it is important to address HIV-related stigma hence accelerating efforts to limit the spread of the HIV epidemic in the respective communities.

Keywords: Community, HIV, CHWs, CBHS, services, Tanzania

Introduction

More than one million and a half were reported to be living with HIV in Tanzania in 2019, with about 77,000 new HIV infections and 27,000 AIDS-related deaths (AVERT; 2018). Significant

progress has been made to control the HIV epidemic.

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Despite the progress made, HIV care and treatment program are still challenged by late and low enrolment and retention in care and treatment services (Rosen S et al 2011, Abebe M et al 2011, Rosen S et al 2007, MacKellar D A et al 2016). National Accelerated Action Plan on HIV testing services indicates that in 2019 more than 546,000 PLHIV did not know their serostatus in the community (NACP 2018).

This study was, therefore, conducted to assess how well community-based HIV service programs work in the country and to inform the development of a model and package of HIV care services. Specifically, the study aimed to well community 1) map the community-based HIV/AIDS services with a focus on their geographic coverage, the cadre, and level of training of service providers, the type of services provided, the number of clients served and their outcomes, 2) to assess current community HIV/AIDS services needs and capacities including consistency of used guidelines and training curriculums provided across implementing partners, 3) to determine the clients', health service providers, and implementers' perceptions on each of the existing HIV community-based interventions and their roles in the era of DSDM.

Methods

It was a cross-sectional study that was undertaken in July 2020 by using both quantitative and qualitative methods. A total of nine regions were stratified by HIV prevalence levels where Kilimanjaro, Mtwara, Singida, and Morogoro were randomly picked from regions with low HIV prevalence, and Kagera, Mbeya, Tabora, Njombe, and Dar-es-Salaam from regions with high HIV prevalence. Qualitative data collection involved key informant interviews at the national, regional, district and community levels, focus group discussions, and documentary reviews.

The sample size for PLHIV was calculated using the random formula, $n = [DE(Z_2p(1-p))] / e^2$, and a minimum of 1350 was obtained, by applying the following parameters and assumptions: $Z=1.96$, the value of standard normal distribution at 95% confidence level; $P=50\%$, a proportion of PLHIV with positive perception on at least one community intervention delivered by community health workers. For health care providers, a convenient sample of 162 HCP was selected where in each facility we interviewed Health Care Providers working in CTC and CTC/facility in-charges. At least three HCP were from each selected health facility thus, 9 and 18 HCP were selected and interviewed from each district and region respectively.

Thirty-six KIIs, 18 IDIs, and eight FGDs were conducted with purposively selected respondents from the selected study areas. These included CBHS providers, in-charges of health facilities linking with CBHS programs, implementing partners, CBHS focal persons at donor organizations, NACP focal persons, and Regional and District AIDS Coordinators, four FGDs were conducted with the target groups living with HIV, and In-depth interviews with target groups from PWIDs, FSW, pregnant women, OVC, and adults living with HIV.

Data management

The complete quantitative dataset was downloaded in a Comma Separated Value format and exported to Stata version 15 (STATA Corp Inc., TX, USA) for cleaning and analysis. Bivariate analysis was done to compare the primary indicators per objective. We used Classical or Modified Poisson Logistic Regression analysis to assess factors associated with a negative perception of community-based HIV services among PLHIV and health service providers.

The transcribed and translated interviews for qualitative data were arranged into codes that formed categories, which were further arranged into a theme if they referred to a similar response. Two researchers separately analyzed the transcripts using pre-defined

codes and categories and later triangulated the confirmed themes.

Results

A total of 1391 PLHIV were enrolled, and out of them, 51.6% were from urban areas and the majority were female (72.2%). Most (70.5%) of respondents were of reproductive age (15 to 49 years). The mean age of all PLHIV was 40.1 years (SD 14.1). The majority of PLHIV were adults (72.5%), youth/adolescents (9.5%),

Orphaned and vulnerable children (6.1%), Pregnant women (3.2%), People Who Inject Drugs (1.9%), Sex Workers (6.1%) and chronically ill clients (0.9%). About two-thirds (61.1%) had completed primary school and over one-third were either peasants (34.8%) or self-employed (34.2%). Slightly more than half (57.5%) of PLHIV perceived their household income level as moderate and over one-third (38.5%) as poor (Table 1).

Table 1: Demographic characteristics of study participants

Variable	Rural, n (%)	Urban, n (%)	Total, n (%)
Total	673 (48.4)	718(51.6)	1391(100.0)
Types of respondents			
HIV positive adult	507 (75.3)	502 (69.9)	1009 (72.5)
Youth/Adolescents living with HIV	64 (9.5)	68 (9.5)	132 (9.5)
Pregnant woman	25 (3.7)	19 (2.6)	44 (3.2)
Orphaned and vulnerable children	36 (5.4)	49 (6.8)	85 (6.1)
People Who Inject Drugs (PWIDs)	10 (1.5)	17 (2.4)	27 (1.9)
Sex Workers (SWs)	25 (3.7)	59 (8.2)	84 (6.1)
Chronically ill clients	6 (0.9)	4 (0.6)	10 (0.7)
Sex			
Male	195 (29.0)	191 (26.6)	386 (27.7)
Female	478 (71.0)	527 (73.4)	1005 (72.3)
Age group			
10-14	25 (3.7)	36 (5.0)	61 (4.4)
15-19	28 (4.2)	35 (4.9)	63 (4.6)
20-24	39 (5.8)	55 (7.7)	94 (6.8)
25-49	400 (59.7)	423 (59.2)	823 (59.2)
50+	178 (26.6)	166 (23.2)	344 (24.7)
Education level			
None	176 (26.2)	185 (25.8)	361(26.0)
Primary	410 (60.9)	441 (61.4)	851(61.2)
Secondary	72 (10.7)	74 (10.3)	146(10.5)
College	15 (2.2)	18 (2.5)	33(2.4)
Occupation			
Employed	20 (3.0)	55 (7.7)	75(5.4)
Self-employed	187 (27.8)	289 (40.2)	476(34.2)
Peasant	330 (49.0)	154 (21.4)	484(34.8)
Student	45 (6.7)	63 (8.8)	108(7.8)
Others	91 (13.5)	157 (21.9)	248(17.8)
Marital status			
Married	300 (44.6)	247 (34.4)	547(39.3)
Not married	373 (55.4)	471 (65.6)	844(60.7)
Perceived household income level			
Poor	245 (36.4)	291 (40.6)	536(38.5)
Moderate	402 (59.7)	398 (55.4)	800(57.5)
Rich	6 (0.9)	5 (0.7)	11(0.8)
Not sure	20 (3.0)	24 (3.3)	44(3.2)

Coverage and type of services offered by IP with their source of funds.

Biomedical, structural and behavioral interventions were the main areas where HIV services are largely implemented. There were a total of 18 IPs offering biomedical interventions, 20 behavioral interventions, and 20 structural interventions. Coverage of these services varies across districts, the number of IPs offering particular services, and sources of funds. Whereas each of these services had multiple sources of funds. Supporting these are the Government of Tanzania, Global Fund, CDC, PEPFAR, USAID, Catholic Church, Salha Foundation, and sometimes via donations, well-wishers through fundraising.

During qualitative interviews, respondents acknowledged the general availability of HIV services at the community level which included education on prevention, tracing new clients, supporting OVC, providing education to youths living with HIV, tracing lost to follow-up,

supporting FSW, providing HIV testing to PWID, education to pregnant women on the importance of starting clinic early to know their health status and register for the PMTCT service.

Distribution of Implementing Partners across regions

26 implementing partners were offering particular services across the study regions. The number of IPs implementing CBHS ranged from one in Kagera and seven in Morogoro and Dar es Salaam regions. While Njombe, Kagera, and Singida regions lacked IPs for offering specific services, Dar es Salaam and Morogoro had seven and six IPs providing behavioural services respectively. Kagera and Njombe regions each had no IPs offering behavioral services. Structural services were offered in all regions except Kagera and Singida regions (as shown in figure 1 below).

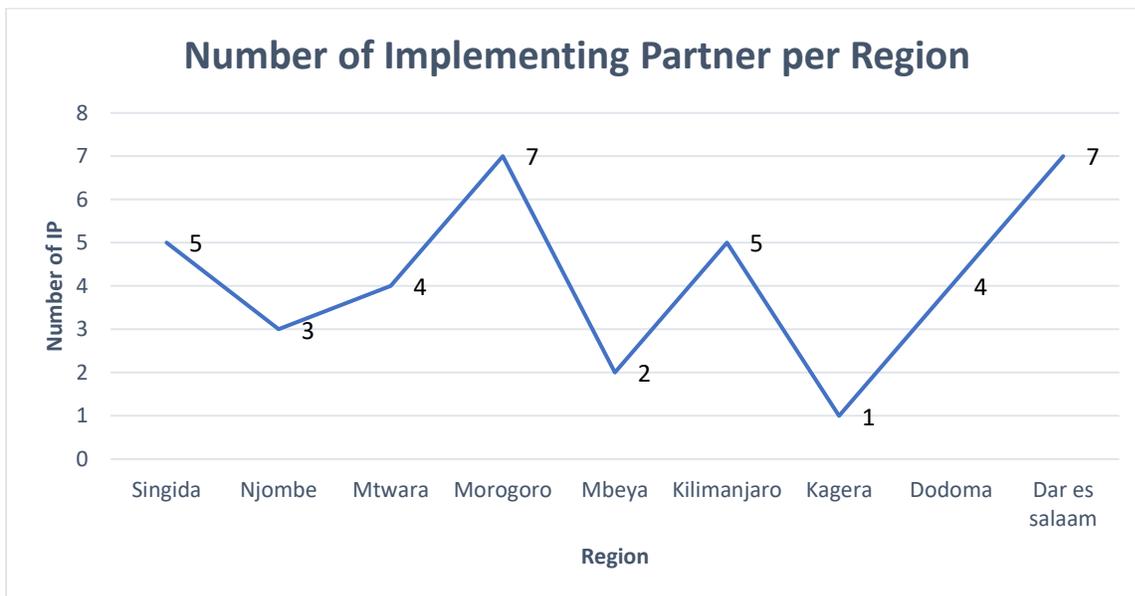


Figure 1: Number of Implementing Partners across regions

Ascertaining that (figure 2), reviewed reports indicate an increased number of clients served after Differentiated Services. In the country. In 2018/2019 for instance, biomedical services

were offered to 1,003,114 clients, thus an increase of 81.9% as compared to 2016/2017 which was offered to 221,772 clients. Behavioral services were delivered to 539,218

clients in 2018/2019 an increase of 75.7% from 172,746 clients reported in 2016/2017. The same trend was observed in structural services, whereby services were delivered to 124,547

clients as compared to 2016/2017 when such services were offered to 49,068 clients across the study regions.

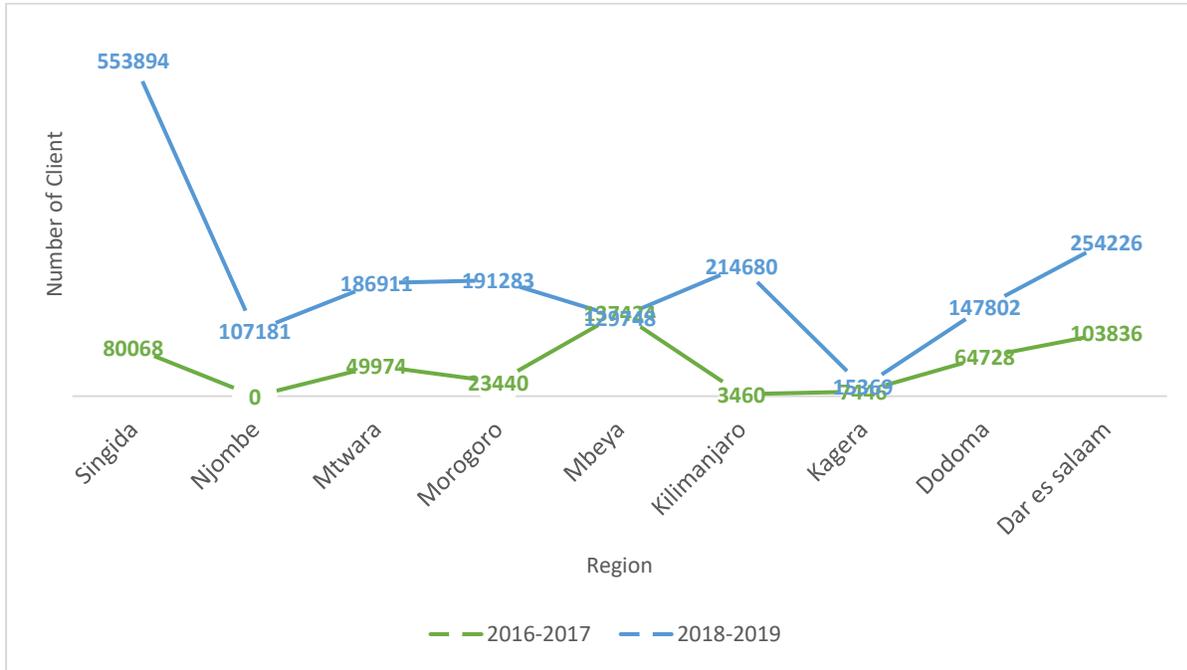


Figure 2: Number of clients served after Differentiated Services

Implementing Partner program outcomes/outputs achievement

From January 2016 to December 2019, 82% of IPs indicated a general achievement of more than 75%. Furthermore, 64% of them had achieved more than 75% of their expected outputs.

Target population and type of carder providing community HIV services.

Community HIV services were being provided to all clients in need. Moreover, most of the beneficiaries were female sex workers, injectable drug users, men who have sex with men, and orphaned and vulnerable children living with HIV /AIDS. Community-based HIV services are provided by different cadres of service providers such as CHWs, CBHSP, Community care workers, Peer Educators, Nurses, Clinicians, Lay Counsellors, and Parasocial workers.

Community HIV/AIDS services programs' needs and capacities

There was a diverse deficit in particular areas, for instance, skilled human resources reported a deficit of 45% across different cadres e.g. 17.5% deficit of para social workers and 43.5% for CBHS providers. On supplies and equipment, there was a deficit of HIV test kits by 53.8%; condoms by 39.9%, guidelines by 35.9%, and; tents by 35.7%. Transport (vehicles) by 34.6% and IEC materials by 52.0%. Supervision of CBHS programs had a 21.1% excess of supervisory visits/frequencies required per year.

Training to service providers and use of guidelines

Respondents acknowledged that CHWs have received some form of training as one of the main requirements to professionally perform their duties. The training was either short or long-term depending on the availability of

resources. There are guidelines for services provided and are used and referenced during the provision of HIV/AIDS services both in the communities and facilities.

HIV counselling, testing services

Overall, two-thirds (67.4%) of 1391 respondents tested for HIV at the health facility, while a quarter of them, 25.0% tested in the community. Among respondents who tested in the community, most of them reported that the test was performed at home (50.9%, n=1177). Female respondents were more likely to be tested at home compared to their male counterparts (54.4% vs 41.9%). Furthermore, those who reside in rural areas were more likely to be tested at home compared to those in urban (63.6% vs 38.9%) respectively. The majority of those who tested were persuaded to test by healthcare workers (56.4%) and others by a community health worker (18.3%).

Challenges to the availability and utilization of the community-based HIV/AIDS services

PLHIV respondents reported several reasons for failing to access HIV services. Among these are financial setbacks, HIV-related stigma and discrimination, distance to health facilities, poor incentives to community health workers, shortage of workforce, and lack of HIV drugs and supplies among several challenges in the implementation of community HIV services. Distance and lack of fare also were mentioned as other challenges facing PLHIV, some clients come from far for care and treatment services, they travel long distances some of them are old, have difficulties in walking, and have no cash to pay, and even to buy food.

Linkage process

About 69.8% (n=1306) of respondents were given referrals after they were found to be HIV positive. The majority of the respondent 75.6% (n=512), from Urban settings, were more likely to be referred compared to those of rural settings. Many of the respondents 57.5% (n=751), were not given referral forms,

especially when were referred from facility to community-based services with a significantly less proportion among males compared to females. Almost half 49.8% (n=650) of the respondents were not given a chance to choose a support group for other community-based HIV services and nearly a quarter 23.9% (n=650), of the healthcare worker chose for them.

Furthermore, more than half 59.2% (n=773) weren't referred to a facility for care and treatment or other services. However, among those referred 98.7% (n=526) of them were able to reach the referral facility. On the other hand, few of those who failed to go to the referred facility common reasons were transport costs 42.9% (n=3), fear of stigma and discrimination 28.6% (n=2), and there was no one to escort me 14.3% (n=1). The majority 56.5% (n=297) of respondents were self-referred to CTC; the rest were escorted by healthcare workers 12.6% (n=66) and 8.7% (n=46) by CHW.

Consistent use of guidelines and training curricula for Community based HIV services by implementing partners

Implementing Partners used various training guidelines and curricula for training the CBHSPs. The use of the National HIV Guideline of 2019 and the National Guideline for Comprehensive package of HIV Intervention for Key and Vulnerable populations was reported by all IPs. For instance, ICAP has a training curriculum for health workers on Adolescent HIV care and treatment. It has 16 modules; the 12 Module about Community Linkage and Adolescent involvement is linked to the national documents. Ascertaining that, EGPAF has SOPs for missed clinics and loss to follow-up tracking and Linkage which also refers to the National HIV Guideline of 2019. The other mostly referenced document by IPs was the HIV-AIDS Strategic plan of 2017-2022, especially on the curriculum of CHWs who are oriented to carry out multiple activities in different health service areas.

The consistency of the user guidelines was further acknowledged during qualitative interviews. Implementers from some of the visited regions e.g., MELDMEI, HACOCA, and Boresha Afya reported that guidelines for services provided are in place and are used and referenced during the provision of HIV/AIDS services. A few of the mentioned topics that are mostly referred from those guidelines include issues on infectious diseases, male involvement, the guideline for people living in vulnerable environments, and for gender and equity issues. Following the response to the HIV epidemic, the Government of Tanzania introduced a new cadre of CHW, known as Community Based Health Care Service Providers. All CBHSPs are trained using the CBHS training curricula that were developed by the MoHCDGEC via NACP and the CHWs are

trained for one year using the curriculum developed by NACTE.

Participants' perceptions of community-based HIV services

The majority of HIV clients had positive perceptions of different HIV community-based interventions (Table 3). More than 90% of clients expressed that the CBHS program has helped to increase access to care (92.7%, n=1290); has facilitated clients to stay on treatment (93.9%, n=1306); has helped clients to use their medication very well (97.3%, n=1353); has improved the self-esteem of PLHIV (93.0%, n=1294); has reduced the burden of opportunistic infections (OIs) among PLHIV (94.3%, n=1312); has reduced the risk of infecting their partners (90.6%, n=1261) and; has improved care to PLHIV (92.2%, n=1283).

Table 3: Proportion of HIV clients who expressed positive perception toward different HIV community-based interventions

Variable	N	Male, n (%)	Female, n (%)	Rural, n (%)	Urban, n (%)	Total, n (%)
Enrolment of HIV-positive clients in the CBHS program has helped to increase access to care	1391	359 (93.0)	931 (92.6)	629 (93.5)	661 (92.1)	1290 (92.7)
Home visits, follow-up on client's attendance to care, and provision of adherence counselling and health education to the clients who are on treatment have facilitated clients to stay in treatment	1391	365 (94.6)	941 (93.6)	637 (94.6)	669 (93.2)	1306 (93.9)
Enhanced Adherence counselling to ART has helped clients to use their medication very well	1391	375 (97.2)	978 (97.3)	658 (97.8)	695 (96.8)	1353 (97.3)
Appropriate counselling and support improve the self-esteem of PLHIV	1391	363 (94.0)	931 (92.6)	620 (92.1)	674 (93.9)	1294 (93.0)
Attachment of Community Based HIV/AIDS Services providers to the Care and Treatment Centre of a nearby Health facility has increased their acceptability to the community and has made their work easy during escorting the client to the facility for care	1391	324 (83.9) *	892 (88.8)	601 (89.3)	615 (85.6) *	1216 (87.4)
Providing referral forms and linking clients through escort to	1391	343 (88.9)	892 (88.8)	605 (89.9)	630 (87.7)	1235 (88.8)

health facilities has increased the uptake of HIV services						
Linking HIV-positive clients and connecting them to other support groups for further services has helped to reduce HIV-related stigma and discrimination	1391	299 (77.5)	806 (80.2)	548 (81.4)	557 (77.6)	1105 (79.4)
Formulation and organizing PLHIV support groups has increased adherence and retention to ART Services among PLHIV	1391	297 (76.9)	799 (79.5)	523 (77.7)	573 (79.8)	1096 (78.8)
The provision of income-generating skills to PLHIV has helped them to employ themselves and generate an income which has reduced dependence on their relatives	1391	283 (73.3)	769 (76.5)	499 (74.2)	553 (77.0)	1052 (75.6)
Supporting PLHIV community groups on Registration at the district council has helped them to get support from the government	1391	207 (53.6)	524 (52.1)	361 (53.6)	370 (51.5)	731 (52.6)
Health advice and free medication has reduced the burden of opportunistic infections (IO) among PLHIV	1391	362 (93.8)	950 (94.5)	643 (95.5)	669 (93.2)	1312 (94.3)
The provision of nutritional education and counselling (HHIV-infected clients) has prevented PLHIV from malnutrition	1391	337 (87.3)	885 (88.1)	595 (88.4)	627 (87.3)	1222 (87.8)
STI and TB screening for clients in their community has reduced the risk of infecting their partners	1391	343 (88.9)	918 (91.3)	617 (91.7)	644 (89.7)	1261 (90.6)
Tracing lost to follow-up Clients (LTFU) and reconnecting them to respective CTC/RCH has improved care for PLHIV	1391	358 (92.8)	925 (92.0)	634 (94.2)	649 (90.4) *	1283 (92.2)

Moreover, about 31% of respondents had a negative perception of community-based HIV services (Table 4). In unadjusted analysis, pregnant women or orphaned and vulnerable children were 70% more likely to experience negative perceptions toward CBHS interventions than KVP or Chronically ill clients. Further, respondents from all regions except Dar es Salaam had a negative perception of CBHS interventions as compared to those from

Kagera. Moreover, respondents who had never attended school were more likely to have a negative perception of HIV community interventions than those with secondary/college education. Most of the factors which were statistically significant in the unadjusted analysis remained significant after the adjustment, except for education level.

Association between socio-demographic factors and negative perception towards HIV community interventions

Variable	Total, n (%)	With negative, n (%)	UPR,95%CI	APR, 95%CI
Total	1391(100.0)	431(31.0)		
Setting				
Rural	673 (48.4)	182(27.0)	ref	
Urban	718 (51.6)	249(34.7)	1.1 (0.9-1.2)	
Types of respondents				
HIV positive adult	1009 (72.5)	296(29.3)	1.1 (0.8-1.6)	1.2(0.8-1.6)
Youth/Adolescents living with HIV	132 (9.5)	48(36.4)	1.4 (1.0-2.1) *	1.8 (1.2-2.6)
Pregnant women/ Orphaned and vulnerable children	129 (9.3)	56(43.4)	1.7 (1.2-2.4) *	1.6(1.1-2.3)
KVP/ Chronically ill clients	121 (8.7)	31(25.6)	ref	
Sex				
Male	386 (27.8)	126(32.6)	1.1 (0.9-1.3)	
Female	1005 (72.2)	305(30.4)	ref	
Age (years)				
Mean (SD)	40.1 (14.1)	38.8(14.7)		
Age group				
10-24 years	224 (16.1)	83(37.1)	1.3 (1.0-1.7) *	
25-49 years	823 (59.2)	252(30.6)	1.1 (0.9-1.3)	
50+ years	344 (24.7)	96(27.9)	Ref	
Region				
Dodoma	151 (10.9)	87(57.6)	5.4 (3.4-8.7) *	4.6(2.9-7.3)
Dar es Salaam	142 (10.2)	24(16.9)	1.6 (0.9-2.8)	1.3(0.7-2.4)
Kagera	160 (11.5)	17(10.6)	Ref	
Kilimanjaro	150 (10.8)	45(30.0)	2.8 (1.7-4.7) *	2.4(1.4-3.9)
Mbeya	174 (12.5)	33(19.0)	1.8 (1.0-3.1) *	1.6(0.9-2.7)
Njombe	153 (11.0)	30(19.6)	1.8 (1.1-3.2) *	1.6(0.9-2.7)
Morogoro	150 (10.8)	78(52.0)	4.9 (3.0-7.9) *	3.9(2.4-6.3)
Singida	156 (11.2)	45(28.9)	2.7 (1.6-4.5) *	2.3 (1.4-3.8)
Mtwara	155 (11.1)	72(46.5)	4.4 (2.7-7.1) *	3.4(2.1-5.5)
Education level				
None	361 (26.0)	143(39.6)	1.7 (1.3-2.3) *	1.4(1.0-1.8)
Primary	851 (61.2)	246(28.9)	1.2 (0.9-1.6)	1.2(0.9-1.6)
Secondary/ College	179 (12.8)	42(23.5)	Ref	
Occupation				
Employed/ Self-employed	551 (39.6)	148(26.8)	Ref	
Farmer	484 (34.8)	150(31.0)	1.2 (1.0-1.4)	

Student/Other	356 (25.6)	133(37.4)	1.4 (1.1-1.7) *	
Marital status				
Married/Cohabiting	547 (39.3)	161(29.4)	Ref	
Not married	844 (60.7)	270(32.0)	1.1 (0.9-1.3)	
Perceived household income level				
Poor	536 (39.8)	169(31.5)	1.0 (0.9-1.2)	
Moderate/Rich	811 (60.2)	244(30.1)	Ref	
Overall knowledge				
Low	1319 (94.8)	428 (32.5)	7.8(2.6- 23.7) *	4.9(1.6- 14.6)
Moderate	72 (5.2)	3 (4.2)	Ref	

Participants' perspectives on the role of community health workers in service provision

Key informants at the community levels and some implementing partners had the positive perception that CHWs and CBHSPs are crucial partners in the provision of HIV/AIDS services. This is because of their enormous contribution to the provision of services via their roles of identifying clients and referring them to facilities where they are linked to care and treatment. This has led to an increased number of people who know their HIV status and also an increased number of clients in treatment. This Has been narrated by one Village AIDS Control Coordinator (VACC): “... Community health workers play an important role especially in advocating for ART treatment adherence among community members” (**Respondent, VACC**).

The majority of key informants perceived that the involvement of CHWs and CBHSPs has significantly strengthened the capacity of community members to adhere to HIV/AIDS care and treatment services. It was also perceived that the frequency of outreach services to the communities has been reduced because the CHWs help to perform some tasks which would otherwise force facility-based health workers to reach out to the communities to provide these services. CHWs and CBHSPs have played a significant role in the prevention of other co-infections among PLWHIV and also those not infected. In addition, PLWHIVs affirmatively showed their appreciation for the service received by both CHWs and CBHSPs. The main reason for this perception among others is that they take the trouble to remind them of the appointment date, visit them in their household, and advice is given just to mention a few.

*“Sometimes you might forget, and suddenly you hear a phone ring, where are you, have you forgotten your appointment, you have even forgotten to refill your drugs; when they call you feels good that you are reminded (**Respondents PLWHIV**)”*

Discussion

By July 2020, there were 26 implementing partners across all the study regions who were providing community-based HIV/AIDS Services (CBHS). Their main interventions were behavioral, biomedical, and structural interventions that were delivered by CBHSPs

and CHWs. Most beneficiaries of these interventions were female sex workers, injectable drug users, men who have sex with men, and orphaned and vulnerable children living with HIV. These services were mainly funded by the Government of Tanzania, PEPFAR, USAID, and Global Fund. Such

evidence is in line with various global health agencies that put much emphasis on geography, location, and population. UNAIDS, Global Fund, and PEPFAR for instance call for a need to do the right things in the right places at the right time while believing in the need to “target resources to areas with the greatest need (UNAIDS 2015, Sharma M et al 2017)

Related studies have indicated women are most users of healthcare services than men¹². This could explain the trend observed in our study and other studies where men are less likely to be engaged in HIV services than women across the care cascade, particularly in SSA Sharma M et al 2017, Skovdal M et al 2011). About 90% of the interviewed PLHIV in the present study expressed positive perceptions towards different Community-based HIV interventions such that the program helped clients to increase access to care and retention of care and treatment, to mention a few. Such findings have shown the importance of the roles that have always been played by health services providers at that level who have emphasized the need and benefits of community HIV testing. The higher number of people who express their positive perception towards HIV community HIV services has led to an increase in the uptake of HIV, for instance in 2018/2019 clients coming for biomedical services were 1,003,114 clients an increase of 81.9% as compared to 2016/2017.

The study found that a high perception of the benefits of community HIV testing increased the likelihood of HIV testing among community members. Such an observation is in line with the results where more than 95% per cent thought that community HIV services had helped in enhancing adherence to proper use of ART. Although such services are easily available, and drugs for HIV are usually available in all of the study areas, there have been some gender-related problems where women have been good health seekers as opposed to men. It is important to emphasize the benefits of HIV testing because other related studies ever found that low perception

of the benefits of HIV testing reduced the likelihood of HIV testing in women for instance¹⁵ and also increased knowledge and positive perception of the benefits of HIV testing has been synonymous with an increase in the uptake of services not only in HIV but also in another uptake such as antenatal care¹⁶ and tuberculosis treatment (Ayenew A et al; 2010).

Most healthcare providers interviewed in this study who are working in the CTC of the nearby communities whereby a bidirectional linkage of clients exist shows great appreciation of the existence of CBHS as it helped to increase access to care and treatment among HIV clients. However, more than two-quarters of interviewed healthcare providers were females. This may be attributed to the fact that most HIV service providers are those who also serve in reproductive health sections and this explains why more females were interviewed. Similar trends were observed in an analysis done by WHO whereby women comprised 70% of workers in the health and social sector (Boniol M et al 2019). Despite the health sector’s performing well regarding women’s participation, gender-transformative policies are needed to address inequities and support access to professional development and leadership roles.

Ministry of Health issued guidelines requiring a one-to-one male-female ratio for service providers, as the actual staffing in many settings points. At the regional level, the engagement of African Heads of State and governments through the Abuja +12 declaration united Member States towards the goal of eliminating HIV and AIDS, malaria, and tuberculosis in Africa by 2030 (AU; 2013). This is exemplified by the adoption of the Sustainable Development Goals with a target of ending the HIV/AIDS epidemic by 2030 (Busza I et al 2018). Prioritizing HIV prevention, expanding HIV testing services using diversified approaches, and scaling up antiretroviral therapy by adopting innovative service delivery models were several actions that were proposed to

accelerate HIV prevention and treatment interventions in the African Region toward ending the AIDS epidemic (WHO; 2017). Similarly, it was observed in our study implementing partners were delivering the services with success towards ending the HIV epidemic by 2030. As an indicator of effectiveness for the period of January 2016 to December 2019, the general trend indicates a satisfactory performance as the majority of implementing partners indicated general achievements of more than 75% of their expected outcomes.

Despite their achievement, they were challenged with a deficit of 45% across different cadres, HIV test kits by 53.8%; condoms by 39.9%, guidelines by 35.9% and tents by 35.7%, transport (vehicles) deficit by 34.6%, and for IEC materials by 52.5%. Moreover, the most challenging drawbacks cited relate to financial, stigma and discrimination, and human resource issues. Similar studies conducted in Tanzania, Ethiopia, and South Africa, have also revealed that HIV-related stigma and discrimination as major factors affecting the utilization of HIV services not only on an individual level but also in the community at large.

CHWs perform several tasks at the community level during the delivery of community-based HIV services including identifying PLHIV in the community. Furthermore, they refer and link clients to the facility for CTC services as well to community HIV services from the facility to ensure continuum care (Mutalemwa P et al

2008, Odimegwu C et al; 2013 and Leta TH et al 2012). Also, they accompany PLWHIV to clinic appointments, provide psychosocial support, and make referrals to other services²⁸⁻²⁹. Such observation is in line with study findings, that CHWs and CBHSPs are delivering services that can reach everyone at the same time while tackling issues related to HIV stigma and discrimination at the community level in Zimbabwe³⁰. Their role in delivering the services has been increasing towards universal health coverage and achieving of UNAIDS 90-90-90 ambitious target in the local population among PLWHIV despite the challenges existing in its implementation such as poor incentives.

Referring and linking, accompanying clients to point of care has eased the process of HIV continuum care and has improved the uptake of HIV care services. This is in agreement with other studies done in Rwanda and other online systematic reviews where they found CHWs have led to the improvement of uptake of HIV services and treatment adherence in diverse settings (Wouters E et al 2012).

Conclusion

Community-based HIV services are imperative to improve HIV-related knowledge among PLHIV and hence decrease engagement in risk behaviours in the era of DSDM. When actively involved communities may increase access, and enable the availability of HIV care and treatment to the most at-risk populations.

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