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EFFECTIVENESS OF THE TREATMENT ADVOCATE STRATEGY IN TRACKING LOST TO FOLLOW UP CLIENTS ON ANTIRETROVIRAL THERAPY IN SAUTI YETU PROJECT WITHIN TEMEKE MUNICIPALITY

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ABSTRACT: *This paper is based on a research which was conducted in Dar es Salaam Region, to assess effectiveness of the Treatment Advocate Strategy in tracking lost to follow up clients on antiretroviral therapy in Sauti Yetu project within Temeke Municipality. The findings indicated that there was a significant decrease in proportion of lost to follow up Antiretroviral Therapy clients from 45.1% before the project to 29.6% after the project. The decrease was statistically significant ($p<0.001$). Furthermore, the facilitating factors found to influence tracking of lost to follow up clients included provision of follow up transport; support of community leadership; provision of technical support; availability of reporting tools; and adequate knowledge in using reporting tools. However, incorrect client's information recorded; large area coverage; and inadequate of staff in Care and Treatment Clinics were mentioned as barriers in tracking lost to follow up.The Treatment Advocate Strategy has been found to be effective in reducing and tracking lost to follow up of clients on Antiretroviral Therapy. Considering the effectiveness of the strategy, it is recommended that relevant authorities should scale up this intervention in other areas.*

KEYWORDS: ART, care and treatment clinics, lost to follow up, retention

INTRODUCTION

The expansion of Antiretroviral Treatment (ART) has had substantial impact on the outcomes of HIV-positive patients (Bartlett and Shao, 2009). However, many ART programs and cohort studies have shown large numbers of patients lost to follow up

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(LTFU) following ART initiation (Mata *et al.*, 2017). Studies in sub-Saharan Africa have reported high rates of LTFU within 6 months following ART initiation (Brennan *et al.*, 2010; Brinkhof *et al.*, 2008). Therefore, LTFU of HIV-infected patients is an increasing problem in sub-Saharan Africa (Brinkhof *et al.*, 2008).

In Tanzania Mainland, it has been reported that more than half of the patients who received ART in the care and treatment centers were LTFU within 3 months of ART initiation (Makunde *et al.*, 2012). Therefore, in responding to this challenge, the National Council of People living with HIV and AIDS (NACOPHA) and its partners, Women Creative Solutions Association under Presidents Emergency Plan for AIDS Relief (PEPFAR) has been implementing Sauti Yetu (Literally our voice) Project in Temeke Municipality in Dar Es Salam, Tanzania. Among other objectives of the Project was to reduce LTFU by 50% in Temeke Municipality by 2019. The Project is in a fourth year of its implementation, but no study so far has been conducted to assess the effectiveness of a Treatment Advocate Strategy in tracking LTFUs. Therefore, the research on which this paper is based has objectives to: determine proportion of lost to follow up clients in Sauti Yetu Project Clinics before and after the introduction of the Treatment Advocate Initiative, compare the proportion of lost to follow up clients before and after the introduction of the treatment advocate initiative, explore factors affecting the tracking of lost to follow up clients in Sauti Yetu Project within Temeke Municipality and explore barriers in tracking lost to follow up clients in Sauti Yetu Project within Temeke Municipality.

LITERATURE REVIEW

Concept of Tracking Lost To Follow Ups

Patient tracking is a combination of interventions embarked on by treatment advocates to reach patients who dropped from care. The aim is to encourage them return and continue to be on care and support for their own benefits and/or the benefit of the larger population. Patient tracking activities have been emphasized in ART programs and the term ‘lost to follow up’ is commonly used for the activities. Lost to follow up is defined as patients who had failed to attend the clinic for more than 12 weeks and who were not known to have died or been transferred to another ART clinic (Nglazi *et al.*, 2010). LTFU is a generic term referring to patients who initiate ART but who have unknown treatment outcomes. These unknown treatment outcomes may be divided into 3 general categories: unreported deaths, unknown transfer of care to a different facility without documentation, and disengagement from care (Brinkhof, Pujades-rodriguez and Egger, 2009).

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Proportion of Lost to Follow up Clients

Retention of patients in long term treatment programs has not given due attention since most large-scale treatment providers have limited resources to trace missing patients. It has been reported that Lost to follow up patients cannot easily be reached out in most of the cases, because patients involved in such situation have decided to be out of care, either voluntarily or involuntarily (Seifu, Ali and Meresa, 2018). However, several interventions have been conducted to address the problem of lost to follow up clients on ART in different countries.

A patient tracing program implemented in Trinidad and Tobago to address the problem of Lost to follow up clients on ART has reported that using patient tracing contact methods, trained personnel attempted to contact 1058 patients lost to follow up (LTFU) within a year (Jeffrey *et al.*, 2019). Of the 1058 LTFU, 192 were ineligible: 27 (2.5%) were transferred to another clinic, 64 (6%) deceased, 35 (3.3%) hospitalized, 50 (4.7%) migrated and 16 (1.5%) incarcerated. Of the 866 eligible patients for patient tracing, 277 (32%) remained permanently LTFU and 589 (68%) were successfully contacted, re-engaged in care and received adherence counseling. The reported overall incidence rate of loss to follow up in Ethiopia was 14.8% (Seifu, Ali and Meresa, 2018). The finding was found to be lower than studies conducted in other Sub Saharan countries which ranged between 20 - 40% but similar to analogous studies done in Northwest Ethiopia, Bahrdar Feleg Hiwot Hospital and Gonder Referral Hospital which showed that the lost to follow up rate were 8.4, 18 and 19% respectively (Karcher *et al.*, 2007; Ahmed *et al.*, 2013). However, it is reported that there was a progressive decrease in the incidence of LTFU patients with each year after initiation of ART (Karcher *et al.*, 2007). The incidence of loss to follow up in a study was found to be 85.3, and 50.2% by the end of the 2nd and 5th year respectively. However, this is contrast with other studies' finding whereby there was progressive increase in LTFU overtime (Cornel *et al.*, 2011)**.**

Factors affecting the tracking lost to follow up clients

The scale up of ART treatment in developing countries requires a long - term relationship with the patient, accurate and accessible records of each patient's history, and methods to track his or her progress. Among the subset of lost patients who are most plausibly influenced by the intervention-those who are alive, able to be contacted in person, and not enrolled in care elsewhere-tracing had a much larger effect, leading to a 22% rise in the absolute probability of return (Bershetyn *et al.*, 2017). Authors further reported that a high fraction of patients who are traced indeed return to care. The positive effect of tracking on a select population adds another proven intervention to the retention toolbox (Armstrong and Rio, 2017).

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Better patient tracing procedures, better understanding of Lost to Follow Up and earlier initiation of ART to reduce mortality are needed if retention is to be improved (Rosen and Ketlhapile, 2010). In Brazil, the tracers were given lists of patients who were lost to follow-up. They used public transportation, walked, or rode motorcycles as appropriate and available. If contact with a patient was made, the tracer solicited information about their updated care status and asked about reasons for non-return. The interaction was semi structured and used 3-5 questions to ascertain current care status as well as reasons for stopping care or transferring care. The interaction took a total of on average 10-15 minutes. The tracers also offered routine encouragement and counselling, as per standard practices in routine tracing in each of their programs, to encourage patients to return. No monetary incentive or other inducement to return to clinic was provided (Bershetyn *et al.*, 2017).

Barriers in tracking lost to follow up clients

Several studies have revealed some issues that impede the implementation of tracking lost to follow up activities. Some have reported contextual issues such as limited resources and poor information collection practices were likely to hamper the patient follow up activities (Kerry, Erastus and Tony, 2011). Additionally, staff and transportation constraints, the vast geographical coverage, inconsistent and sometime unreliable patient locator information, contributes to the failure of tracking patients (Ojwang' *et al.*, 2016). In a study conducted to evaluate TAs role in the health system in the context of HIV and AIDS related services, it was reported that lack or shortage of materials/supplies, lack of equipment necessary to cope with special weather conditions, lack of adequate transportation for hard to access areas, inconsistent remuneration, lack of performance-driven rewards, inadequate mentoring, supervision and support, lack of recognition and inadequate community Participation were some of the factors that affected performance of Treatment Advocates in accomplishing their roles (Jerome and Ivers, 2010).

It was also reported that about 43 percent of TAs in South Africa considered the large number of assigned households a barrier to their work (Suri, Gan and Carpenter, 2007). In spite of increasing numbers of individuals in HIV care and on ART, health worker shortages, organizational challenges and high costs continue to limit the ability of HIV programs to track all patients who are missing or LTFU (Rachlis *et al.*, 2015). In the study conducted in Ethiopia to determine rates and factors associated with defaulting among ART users, several reasons for unsuccessful tracing of 65 (37.6%) cases were identified and reported. These included an incorrect address in the register (61.5%); LTFU clients lived far from the hospital with no telephone access (21.5%) - because of financial constraints it was not easy to trace these patients; patients had moved (9.2%); their address was not on

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record (4.6%); or they could not be found during repeated visits (3.1%) (Deribe *et al.*, 2008). Similar findings were reported in a study conducted in India which revealed that among patients not found, telephone numbers and addresses were frequently incorrect or missing (Brinkhof, Pujades-rodriguez and Egger, 2009).

Likewise, in Malawi it was reported that data clerks and health surveillance assistants (HSAs) faced a number of challenges during the tracing process, including incorrect phone numbers or addresses being recorded on tracing forms, or missing phone numbers or addresses (Mchacha, 2017). It was continually reported that confidentiality was also identified as a challenge that sometimes men or women were unaware that their partners were on ART. If an HSA called the number provided by the patient and a family member or partner answered the phone, or if the HSA went directly to a patient's house, it could be difficult to disclose the reason for wanting to speak with the client (Mchacha, 2017). However, as TAs increasingly play a more prominent role in providing health services in developing countries, there is an increasing need to ensure that they possess the necessary knowledge and competencies to satisfactorily perform their roles. However, insufficient training leads to poor service quality while knowledge and competency among TAs is acknowledged as central to the success of programs (USAID, 2015).

MATERIALS AND METHODS

Study Design

The study followed a pre and post evaluation research design which adopted quantitative and qualitative data collection methods. The reasons behind this choice were one, to find the change that might be attributed to the intervention. Secondly, the study explored facilitating factors and barriers in tracking lost to follow up clients. Therefore, the nature of the problem required data from both quantitative and qualitative perspective.

Study Area

Temeke Municipality in Dar es Salaam was chosen as the study area because it is the geographical coverage of Sauti Yetu Project. The District was among the Presidents' Emergency Plan for AIDS Relief (PEPFAR) Tanzania Priority Districts with high prevalence of HIV. It was the area where Sauti Yetu Project was being implemented in accordance with the new PEPFAR principle of doing the right thing, at the right time to the right target population and geographical area. Therefore, choice of the study area was convenient for the evaluation of Treatment Advocate Strategy.

Study Population

This study targeted personnel involved in the treatment advocacy strategy including Treatment Advocates, Project staff and Care and Treatment Clinic staff in Sauti Yetu Project within Temeke Municipality. A sampling unit was Care and Treatment Clinics (CTCs) where Treatment Advocates reported, and records reviewed.

Sample Size and Sampling

The qualitative part of the study was guided by the saturation theory which required sample size determined after data collection continued until in analysis nothing new came out of the data. Based on this criterion, 12 participants were obtained following enough and depth information which met the purposes of the research. Therefore, the study interviewed 7 Treatment Advocates, 4 CTCs' staff and a Project staff for Sauti Yetu Project. Sampling of these participants was purposively done based on their role in the project. However, 30 CTCs in Temeke Municipality were considered for collection of quantitative data for reported PLHIVs in ART Program. The considered CTCs were those ones where Treatment Advocate Strategy was employed.

Data Collection Methods

A combination of quantitative and qualitative data collection methods was used to collect data to inform the specific objectives of the study in which this paper is based. Firstly, quantitative data collection method involved review DHIS2 database, ART registers and quarterly and annual project reports, baseline report and monitoring reports. A checklist was used to guide systematic data collection on the number of ART clients and lost to follow ups. Secondly, qualitative data collection method involved 12 in-depth interviews. Data were collected by using in-depth interview guide. The questions on the interview guide focused on the facilitating factors and barriers in tracking lost to follow up clients on ART. The interview guide was prepared in English and translated into Kiswahili. The in-depth interviews were conducted in Kiswahili. Participants of the in-depth interview included 7 Treatment Advocates, 1 project staff, and 4 Care and Treatment Clinic staff. One in-depth interview took a maximum of 30 minutes. Conducive rooms in CTC facilities were secured to provide privacy and free conversations. However, in-depth interviews were recorded, and notes were taken.

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Data Analysis

Descriptive analysis was used to analyze quantitative data to determine the proportion of LTFU before and after Sauti Yetu Project. Standard Normal Deviate (SND) statistical test was used to compare proportions of LTFU before and after introduction of the Treatment Initiative. Line graph was used to show the trend in proportion of the LTFU before and after the Project. Furthermore, content analysis was used to analyze qualitative data to explore facilitating factors and barriers in tracking lost to follow up clients in Sauti Yetu Project. Qualitative data were analysed manually using content analysis. Interviews were transcribed in kiswahili and then translated in English. The transcripts were read and re-read in full to interpret any thoughts in the margin. This involved examining the text closely, line by line, to facilitate a micro analysis of the data. In preparing a codebook in excel, parent nodes were identified from research objectives; child nodes were developed from parent nodes as reflected in already collected data; and description of parent nodes and child nodes were made to give their operational meaning.

Ethical issues

The ethical clearance was obtained from Muhimbili University of Health and Allied Sciences - Research and Ethics Committee (REC). Permission to access $DHIS_2$ database and ART registers for selected facilities at Temeke was given by the Municipal Director. A written consent was also sought from the Treatment Advocates, CTC staff and Project staff before they participated in the study. Participants were informed that their participation to the study was their choice. They were also asked to allow being recorded during the interview and the recorded information would not be disclosed to anyone else except the researcher. Participants were further informed that no name or other identifying information would be on the record. Participants were further informed that they were free to refuse to answer any question and stop the interview at any time. It was explained that refusal to participate or withdrawal from the study would not involve any penalty. However, the benefit of the study was explained to the participants that the information provided would help to improve access and utilization of HIV services through reduced LTFUs for the epidemic control in the Country. Additionally, the collected information from the $DHIS_2$ database and ART registers were for research purposes only and therefore were strictly anonymous and confidential.

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RESULTS

Socio - Demographic Characteristics of study populations

The studied population included facility records of 63,105 People Living with HIV and AIDS (PLHIVs), 7 Treatment Advocates, 4 CTC staff and 1 Project staff. There was a total of 15,517 and 47,588 PLHIVs recorded in $DHIS_2$ database, ART registers and Project reports for the periods of 2015 and 2018, respectively. About 9,714 (62.6%) and 32,110 (67.5%) of the total PLHIVs recorded for the periods of 2015 and 2018 respectively were females. As figure 2 depicts groups included percentages of persons who were on the 1st and 2nd line regimen during the end of respective year.

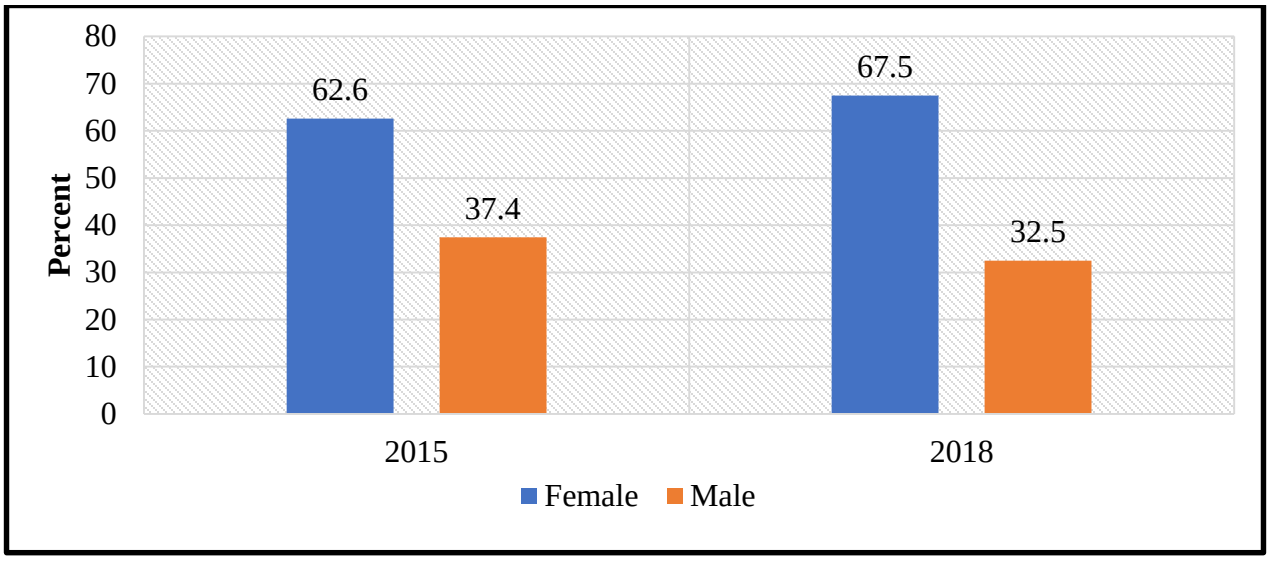

Figure 1: Percentage of ART enrollments for the period of 2015 and 2018 years

Population of Treatment Advocates

Among seven (7) Treatment Advocates (TAs), about 4 (57.1%) were females. The age of the TAs ranged from 29 to 48 years. However, among the sample size of 7 TAs, majority were at the age between 43 and above. The mean age for all 7 TAs was 39.6±5.18 years. In terms of education, the study findings revealed that majority 3 (42.8%) among the TAs had attained Primary education. However, in terms of occupations, majority of them were not employed 4 (57.1%); and 2 (28.6%) were self employed. The socio - demographic characteristics of the TAs are shown in Table 1.

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Table 1: Socio - Demographic Characteristics of Treatment Advocates

Variable	Frequency N	Percent %
Sex		
Male	3	42.9
Female	4	57.1
Age category		
Between 29 - 35 years	1	14.3
Between 36 - 42 years	2	28.6
Between 43 - 48 years	4	57.1
Education		
Illiterate	2	28.6
Primary School	3	42.8
Secondary School	2	28.6
Occupation		
Not employed	4	57.1
Employed	1	14.3
Self employed	2	28.6

Proportion of Lost to follow up clients

In assessing proportion of lost to follow up clients on ART before and after Sauti Yetu project, secondary data from $DHIS_2$ database, ART registers and Project reports were used. The findings indicated that there were 15,517; and 47,588 clients recorded in $DHIS_2$ database, ART registers and Project reports in 2015 and 2018 respectively. This emanated from the summation of number of persons who were on 1^{st} line regimen during the reporting period (Include Transfer In (TI) on ART) and number of persons who were on 2^{nd} line regimen during the reporting period (Include TI on ART) taken in the months of October to December for periods under assessment. The findings in Table 2 revealed that there was high proportion of lost to follow up clients on ART before the project compared to after the project. The findings show that before the project, there was about 7,945 (51.2%) of lost to follow up clients compared to 14,086 (29.6%) after the project. However, it was found that the proportion of LTFU clients on ART before the project kept on increasing in quarterly basis as opposed to after the project. Both findings are summarized in Figure 3.

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Table 2: Proportions of lost to follow up clients on ART

Number of clients on ART	15,517				47,588			
	Before the Project - 2015				**After the Project - 2018**			
Period of reporting	Q_1	Q_2	Q_3	Q_4	Q_1	Q_2	Q_3	Q_4
Number of lost to follow up	5,943	6,222	7,852	7,945	21,462	19,368	16,989	14,086
Proportions of lost to follow up	38.3	40.1	50.6	51.2	45.1	40.7	35.7	29.6

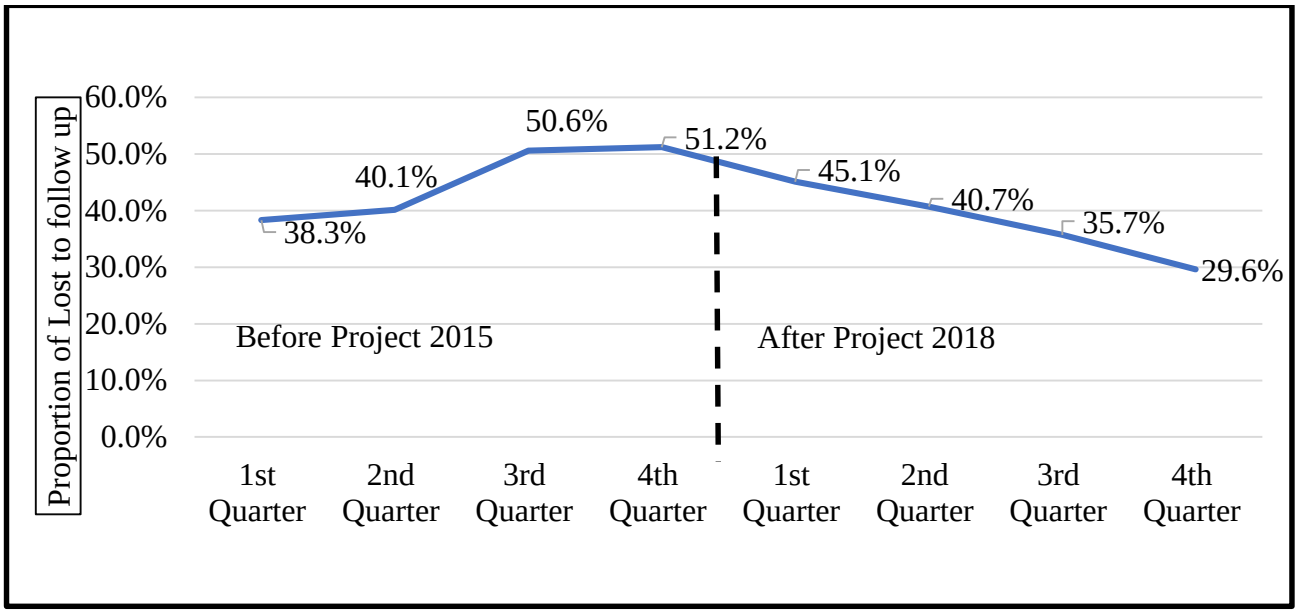

Figure 2: Proportion of lost to follow up for the period of 2015 and 2018 years

Comparison of Proportion of lost to follow up clients before and after the Project

Standard Normal Deviate (SND) test was used to compare the proportion before and after Sauti Yetu Project. The findings revealed about 51.2% among 15,517 clients on ART were confirmed to be lost to follow up before the Project. However, about 29.6% among 47,588 clients were confirmed to be lost to follow up after the Project. Therefore, the difference between the two proportions was statistically significant ($p<0.001$).

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Factors affecting the tracking of lost to follow up clients

A total of 12 respondents were interviewed using in-depth interview guide. This includes 7 Treatment Advocates working in tracking lost to follow up clients on ART, 4 CTC staff working in the clinics where Treatment Advocates report and 1 Project staff who was the Monitoring and Evaluation Officer. This study noted down the factors affecting the tracking of lost to follow up clients on ART. Most factors that were commonly mentioned by Treatment Advocates included the provision of follow up transport; provision of technical support on how to track lost to follow ups; support of community leadership; availability of reporting tools; and adequate knowledge in using reporting tools.

It was reported that provision of follow up transport to Treatment Advocates enabled them to track lost to follow up clients on ART. This response was mentioned by almost all Treatment Advocates. This was observed during in-depth interview with one of the Treatment Advocates who said:

"Sauti Yetu Project provides transport in monthly basis to facilitate tracking exercise. Tracking would have been very difficult if there was no transport support. This could limit movement from one place to another in following my clients" (**Female, 37 years**).

During an in-depth interview with a CTC staff, it was attested that transport which is one of the incentives for Treatment Advocates has helped a lot to improve tracking of lost to follow up clients in the facility. It has facilitated Treatment Advocates to move from one place to the other in such for lost to follow up clients.

"Tracking has been so much improved in my facility as compared to before Sauti Yetu project. This is attributed to incentives such as monthly allowances that the project provides to the Treatment Advocates. The situation used to be worse before the project. No one bothered to track lost to follow up clients because trackers were not supported financially. It was not easy to use own funds to track clients" (**Male, 31 years**).

Technical support in tracking lost to follow up clients was noted as another important facilitating factor in tracking lost to follow up. This has been acknowledged by most Treatment Advocates as one of the factors that improved their skills in tracking clients. The technical support embarked into capacity building activities whereby Treatment Advocates were trained on how best to provide counselling sessions among tracked lost to follow up clients in order to reduce the problem of self-stigma.

"We are very much privileged when it comes to assistance for technical support in tracking lost to follow up clients. The organization has been providing us with very useful and beneficial trainings, the most recent one was the one that was carried out in Masasi

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Mtwara where we were provided training on how to accept our HIV status as this is among the crucial element as a Treatment Advocate. We were also taught how we can systematically track clients who were lost to follow up, for sure it was an awesome training experience" (**Male, 43 years**).

Informants from this study revealed the contribution of Treatment Advocates in facilitating data quality assessment (DQA) exercise. It was reported that Treatments Advocates were very supportive in ensuring availability of source documents; data completeness; timely reporting and data verification exercise. This attributed in strengthening the monitoring and evaluation aspect of ART Program.

"Apart from tracking lost to follow up clients, Treatment Advocates have been very supportive in data quality assessment that we normally do in quarterly basis. Sauti Yetu Project has empowered them with adequate knowledge especially on ART Program" (**Female, 35 years**).

Community participation fosters higher levels of motivation and enhances effectiveness of interventions. The study noted support of community leadership as an important factor that helped in tracking lost to follow up clients. This was reported from the in-depth interview with KI at different occasions and places. It was been documented that community leaders in those places where Treatment Advocates visited for performing their roles, were very supportive in the program. One of the key informants during the in-depth interviews said:

"We have been working hand in hand with the community leaders from all levels, they have been extremely supportive. Working with issues related to HIV highly requires collaborations from different stakeholders. You cannot just simply work alone if you want to successfully meet your targets" (**Female, 30 years**).

Adequate availability of tools is one of the important factors that enable reporting of interventions. Reporting tools helps in documentation of the project deliverables. It has been noted from the study that Treatment advocates were provided with adequate tools that facilitated them to report what they performed. In an interview with Treatment Advocates, he stated:

"*The project has provided us with adequate tools for reporting purposes. Without these tools we would have nowhere to write our reports which could limit our performance in tracking lost to follow up clients. With these tools we can report what we do in the field including provided services, referral status of tracked clients, whether a tracked client has agreed to be linked back into care and treatment*" (**Male, 48 years**).

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Training is a cornerstone to capacity development. This study has revealed that apart from provision of reporting tools to Treatment Advocates, they have been trained adequately on the indicators for reporting. Skills development in completing reports helps a lot in effective performance in tracking lost to follow up clients on ART. This echoed in one of the in-depth interviews with KI who claimed:

"*We have been equipped with essential training regularly especially on how to use the tool used for data collection, at first we faced some difficulties understanding the proper filling of the tool because it was something new to us, but practice makes perfect, and for sure experience is a good teacher. Through continuous assistance from the organization, we came to adequately master the tool. As for me I have memorized and mastered the tool perfectly*" (**Female, 29 years**).

Barriers in tracking lost to follow up clients

Despite the efforts to track lost to follow up clients on ART, this study has noted down that there exist barriers that in one way or the other hinder effective performance of Treatment Advocates from tracking lost to follow up clients. The following were some of the barriers; incorrect client's information; too large coverage; and staff inadequacy at CTCs.
Incorrect client information was the problem that existed in most of CTCs and it has led into a difficult situation in tracking our clients. The mentioned information included incorrect phone number and address. This barrier was noted from in-depth interview with one KI who said:

"*There are clients, who are very problematic, imagine some of the clients if they feel that they do not want to be traced when they default, they simply give you wrong information of phone numbers and their residential addresses. This is a big challenge in tracking lost to follow up clients on ART*" (**Female, 44 years**).

A lot of work in tracking lost to follow up clients to bring them to care and treatment was appreciated during the in-depth interviews with Key informants. However, the study revealed that it has been very hectic in tracking individuals whose contact information were not correct.

"*I once had a teenage client who was a very beautiful and an innocent young girl. She was 17 years old. At first her trend of visiting the CTC clinic was excellent but after almost a year or so, she was nowhere to be found. I tirelessly tried to trace her but was not successful, that's when I later discovered that she had given me wrong personal details. I was so disappointed, I just pray wherever she might have gone she is still on medication*

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because some of clients keep changing CTC centres once they find out there is something they hate about the clinic they were previously attending" (**Male, 35 years**).

Another barrier which was frequently mentioned by most Treatment Advocates included large coverage. It was noted that despite the provision of follow up transport to Treatment Advocates, there is a problem of large area to reach all lost to follow up clients. It was echoed from one of the in-depth interviews with KI who said:

"Working in large coverage is very hectic as it needs a lot of money. For example, there are some places where there are poor roads that can only be reached with a motorbike. Sometimes it costs almost four thousand shillings. This becomes very expensive as it needs a lot of efforts to reach a client" (**Male, 42 years**).

Staff inadequacy at CTCs was noted as a contributing factor in increasing the number of unrecorded ART clients. They fail to serve and record when overwhelmed with clients. Unavailability of client's information in facilities makes it difficult to track when a need to do so arises. In one of the in-depth interviews with KI, it was said:

"Sometimes client's information in the facility are not recorded. This can be attributed to staff inadequacy. A good example is in our facility that sometimes it happens more than 300 clients are newly initiated on ART and making it difficult to record their respective information in a very huge staff to client's ratio. So once clients whose information are missing in the facility are lost to follow up, it becomes difficult to track them" (**Female, 33 years**).

DISCUSSION

The study finding revealed that there was an increase of lost to follow up proportion from 38.3% to 51.2% throughout the year. This implies that the efforts which were in place in tracking lost to follow up clients before the project were probably not effective. It was expected the proportion of lost to follow up clients to decrease instead of increasing. The study result on the proportion of lost to follow up clients before the project was found to be higher than studies conducted in other Sub Saharan countries which ranged between 20 - 40% (Karcher *et al.*, 2007; Ahmed *et al.*, 2013). Similar finding was reported in other studies whereby there was a progressive increase in proportion of lost to follow up clients overtime (Cornel *et al.*, 2011). Reasons for similar findings could be the presence of ineffective or non- existent strategy in tracking lost to follow up clients on ART. However, the results of proportion of lost to follow up clients on ART after Sauti Yetu Project indicate that there was a decreased proportion from 45.1 to 29.6 percent. This result implies that

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majority of clients who were lost to follow up were effectively tracked and that Treatment Advocate Strategy in Sauti Yetu Project was effective in tracking lost to follow up clients. This finding is almost in line to what has been reported in Trinidad and Tobago that there was a progressive decrease in the incidence of LTFU patients after implementation of a patient tracking program in the Country (Jeffrey et al., 2019). Reasons for this similarity might be attributed to the effectiveness of the tracking strategy.

In comparing proportion of lost to follow up clients before and after the Project, the study revealed the significant difference between the two proportions at the value of $p<0.001$.This is equally important to say, Sauti Yetu Project has contributed a significant change in tracking lost to follow up clients on ART within the visited facilities at Temeke Municipality. The change was likely contributed by the effectiveness of the Project. The proportion of 29.6% is almost similar to what has been observed by (Jeffrey et al., 2019) who reported that about 32% of clients remained permanently lost to follow up clients after an implementation of a patient tracing program to address the problem of lost to follow up clients on ART in Trinidad and Tobago. The probable reason for the similar low proportion of LTFU clients could be attributed to effectiveness of the available patient tracing program in addressing the problem. Similar proportions were reported in studies conducted in other Sub Saharan countries which ranged between 20 - 40% (Karcher et al., 2007; Ahmed et al., 2013).

Responding to the question to identify the factors affecting tracking of lost to follow up clients; the key informants mostly mentioned provision of follow up transport; support of community leadership; provision of technical support; availability of reporting tools; and adequate knowledge in using reporting tools. The implication of the findings is that the listed factors were identified by majority as the ones which enabled Treatment Advocates to perform their exercise of tracking lost to follow up clients successfully. In order to improve the effectiveness of the treatment advocates, the project provided them with follow up transport to hasten the tracking role. The finding is also comparable to a study conducted in rural Haiti to evaluate TAs role in the health system in the context of HIV and AIDS related services whereby it was reported that lack of adequate transportation for hard to access areas, inadequate supervision and support and inadequate community Participation were some of the factors that affected performance of Treatment Advocates in accomplishing their roles (Jerome and Ivers, 2010). The identified facilitators in tracking lost to follow up clients on ART emanated from evaluation of Sauti Yetu Project were similar to those reported in rural Haiti.

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In responding to identification of barriers affecting performance of treatment advocates in tracking lost to follow up clients on ART, the most mentioned barriers included incorrect client's information; too large coverage to reach all lost to follow up clients; and staff inadequacy at CTCs. These findings are in line to what has been reported in Kenya that staff constraints and the vast geographical coverage contribute to the failure of tracking patients who were lost to follow ups (Ojwang' *et al.*, 2016). These results are also in line to what was reported in a study conducted in South Africa that the large number of assigned households was a barrier to the performance of Treatment Advocates (Suri, Gan and Carpenter, 2007). Geographical coverage was among the factors which affected performance in tracking lost to follow up both in Tanzania and South Africa, so this makes these two studies being similar. Similarly, the findings are also comparable to what was reported by (Rachlis *et al.*, 2015) that shortages of health care workers among others continued to limit the ability of HIV programs to track all patients who were lost to follow up.

The problem of shortage of health workers was among the factors which brought similarity between Sauti Yetu Project with the study evaluating outcomes of patients lost to follow-up in a large comprehensive care treatment program in western Kenya. It is also in line with the study conducted in Ethiopia to determine rates and factors associated with defaulting among ART users that an incorrect address in the register; no telephone access; and patient's address not on record were among the barriers in tracking lost to follow up clients on ART (Deribe *et al.*, 2008). Similar findings were also reported in a study conducted in India which revealed that among patients not found, telephone numbers and addresses were frequently incorrect or missing (Brinkhof, Pujades-rodriguez and Egger, 2009). Similarly, in Malawi it was reported that data clerks and health surveillance assistants faced a number of challenges during the tracing process, including incorrect phone numbers or addresses been recorded on tracing forms, or missing phone numbers or addresses (Mchacha, 2017). Wrong client's addresses and difficulty in accessing lost to follow up clients through phone calls were the similar factors reported in Sauti Yetu Project and other aforementioned studies conducted in Kenya, Ethiopia, India, Malawi and Kenya (Ojwang' *et al.*, 2016; Suri, Gan and Carpenter, 2007; Rachlis *et al.*, 2015; Deribe *et al.*, 2008; Brinkhof, Pujades-rodriguez and Egger, 2009 & Mchacha, 2017).

CONCLUSION AND RECOMMENDATIONS

There was a significant difference between the proportions of lost to follow up clients on ART before and after the project. The implementation of the Treatment Advocate Strategy

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is likely to influence significant change in reducing proportions of lost to follow up clients on ART. The government in collaboration with implementing partiners should scale up similar intervention in other areas. CTC facilities should also adopt the strategy for effective tracking of lost to follow up clients on ART.

Factors affecting the tracking of lost to follow up clients in Sauti Yetu Project within Temeke Municipality were the provision of follow up transport; provision of technical support; community leadership support; availability of reporting tools; and adequate knowledge in using reporting tools. The government should consider provision of incentives to trackers of lost to follow up clients as a policy thing to strengthen TAs services. Facilities in collaboration with implementing partners should also consider provision of incentives to Treatment Advocates in order to motivate them for improved performance.

Barriers that hindered tracking of lost to follow up clients on ART included incorrect client's information; too large coverage to reach all lost to follow up clients; and staff inadequacy at CTCs. The aforementioned factors hinder tracking exercise of lost to follow up clients on ART. The government should address barriers for tracking lost to follow up clients as reported from the findings of this study. Facilities in collaboration with implementing partners should also address the barriers reported in the finding to address the problem of lost to follow up effectively.

Implication of the Research

The findings from the research on which this paper is based are intended to generate empirical information that will help in drawing evidence - based lessons emerging over the course of Project implementation on the effect of Treatment Advocates in tracking patients under ART. Findings will feed other stakeholders implementing HIV and AIDS programs to plan interventions to roll out similar interventions in Tanzania and also add to the body of knowledge. Furthermore, the study will inform HIV and AIDS response programs that work towards UNAIDS' fast track strategy of reaching the 2nd and 3rd 90 by increasing access and utilization of HIV services through linkages and retention of person on ART for the epidemic control in the Country.

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