Community Health Posts Impact on Adult Male Access to HIV Services in Lusaka, Zambia

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Abstract

Achieving HIV epidemic control is an ultimate goal for Zambia. To achieve this goal there is need to close services access gaps. Adult men are less likely to utilize existing health facility-based HIV services and they account for a significant proportion of new HIV infections with risk to onward HIV transmission in the community. Almost two-thirds of males (65.1%) and 79.2% of females aged 15-59 years reported ever having been tested for HIV and having received their results. Over two-thirds (67.1%) of HIV-positive males 25-29 years of age reported being unaware of their HIV status. Twenty-five percent of the national pandemic is in Lusaka. This non-experimental, descriptive mixed-methods study shows increase in number of adult males accessing services at community health posts and the impact of community health posts on improving adult male access to HIV services, including improved retention to HIV services and viral load suppression. The attitude or customer care of health care workers and the location of the community health posts played a bigger role in improving adult male access to HIV services, by creating a better, trusted environment and by bringing the services closer to where these males work or live. The community health post improved also the inequality in accessing HIV services for adult males, as this is one of the key factors to achieving the end of HIV pandemic.

Keywords: Community Health Post, Control, Epidemic, HIV, Impact, and Inequality, Male Adult.

Introduction

Globally, men are less likely to utilize existing health facility-based HIV (human immunodeficiency) services. Men account for a significant proportion of new HIV infections with risk to onward HIV transmission in the community; thus, making it difficult to achieve HIV epidemic control [1].

Zambia's population is estimated to be around 17 million people [2]. The average adult HIV prevalence is at 12.3 percent. Almost twothirds of males (65.1%) and 79.2% of females aged 15-59 years reported ever having been tested for HIV and received their results. Over two-thirds (67.1%) of HIV-positive males 25-29 years of age reported being unaware of their HIV status. Twenty-five percent of the national HIV pandemic is in Lusaka [3]. While Zambia has made remarkable progress towards achieving the UNAIDS 90-90-90 fast track goals, achieving epidemic control remains a challenge [4], with men lagging behind in accessing HIV services.

Most of clinics offering antiretroviral therapy (ART) are overcrowded with health workers who are overwhelmed and unable to meet the required protocols of HIV care. In some cases, these clinics are located far from residential places and operate during working hours of most men (7:00 am to 5:00 pm). Consequently, it is difficult for men to attend these clinics, monitor their HIV status, and receive necessary care. A recent study showed that a significantly larger proportion of men (32.7%) than women (25.6%) did not take the prescribed ART (Pearson $\chi^2 = 5.9135$; p = 0.015) [16]. The community health post (CHP) Model is a community model of care designed to expand HIV care by improving the efficiency and efficacy of HIV case finding, linkage to treatment, and retention in care. It focuses on identifying people living with HIV (PLHIV) and linking them to same-day ART initiation. The model decentralizes HIV service delivery, including HIV testing, ART initiation and continuation, and phlebotomy, from ART facilities to static CHPs. The CHP model aims to harnesses existing community platforms (such as churches, markets, and bus stops) and resources to deliver more accessible HIV continuum of care services and alleviate the burden on overwhelmed health systems in high HIV burden countries. The model is designed to the time, resource, and stigma address constraints of accessing HIV treatment and care from traditional clinic settings.

The purpose of this study was to describe the impact of community health posts (CHPs) in improving access to HIV services for men. The main aim was to understand the men's perspective regarding accessing community health posts, the reason why they choose or prefer accessing HIV services at these community health posts. The objectives of this study were to:

- 1. Estimate the impact of community health posts to HIV case identification in men.
- 2. Understand why men access HIV services at community health posts.

Materials and Methods

A non-experimental, descriptive mixedmethods study design was used to describe the impact of community health posts on HIV case identification coupled to linkage to treatment and retention in care of males, ages 18 years and older [10, 22]. The qualitative portion of the study conducted in-depth focus groups interviews with randomly identified adult males (18 years and older), accessing HIV services at CHPs. The quantitative portion analyzed patient outcome data from the SmartCare (monitoring and evaluation platform, used in Zambia) data base. The Zambia Institution Review Board "ERES" provided ethical approval for this study. The study was implemented in Lusaka, Zambia, the capital of Zambia. Lusaka accounts for the majority or almost the totality of CHPs. Data from the 2016 Zambia Population-Based HIV Impact Assessment, show that Lusaka Province has the highest HIV prevalence (16.1%) in Zambia. The community health posts were initiated in 2018 and extensively scaled-up in Lusaka in 2019. There were 22 Community Health Posts that were operational in Lusaka, as of September 2019. Six (6) posts reported HIV testing of at least 100 patients of all age group during the Q2 of 2019 were selected using the purposive sampling method. (Table 1).

CHP Names	Date CHP Opened	CHP Location
COH_Chawama	8-Mar-2018	Chawama Main Market
COH_Jack	14-Mar-2018	Kamulanga Main Market
COH_JohnLaing	10-Mar-2018	Behind Chibolya Police Office
COH_Kanyama	12-Mar-2018	Masauko Market
COH_Linda	1-Sep-2018	Linda Residential Setting
COH_Misisi	9-Aug-2018	Misisi Anglican Church

Table 1. Selected Community Health Posts with Opening Dates and Locations

Selection procedures: The CHPs included in this study were purposively sampled based on the following inclusion criteria [15, 18, 19]:

- 1. Date of CHPs opening to the community (Mar – Sep 2018) to provide an understanding of the benefit of CHPs to the population and specifically men accessing them.
- 2. CHPs volume and ability to produce a sample could that be logically of representative the individual all accessing services from the CHPs. In this regard 29,943 individuals accessed HIV testing services (HTS) from the sampled sites translating to 65% of all individuals that received HTS services from Circle of Hope (COH) CHPs.
- 3. The location of CHPs in the community. This includes easily accessed places such as markets, bus stations, workplaces, church grounds, and densely populated compounds that cater to people who cannot walk long distances and are close to people's businesses and workplaces.

Inclusion Criteria

- 1. Adult men (age 18 years old and above) who assessed HIV services at CHPs before or between March 2018 and March 2019.
- 2. Currently accessing HIV services at the selected CHPs.
- 3. Able to participate in a focus group interview.

Exclusion Criteria

- Accessed first HIV services at CHPs after March 2019.
- 2. Adult male patients who accessed their first HIV services at CHPs outside the study period (Before March 2018 and/or after March 2019).

Female Patients

Each community health post recruited 20 HIV positive adult male patients (of 18 years and older), currently accessing services at the Community Health post and that their first HIV

services took place before or between March 2018 and March 2019. Due to the COVID-19 prevention guidelines and as recommended by the Zambian Ministry of Health, responded were divided into 2 groups of 10 responded each, representing 2 focus group interviews per each CHP out of the 6 sampled CHPs. 115 adult males who met the inclusion criteria agreed to participate in the study and completed the informed consent form.

Quantitative, descriptive data were analysed through STATA to summarized respondents' details and responses using frequency tables, means and standard deviations in order to determine approximation of results from the collected aggregated sample size.

Content analysis of focus group interviews were conducted to identify the main patterns related to understand men's perception regarding accessing HIV services at community health posts [12, 17]. An interview guide was used by the trained research assistant and interviews were conducted in the local language and audio recorded. Transcripts were generated and translated into English. The content analysis occurred with repeatedly reading the verbatim transcriptions. The analysis of the data collected during focus group interviews, was done through coding by applying an inductive approach to condense raw textual data into a brief, summary format; establish clear links between the study objectives and the summary findings derived from the raw data; and develop a framework of the underlying structure of experiences or processes that are evident in the raw data. This was done by grouping specific excerpts of interview participants in a related code, identification of emerging themes from the coding across all interviews, reviewing the themes and populating the analysis report. The research questions guided the themes. To ensure the credibility of the collected data, strategies were used to demonstrate accuracy in the reported findings. The strategies used to ensure credibility included analyst triangulation, by utilizing quantitative data

about each CHP in the overall analysis to support the qualitative findings and illuminate any bias in the analysis process. Frequent debrief sessions between the primary investigator (PI), lead field researcher, and field researcher officers understand to their experience and perception which were used to discuss alternative approaches and identify possible biases and preferences. The prolonged interaction with participants during the focus group interviews also contributed to the credibility of collected data and analysis. Peer scrutiny of the research project was another strategy to ensure credibility, as it offered fresh perspectives from colleagues and challenged assumptions made and had enabled the PI to refine and develop a greater explanation of the findings and strengthen the analysis. To provide insight on the transferability, comprehensive details of the study were used to contextualize the findings. These details included study site geographical location, information regarding the participants and their characteristics, data collection and analysis methods, and length of interview sessions.

The descriptive data were analysed using an pivot table to summarize, Excel sort. reorganize, group, count, total or average data from the two datasets namely selected CHPs Circle of Hope pivot (COH_PVT) and SmartCare extracted data. It was also used for transformation of columns into rows and rows into columns and grouping by any field (column) and using advanced calculations on them. Excel VLOOKUP nested in IF- function was also used to find values of i.e., Male adult patients, suppression of viral load (VL) at 8-12 months and other values need for the analysis meeting the ten (10) outcomes of the research project. New variables were created from the output of the pivot tables and the VLOOKUP. The data was analysed using both Stata and Excel. The respective COH CHPs datasets resaved as Comma Separated Values (CSV) were exported to Stata. The main analysis was proportion estimate. Proportion estimates produces estimates of proportions, along with standard errors, for the categories identified by the values in each variable. These data were used to compare the adult males accessing CHPs to all patients in using CHPs services. For overall performance, the **nptrend** command in Stata was used to perform a nonparametric test of trend performance overtime (i.e monthly and quarterly).

Results

From the analysis of collected CHPs data, in comparison with the period before inception of CHPs, there was a significant increase in the number of patients tested for HIV as well as an increase of the HIV positivity yield. A total number of 29,943 individuals accessed HIV services from the sampled facilities during the period from March 2018 to September 2019. This translates to 69% of all Circle of Hope patients that accessed HIV services during the same period. Of the 29,816 individual accessing HIV services at selected facilities, 24% were from Linda CHP, while 11% were from Jack CHP. Disaggregated by age group, 8% of all patients who accessed HIV services at the CHPs were below 18 years (both sex, 45% were female of 18 years and older, while 47% we male of 18 years and older). There was an increase (2-6%) in individuals receiving HIV testing and counselling from August 2018. On average the proportion of adult males receiving HIV services from the selected CHPs was 45%. According to the focus group participants from all six CHPs, this increase was influenced by the location of CHPs, which have been set up closer to where the men live or work; good customer care by the health workers at CHPs; less time spent at CHPs and CHPs not appearing as standard clinic (stigma). A total number of 13,519 male adult patients accessed HIV services from the sampled facilities during the period from March 2018 to September 2019 which translates to 45% of all patients that accessed HIV services from the sampled CHPs and 80% of male adult patients that accessed HIV services in all COH CHPs during the same period. Of the 13,519 adult male patients who accessed HIV services at selected facilities, Linda CHP recorded the highest number with 25%, while Jack CHP was the lowest with 11% of adult males accessed HIV service in the period under review (Figure. 1).



Figure 1. Number of Male Adult Patients Accessing HIV Services at CHPs N= 13,519

The males aged 25 - 44 years accessed HIV services in the CHPs more than the other age groups, 63% and 64% of the males in that age

group accessed the CHPs in 2018 and 2019, respectively (Figure. 2).



Figure 2. Number of Male Adult Patients accessing HIV Services at CHP Disaggregated by Age Group

The overall HIV positivity yield for the period under review (Mar 2018 – Sep 2019) was 26% and the overall %HIV positivity yield for the same period under review was 29%

(12% for the patients less than 18 years of both sex, 24% for the female of 18 years and older and 29% for male of 18 years and older) (Figure. 3).



Figure 3. The Overall Positivity Yield by Age Group at CHPs

The age group 40-49 years has the highest proportion of males testing positive at CHP

relative to other age category in the sampled population (Figure. 4).



Figure 4. Male Adult Patients Tested for HIV Positive at CHP Disaggregated by Age group

Out of the 115 eligible respondents, the majority were married representing 79 (69%), 16 (14%) never married, 9 (8%) were separated, 9 (8%) divorced, and 2 (2%) were widowed. The majority of people who were married came from Kanyama with representing 16, and the least were from Chawama with 9 men. The mean age was 42 years old. Out of the 115 respondents, the highest level of education

completed was: 55 attained primary education, 54 secondaries, and 6 had tertiary education. While 7 (6%) were diagnosed before 2018, the study shows that 81 (70%) respondents out of the 115 were diagnosed in 2018, 27 (23%) where diagnosed in 2019. By mean age, both in 2018 and 2019 those with primary education had the largest number of service utilization as shown in Figure. 5.



Figure 5. HIV Services Utilization vs Level of Education

The men who participated in the focus group interviews were asked questions regarding the following themes, proximity, and accessibility (convenience) of CHPs, qualifications of health workers at CHP, discretion/stigma, knowledge of health workers at the CHP, no long waiting queues at CHPs (time spent at CHPs), and wellequipped CHPs. Based on respondents, the time spent at CHPs (waiting time) and the qualification of HCWs in the CHPs were the main factors that influenced men in accessing HIV services at CHPs. The qualification of CHPs was evaluated based on the quality of services provided by HCWs, the attitude of CHWs toward the men accessing HIV services at the CHPs, the timing of ART initiation and the quality of follow-up provided by CHWs to ensure adherence on treatment. The proximity and accessibility of the CHPs came as the 3rd factor that influenced men in accessing HIV services at CHPs, with most of the respondents indicating that the location of the CHPs (near their homes or workplace) also contributed greatly to their adherence to HIV services being received at the CHPs (Figure. 6).



Figure 6. Experience of Men in Accessing Services at CHPs

Based on the Qualification of the Health Care Workers (HCWs) in providing HIV services at CHPs, the quality of services provided was the main factor attracting men to

CHPs, followed by the quality of patient's follow-up activities conducted by HCWs to ensure adherence on ART, the HCW attitude toward the clients and the timing of ART initiation. (Figure 7) As one focus group respondent stated, "The services here are great. Even if I am late for one week, when I come, they attend to me and they are quick and able to listen to one's concerns". According to the

respondents, the attitude of the health professionals is very good because, they are friendly, caring, patient, welcoming, confidential, and able to explain things politely, they don't get upset easily and they don't have abusive language among others. Another respondent shared, "These people are friendly, and the welcome is good. They are never angry but just use kind words".



Figure 7. Overall - Qualification of Health Care Workers at CHPs

Respondents indicated that CHPs accessibility is one of the criteria motivating them to adhere to treatment, as the CHPs are near to their houses or workplaces. 95% of the respondents from the CHPs indicated that CHPs are easily accessible because they are within or

close to their households or along the way as they are going for work. (Fig 8) A man shared, "The location is good because some of us work from town, and we can quickly come and get the services and go back".



Figure 8. Proximity and Accessibility of CHPs

The respondents indicated that they don't waste a lot of time when they visit the CHPs in their localities. The average time spent is between 5 to 35 minutes of collecting medicine, blood tests, looking for patient folders, checking BP, and weight measurements.

The respondents were pleased with the confidentiality given from the CHPs. Some

CHPs are strategically located (i.e markets, church, in the center of the town) where a lot of services are offered and where no one can actually know what the clients of the CHPS are doing there. They could be going to the church. the market, any other activities, so no one suspects the reason of their presence.



Figure 9. Discretion and Stigma et CHPs

Discussion

The evaluation of the community health posts has shown its impact on the improvement of men's access to HIV services and it has helped us to better understand why adult males prefer accessing HIV services at CHPs. Of the 13,519 males of 18 years and older that accessed HIV services at selected facilities, Linda recorded the highest number (25% were from Linda CHP), while Jack CHP was the lowest with 11% adult males that accessed HIV service in the period under review. The males aged 25 – 44 years accessed HIV services in the CHPs more than the other age groups, 63% and 64% male in that age group accessed the CHPs in 2018 and 2019 respectively. The quality of services provided was the main factor attracting the men to CHPs, followed by the quality of patient's follow-up activities conducted by HCWs to ensure adherence on ART, the HCW attitude toward the clients and the timing of ART initiation. The average time spent at CHP is between 5 to 35 minutes, so patients do not waste time waiting in long queue.

This knowledge will help adjust the way we care for adult men to end the gap and barriers in the HIV services access, as we aim to end the HIV pandemic. So, scaling up accordingly these community health posts could contribute to improving HIV services access for adult males and ultimately increased treatment and reduced HIV transmission. Future research should include the integration of community health posts into the overall health system of a particular country, as this may have several impacts on supply chain for medicine, laboratory reagents that need to be understood., The impact of CHPs on women and the impact on population HIV transmission when CHPs are available within communities should be studied. In addition, future research should include a comparison of standard care delivery to CHPs and examining 6 months, 1 year, 5 years outcomes of standard treatment to CHP, as well as a comparison of staff preparation as an influencing factor of adult male adherence to treatment and by proxy viral load suppression.

Conclusion

In conclusion, the present study shows the impact of community health posts on improving adult male access to HIV services, including improved retention to HIV services and viral load suppression. The quality of services, the attitude or customer care of health care workers and the location of the community health posts have played a bigger role in improving adult male access to HIV services, by creating a better, trusted environment and by bringing the services closer to where these males work or live. This also, has helped to improve the inequality in accessing HIV services for adult males, as this is one of the key factors to achieving the end of HIV pandemic.

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Conflict of Interests

I do not have any conflict of interest with this study, and this is my original work, as it was conducted in partial fulfilment of the requirements for the award of the Degree of Doctor of Philosophy in Clinical Research. This can be shared freely with others for learning and implementation purpose.

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