

ORIGINAL RESEARCH

Engagement of community health workers for the elimination of mother to child HIV transmission: Experience from Morogoro, Tanzania

Dorica Burengelo^{1*}, Doreen Philbert¹, Emmanuel Kowero¹, Caritas Kitinya¹, Grace Soka², Notikela Nyamle¹, Nathanael Sirili¹

¹Department of Development Studies, Muhimbili University of Health and Allied Sciences, Dar es Salaam, Tanzania

²National Institute for Medical Research-Muhimbili Centre, Dar es Salaam, Tanzania

*Corresponding author: dburengelo@gmail.com

Received 25 June 2025; Accepted 15 January 2026; Published 25 February 2026

Abstract

Introduction: Community health workers (CHWs) programs are used globally as a strategy to improve the provision of primary health care services, especially in communities experiencing a shortage of health workers. Evidence shows that trained and supported CHWs are effective in providing necessary health care services. However, little is known about how CHWs are engaged to provide prevention of mother-to-child transmission (PMTCT) of HIV services. This study was conducted to analyze the engagement process of CHWs in the elimination of mother-to-child transmission of HIV in Tanzania.

Methods: An exploratory qualitative case study was employed in Ifakara district, Morogoro region. Key informant interviews were conducted with coordinators of HIV/AIDS and PMTCT programs, as well as community-based health programs coordinators at the district level; health officer and executive officers at the ward level; village executive officers; reproductive and child health (RCH) in-charges, chairman of health facility governing committee and CHWs at health facility level. Twenty participants were interviewed until saturation was reached. The information gathered was analyzed using qualitative content analysis.

Results: The uncoordinated process of identifying CHWs by local community leaders, self-introduction of individuals to take role as CHWs and the existence of vertical programs with their own process of locating CHWs were found to challenge the identification process of CHWs at the community level. The recruitment of CHWs was found to involve the selection by community leaders through voting process and some were selected through interviews conducted by in-charges of RCH in health facilities. CHWs received short-term training on HIV/AIDS and treatment adherence from implementing partners, but there was no sustainability plan in place and supportive supervision was limited.

Conclusion: The engagement process of CHWs to provide PMTCT services for the elimination of mother-to-child transmission of HIV faces some key challenges in terms of identification, recruitment and training that require attention for it to be optimal. Strong institutional frameworks, enforcing policy adherence, and enhancing multisectoral coordination are needed to optimize the CHWs contribution to this elimination.

Keywords: Community health worker, HIV, transmission, reproductive, mother-to-child.

Abstract in Español at the end of the article

INTRODUCTION

Increased coverage of antiretroviral therapy (ART) and the prevention of mother-to-child transmission (PMTCT) of HIV/AIDS efforts have resulted in a significant decrease in HIV-related morbidity and mortality

over the past ten years [1]. Nevertheless, more than 90% of new HIV infections in infants and young children are still transmitted from mother to child [2]. Around half of the 180,000 new paediatric HIV infections in 2017 occurred during breastfeeding, and it is estimated that the

risk of transmission is 15–45% in the absence of PMTCT interventions (5–10% during pregnancy, 10–20% during childbirth and 10–20% through mixed infant feeding) [3]. However, with the right interventions, this risk can be lowered to less than 5% [3]. Mother-to-child transmission (MTCT) rates of HIV remain a challenge in Tanzania, with a rate of 6.9% in 2022, compared to global and national targets of less than 5% [4]. More efforts are required to ensure the timely identification of HIV-infected pregnant and breastfeeding women and the provision of ARV medication to prevent MTCT of HIV among exposed infants. This could include utilising community health workers (CHWs) to support services during pregnancy, labour, delivery and breastfeeding.

CHWs have been used to provide primary healthcare services globally, significantly improving population health, particularly in areas with the greatest shortage of healthcare workers [5, 6]. CHWs are health service providers who work in the communities in which they live [7]. They have made a significant contribution to improving access to and coverage of basic healthcare services in communities. Despite the benefits of these programmes, some gaps have been identified, such as inadequacies in training and supervision, low community engagement, and a lack of community supplies [8].

The history of CHWs dates back to the Alma Ata Declaration of 1978, which emphasized the importance of primary health care (PHC) and recognized the role of CHWs in providing health care services [9]. Prior to their engagement in health programs, CHWs were recruited and trained in various health matters with which they would be involved [10]. However, the manner in which they were recruited, trained and supervised varied across countries [11, 12]. In India, the ASHA program involved selecting one woman per village, aged 25–45, who would receive 23 days' training in basic health topics. She would then link community members to health services, provide basic first aid and supplies, and mobilize the community around water, sanitation, nutrition, and health issues [13]. In Rwanda, becoming a CHW required the following: the ability to read and write; an age range of 20–50 years; a willingness to volunteer; residence in the local village; honesty, reliability, and trustworthiness; and election by village members [12]. In order to successfully contribute to the elimination of MTCT of HIV, CHWs must be carefully selected, appropriately trained, and continuously supported.

Tanzania was one of the first countries in the world to introduce a CHW program at a national level in 1967. It made use of CHWs as a frontline cadre to improve access to primary healthcare [14]. Experience in Tanzania and elsewhere has shown that trained and supported CHWs can effectively provide necessary healthcare services to people in households and other community settings [14–16]. Furthermore, the history of CHWs in Tanzania dates back to the period after independence in 1961, when the government aimed to provide all citizens, especially those living in rural areas, with access to

health services [17]. The government therefore recruited members of ujamaa communities to become CHWs. After six months of training, they returned to their communities equipped with a first-aid kit to provide basic primary health care. Moreover, community volunteers were trained and recruited to provide care in various health service areas in Tanzania [18]. However, these programs were short and had limited financial support to improve health service delivery [19].

Consequently, the Ministry of Health (MoH) of Tanzania recognized the need to recruit individuals to support the provision of healthcare in communities [11]. In 2017, it developed a guideline for the introduction of a special cadre of CHWs who would provide health and social welfare services to communities using qualified and skilled CHWs. The guideline envisaged a special group that would be selected and recruited locally, receive training based on a government-approved curriculum, and be employed by the government [20].

Despite efforts to this end, little is known about CHW engagement in providing PMTCT services for the elimination of MTCT of HIV. In this study, we define engagement as a linear process involving the identification, recruitment and preparation of CHWs to provide various primary health services [21]. The extensiveness of the training provided to CHWs to enable them to deliver quality services and limit the transmission of HIV from mother to child is understudied, as is their recruitment process. It is anecdotally known that there is a specific training program for CHWs, which is overseen by the Tanzanian MoH [11]. The Village Health Committee (VHC) is responsible for nominating individuals to apply for the CHW position. Applications are made online via the National Council for Technical Education (NACTE) website [14]. They are then trained using a special curriculum prior to providing services. This study therefore analyzed the engagement process of CHWs for the elimination of MTCT of HIV, capturing the processes involved.

METHODS

Study design

An exploratory, qualitative case study was conducted to analyze the engagement process of CHWs in the elimination of MTCT of HIV in 2021. This approach was chosen as the preparation of CHWs is a complex phenomenon requiring a deeper understanding [22].

Study context

The Tanzanian health system is organized according to the pattern of hierarchical government leadership structures. It comprises three levels: primary, secondary and tertiary. The primary level comprises the district health management team (Council Health Management Team and District Health Services Board), as well as dispensaries, health centers, and district hospitals. At this level, CHWs are involved in various sections to provide

health services, forming a community-based health system (CBHS) [14]. They link the primary health facilities to the local communities. The secondary level comprises regional and regional referral hospitals, while the tertiary level comprises zonal referral hospitals, specialized hospitals and national hospitals [14].

The CBHS involves delivering care to people in their homes and in their local communities. The CBHS was therefore created to expand access to essential health and social services. In Tanzania, the district-level system comprises a Community-Based Health Program (CBHP) Coordinator from the Council Health Management Team (CHMT), who supervises all community-based health activities [23]. At ward and community level, there are CBHP facilitators who work with CHWs and other individuals to provide health services at community level [23].

This study was conducted in the Ifakara District of the Morogoro Region. The region was selected due to the increased prevalence of HIV/AIDS among women of reproductive age, rising from 5% in 2012 to 5.9% in 2017. The study comprised the purposive selection of one rural district due to the presence of a large number of CHW intervention activities.

Study population

The study population included participants from various levels of the healthcare system and government who were involved in selecting and preparing CHWs to provide healthcare services. Specifically, participants comprised the council HIV/AIDS coordinator (CHAC), the district AIDS coordinator (DAC), the district PMTCT coordinator, the community-based health program (CBHP) coordinator, the ward health officer, the ward executive officers (WEOs), the village executive officers (VEOs), health workers, the chairman of the health facility governing committee and CHWs involved in providing PMTCT services in their communities.

Sampling technique

Purposive sampling was used to select the interview participants. The selection focused on identifying key individuals involved in the provision of PMTCT services and the preparation of CHWs in the district. From the council health management team, the CHAC and DAC, the district PMTCT coordinator and the CBHP coordinator were involved in the interviews. At district level, two wards were selected: one rural and one semi-urban. These were Kibaoni and Kidatu wards. At this level, interviews were conducted with the WEOs and the Ward Health Officer from Kidatu Ward. Thereafter, two villages were selected in each ward. The selected villages had a health facility and were Kibaoni, Michenga and Kidatu. The in-charge of reproductive and child health (RCH) at each health facility was involved in the interviews. Moreover, seven CHWs were purposively selected for interviews from the specified villages, including 'Mama Vinara' (community health workers who are skilled in mentoring pregnant and lactating mothers in

the prevention of mother-to-child HIV transmission), who were recruited as part of certain projects. Furthermore, at village level, interviews were conducted with VEOs from Kidatu and Matete villages. Lastly, the chairman of the Kibaoni health center's governing committee was interviewed. In total, 20 participants were interviewed once saturation point was reached.

Data collection

Data were collected between 10 and 23 May 2021. Key informant interviews (KIIs) were conducted with key stakeholders involved in the provision of PMTCT services, and in-depth interviews (IDIs) were conducted with other government stakeholders, including WEOs, VEOs, and the chairman of the health facility governing committee. A semi-structured interview guide was prepared in English and then translated into Kiswahili to simplify data collection. The guide focused on determining the methods used to prepare CHWs, including the personnel involved in the process. Different semi-structured interview guides containing questions specific to each group of informants were used to conduct 15 KIIs and 5 IDIs. During data collection, responses were voice recorded and key data summarized. The principal investigator conducted the interviews with the help of a research assistant who took notes (this person had a background in social sciences). The research assistant transferred the audio recordings of the interviews into a computer, and they were kept securely by the principal investigator and shared only with the research team for analysis.

Data analysis

The interview transcripts were transcribed and analyzed using a content analysis approach [25]. This involved carefully reading the transcripts to familiarize ourselves with the content. The data was then broken down into meaningful parts and assigned labels, called codes. Similar codes were then grouped into categories, which were further refined into broader themes representing the main ideas emerging from the data. Selected quotes were then presented in a matrix under each objective. Two members of the research team double-coded one interview, demonstrating a high level of agreement among the coders. To ensure consensus on data interpretation, the team held meetings to discuss emerging themes and the coding framework after each interview. The results section was then prepared and presented.

Ethics and consent

Ethical approval to conduct this study was obtained from Muhimbili University of Health and Allied Sciences Research and Ethical Review Committee. Furthermore, permission to conduct the study was sought from regional, district, ward and village authorities. Informed consent was also obtained from participants prior to interviews. Participation was voluntary, and non-participation had no effect on the participants' welfare. The interviews were conducted privately and the

information obtained remained confidential, only being seen by the personnel involved in the study. Furthermore, the presentation of the research findings was conducted in such a way that the identity of the study participants was not revealed.

RESULTS

The findings of the study are organized into three sections: the identification process, recruitment process and preparation of the CHWs to provide PMTCT services for the elimination of mother-to-child transmission of HIV. Three categories emerged from the interviews: uncoordinated identification process of CHWs, existence of two-tier system for recruitment of CHWs, as well as inadequate CHWs preparation and supervision (Table 1).

Uncoordinated identification process of CHWs

Two-tier process of identification centered in the community

The participants stated that the identification of the CHWs involved two-tier process as follows: first, identi-

fication through the local community and second, self-introduction to the ward leaders to take on the role of CHW. They commented that, within the community, local community leaders identified the CHWs and shared their names with the village committee for screening and forwarding to the ward level. Depending on the needs and availability of the CHWs, the ward development committee endorsed the names of all or some of those presented by the village committee. The names were then sent back to the village committee.

“It starts at the villages where the village chairman and executive first identify the person and then the village committee conduct meetings to recommend these workers. After they have identified few CHWs, I present the names to the ward development meeting where we recommend some of the names and share with village committee. So, they are usually identified in that way” (Ward executive officer-1)

Table 1. Summary of categories and sub-categories.

Categories	Sub-categories
Uncoordinated identification process of CHWs	<ul style="list-style-type: none"> • Two-tier process of identification centered in the community • Absence of guideline for identification • Presence of unstructured set of qualifications • Existence of vertical programs with own identification process
Existence of two-tier system for recruitment of CHWs	<ul style="list-style-type: none"> • Selection by voting • Selection by interviews • Use of non-standard selection criteria
Inadequate CHWs preparation and supervision	<ul style="list-style-type: none"> • Implementing partners as the pillars for CHWs training • Limited refresher training • Limited engagement of stakeholders in training • Insufficient supportive supervision

Absence of guideline for identification

Study participants commented that there were no standard guidelines available for identifying CHWs.

“We don’ t have guidelines or criteria; we only look at if he/she is capable and also is a hard worker and can work without payment. So, we are very much concentrating on that...” (Ward executive officer-1)

In the absence of guidelines, participants highlighted that individuals funded themselves to attend institutions responsible for training Community Health Workers (CHWs) and receiving health education. They then introduced themselves to their respective wards in order to be recognized as CHWs.

“I have personally paid to go study and after completing the training, I went to the Ward Executive

officer and introduced myself that I am involved in the activities that are related to health, hence, I should directly offer my cooperation” (Community health worker-1)

Presence of unstructured set of qualifications

Some participants stated that the identification process was not guided by structured qualifications. They mainly included the ability to read and write, express oneself easily and understand simple concepts. Furthermore, individuals were required to demonstrate their willingness to volunteer in order to become CHWs.

“The qualities we have, first we look at his/her education, in the education we do not care how much he/she studied, we look at the skills of comprehension, and the ability of a person to express himself/herself and the ability of a person to be

able to speak" (Community Based Health Services Coordinator)

Existence of vertical programs with own identification process

Study participants reported that there were vertical programs with their own CHW identification process, which were mainly implemented at health facilities. In these programs, CHWs were identified by staff in charge of specific departments, such as the Reproductive and Child Health Department. CHWs were predominantly identified among pregnant or breastfeeding women attending PMTCT clinics in specified health facilities, where they provided services to prevent mother-to-child transmission of HIV. These CHWs were specifically chosen to support other women and encourage them to adhere to their treatment. They were referred to as 'Mama Vinara'.

"I was on my usual visitation date of taking medications, and at that time my child was a year and a half - my third set of offspring. A health care worker at the St. Francis Hospital came in and said they needed people for certain activities at the facility. So, I talked to them, we discussed and had mutual understanding, and they said USAID representatives would call me" (Community health worker-7)

Existence of two-tier system for recruitment of CHWs CHWs selection by voting

The findings also showed that the recruitment process for CHWs was systematic and involved multiple stakeholders. It was reported that CHW selection involved voting. Participants commented that this voting process was conducted at village committee meetings. Primarily, CHWs were selected by village leaders, and then by the village committee. Furthermore, the names were sent to the ward development committee for approval.

"Basically, the village chairpersons bring in a number of names and then the village committee will select the suitable names that will be considered. Thereafter, the names will be shared in the main meeting. Afterwards the ward development committee will approve the names and give their blessings" (Ward Health Officer)

CHWs selection by interviews

Participants also mentioned that the CHWs were selected during interviews conducted by the implementing partners in collaboration with the RCH in-charges at the health facilities. These interviews used a semi-structured questionnaire, and only those who answered as expected were selected.

"The implementing partners came and brought their intentions; they are called M to M (mother to

mother), and they came looking for mama vinara and gave their reasons. They specified the requirements and adverts were posted at the health facility. People wrote their application letters and after collecting their letters, a special day for interview was set and letters were written for them to come and do a face-to-face interview" (RCH in-charge-1)

Use of non-standard selection criteria

Furthermore, the participants stated that non-standard criteria were used in the selection process. Most CHWs were recruited for different purposes, and the selection criteria varied according to the activities to be conducted. While some participants mentioned considering an individual's medical or health education background when selecting CHWs, others admitted not using education as a selection criterion.

"They say a person who has an understanding of medical matters, or who has done health activities and stopped and has studied medical attendant course, who is probably just at home. They are looking for a person who has little health education, and they usually select him/her" (RCH in-charge-2)

Conversely, as one participant commented, level of education was not a major selection criterion. The ability to read and write, and to understand and explain simple things, was mostly considered.

"No, we are not looking at education background, rather he/she should be able to read and write and if you observe, most do not have much education, even form four level education. I do not think they have reached that level, but we do not focus on education and most of them have primary level education" (Ward executive officer-1)

Inadequate CHWs preparation and supervision

Implementing partners as the pillars for CHWs trainings

The participants stated that, despite the provision of training for CHWs, there was no specific training institution that enrolled CHWs for the formal training provided for their cadre. They were usually selected for training conducted by the implementing partners, primarily in the context of PMTCT of HIV.

"The person who wants them gives them training, as I mentioned that the Ministry of Health has not incorporated these people in the system at all, so if an organization has their project to do or activity, we provide CHWs. But often before they start their project, they first get training, and when they finish training, their work starts" (Community-Based Health Services Coordinator)

Additionally, during interviews, the informants stated that guidelines were used during training. This was prepared by the respective PMTCT implementing partners, in collaboration with ward/district leaders and health facility managers. In order to deliver services for the prevention of mother-to-child transmission of HIV, the CHWs were first trained in general HIV/AIDS knowledge and treatment adherence. They were then trained to educate mothers on how to prevent transmitting the infection to their children.

“Guidelines are available and there are leaflets you are given. In training, we first understand what HIV is, and thereafter, analyze in general how it is spreading regardless of gender, society or the people who are mostly targeted. For both mother and baby, we can prevent the baby in the womb or during childbirth or breastfeeding. After getting that education altogether, that’s when I get a real picture of how I will be able to educate mother and child so that she can prevent herself from mother-to-child transmission” (Community health worker-2)

However, as the informants mentioned, the training sessions were usually short-term (two weeks), and the arrangements depended on the training program and the activities conducted. The informants shared their experiences of attending the different training sessions, mentioning that most were affected by the low turnout of CHWs due to competing activities.

“These trainings can take up to a week, two weeks depending on the availability of CHWs because sometimes you find them indulged in other activities or you ask the chairman to link them to meeting and they do not come, hence it must cost you to stay” (Community health worker-2)

Limited refresher training

On the other hand, no follow-up training was conducted after the CHWs had received their initial training. Most CHWs had to rely on their work experience to provide services, using the knowledge they had obtained in the initial training.

“...for the people of Boresha Afya that we worked with for three years, there were no refresher trainings. You just continue to provide the services using own knowledge” (Community Health worker-6)

Limited engagement of stakeholders in training

Moreover, informants from the district council mentioned the limited involvement of key government stakeholders in training sessions. For example, the council’s HIV/AIDS coordinator, who plays a key role in HIV prevention in the community, was not involved in training CHWs to prevent mother-to-child transmission of HIV.

Consequently, these leaders were unaware of the training’s content and the extent to which the CHWs were equipped to provide health services for this purpose.

“I have never participated in the trainings of CHWs on health issues. The trainings I have ever met these CHWs are the ones that they are invited by other committees for example to control violence against women, but the main topics are gender issues, violence control issues, child rights issues, but health issues are topics that are rarely discussed” (Council HIV/AIDS coordinator)

Insufficient supportive supervision

Despite receiving supportive supervision from ward and district leaders, as well as health facility in-charges, the level of support provided was insufficient to assist CHWs in their daily health service provision activities. There was no specific supervision schedule, and supervision was sometimes absent. Key personnel involved in health service provision did not closely follow the process, as mentioned by informants from the council health management team.

“Since they have received training, supervision is between the health facilities and the institutions/organizations involved as well as the community leaders and in terms of implementation for the majority I see them working well” (Ward Health officer)

DISCUSSION

Our aim was to analyze the process by which CHWs are engaged in the elimination of mother-to-child transmission of HIV. Our findings revealed that, despite the existence of a national guideline for CHW engagement, its implementation at community level remains fragmented. There is a lack of standardization in the identification of CHWs, with the process often relying on the decisions of informal community leaders and self-nomination. This contradicts the guideline [11], which states that a special cadre of CHWs should be established, with VHCs responsible for their identification and nomination. In other programs, the process differs in that CHWs are formally identified through village leaders with the involvement of VHCs [26, 27]. These committees enhance community participation by holding CHWs accountable, voicing community concerns, and mobilizing resources for health activities and projects to ensure their successful implementation [28].

Moreover, the findings of this study revealed that standard guidelines were not used during the identification of CHWs. The main qualifications looked for by local and health facility leaders in the identification process were the ability to work hard and volunteer in the provision of health services. In contrast, programs using CHWs in other countries such as India and Rwanda

made use of standardized guidelines in their identification processes [12, 13]. Therefore, there is a need to formalize the identification process in order to ensure that CHWs are well-skilled and have similar qualifications, thereby supporting efforts to eliminate mother-to-child transmission of HIV in Tanzania.

This study reported that the recruitment of CHWs was a two-tier system. The CHWs were selected by village committees and approved at ward level prior to attending training to prepare them to provide health services to mothers and children. In another aspect, CHWs, commonly known as 'Mama Vinara', were selected through interviews at health facilities where they attended RCH clinics, as opposed to the CBHP implementation design, which emphasized the selection of CHWs after the nomination of applicants who had completed online applications [11]. In India, the process was different, with CHWs being selected by community leaders, other villagers, and health department officials at a formal village meeting, prior to receiving training [29]. These differences may be a result of the instability of CHW programs in our country, which has led to an absence of a standard recruitment system for CHWs. Furthermore, the fragmented implementation of vertical programs and limited integration of CHW systems in Tanzania may be another root cause of the situation observed. To optimize the elimination of MTCT efforts, CHW recruitment processes must be harmonized across all levels and ensure accountability to national standards.

The challenges observed are not unique to Tanzania; similar issues regarding the non-standardized recruitment of CHWs have been reported elsewhere. For example, in Pakistan and parts of West Africa, CHWs are recruited at the discretion of the community rather than through formal processes [6,30]. Conversely, Rwanda has demonstrated success with structured, community-endorsed CHW recruitment models tied to eligibility criteria and national oversight [12]. The discrepancy with national guidelines in Tanzania highlights the need to strengthen policy enforcement and institutionalize the CHW recruitment process.

Despite the development of a special guideline in 2017 to introduce a special cadre of CHWs to provide health and social welfare services to communities, there are still gaps in the preparation of CHWs in the area of PMTCT. As the findings revealed, the training was conducted as proposed by the HIV implementing partners under special programs. Furthermore, despite the guideline highlighting the posting of CHWs to health training institutions that have been accredited to train CHWs, there was no specific training institution to enroll the CHWs for training specialized for their cadre [11]. Other countries with similar CHW programs use training institutions to prepare CHWs for their roles [31, 32].

Furthermore, as outlined in the findings, CHWs involved in the PMTCT received short-term training fo-

ocusing on providing HIV/AIDS education, including PMTCT, to community members; counselling on adherence to treatment; and identifying danger signs in children to enable quick access to first aid services and save lives. Despite it being stipulated in the 2017 National Community-Based Health Program that CHWs should undergo 9 months of training at a health training institution prior to delivering health services, its implementation remains sub-optimal. A similar study was conducted in Tanzania to deliver an intervention to improve antenatal care and PMTCT uptake using CHWs. In this study, individuals were trained for five days in antenatal care (ANC) and PMTCT, including communication and counselling skills, monitoring and evaluation of health interventions, and data collection and management [33]. Conversely, other CHW programs utilize a year or more to train individuals to become CHWs, ensuring they are competent and can perform their roles effectively and consistently [5, 30].

Post-training supervision is essential for the success of CHW programs. Furthermore, CHWs require on-the-job supervision to enable them to carry out their duties effectively and establish a link between the community and health facilities [34]. As revealed by our study, supervision was primarily left to ward and facility levels without systematic follow-up. This contradicts global best practice, which emphasizes that structured, supportive supervision is a key factor in determining CHW performance and retention [34]. Furthermore, these CHWs did not receive any refresher training, which meant they struggled to work with the limited knowledge they had. In other programs, CHWs were supervised by health providers and received refresher training one year into the project, enabling them to conduct their activities efficiently [33, 35, 36]. Studies from Kenya and South Africa have shown that integrating refresher training and mentorship improves the effectiveness of CHWs in maternal and child health services [32, 35].

Study limitations

As the study relied on the experiences of CHWs, program coordinators and other government leaders in Ifakara District, there is a potential for bias, which makes the results difficult to generalize to a larger population. Despite this limitation, the study provided a foundation for understanding the engagement process of CHWs and documented the gaps observed in this process.

Conclusion

Despite clear national guidelines, our study reveals that the engagement of CHWs in PMTCT services in Tanzania is sub-optimally implemented. The identification, recruitment, training and supervision processes are fragmented. To optimize the contribution of CHWs to the elimination of MTCT, strong institutional frameworks are needed to enforce policy adherence and enhance multisectoral coordination. Further studies are required to evaluate the effectiveness of various CHW recruitment and training models in different Tanzanian settings, and

to evaluate the impact of CHW engagement aligned with guidelines on PMTCT outcomes.

DECLARATIONS

AI utilization

Not applicable.

Competing interests

The authors declare that they have no conflicts of interest.

Funding

This work was made possible through the support of Global fund. The funder had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Author contributions

All authors have contributed sufficiently to meet the criteria for authorship, as per the ICMJE authorship criteria, and have made the following contributions: DB and NS, contributed to the conception and design of the study. DB conducted the acquisition and analysis of data. DB, NN and NS contributed to the analysis and interpretation of results. DB drafted the manuscript, which was

critically revised by NS. All authors read and approved of the final manuscript.

Data availability

The authors confirm that the data supporting the findings of this study are available upon reasonable request.

Acknowledgements

Our sincere appreciation goes to the Regional Medical Officer of Morogoro region, District Medical Officer of Ifakara Town Council, all members of the Council Health Management Team, Leaders of Kibaoni and Kidatu wards with their villages, Health workers and community health workers at the health facilities in Kibaoni, Michenga and Kidatu as well as all other participants of the study.

ORCIDiDs

Dorica Burengelo  0000-0002-0193-7159

Doreen Philbert  0000-0001-7806-7705

Emmanuel Kowero  0000-0002-9667-5111

Caritas Kitinya  0000-0003-0376-4762

Grace Soka  0009-0006-7728-6328

Notikela Nyamle  0009-0004-1442-8056

ABSTRACT IN SPANISH

Vinculación de los promotores de salud para la eliminación de la transmisión materno-infantil del VIH: la experiencia de Morogoro, Tanzania

Introducción: Los programas de promotores de salud (PS) se utilizan a nivel mundial como una estrategia para mejorar la prestación de la atención primaria de salud, especialmente en comunidades que enfrentan escasez de personal sanitario. La evidencia muestra que los PS debidamente capacitados y apoyados son eficaces en la provisión de servicios de salud esenciales. Sin embargo, se conoce poco sobre la forma en que los PS participan en la prestación de servicios para la prevención de la transmisión materno-infantil (PTMI) del VIH. Este estudio se realizó con el fin de analizar el proceso de vinculación de los PS en la eliminación de la transmisión materno-infantil del VIH en Tanzania.

Métodos: Se empleó un estudio de caso cualitativo exploratorio en el distrito de Ifakara, región de Morogoro. Se realizaron entrevistas a informantes clave con coordinadores de los programas de VIH/SIDA y PTMI, así como con coordinadores de programas de salud comunitaria a nivel distrital; funcionarios de salud y ejecutivos a nivel de distrito administrativo (ward); líderes de las comunidades; responsables de salud reproductiva e infantil (SRI), el presidente del comité de gestión del establecimiento de salud y PS a nivel de los establecimientos de salud. Se entrevistó a un total de veinte participantes hasta alcanzar la saturación. La información recopilada se analizó mediante análisis de contenido cualitativo.

Resultados: Se identificó que el proceso no coordinado de identificación de los PS por parte de líderes comunitarios locales, la auto-postulación de personas para asumir el rol de los PS y la existencia de programas verticales con sus propios mecanismos de identificación de los PS dificultan el proceso de identificación a nivel comunitario. Se observó que el reclutamiento de los PS incluyó la selección por parte de líderes comunitarios mediante procesos de votación, así como la selección a través de entrevistas realizadas por los responsables de SRI en los establecimientos de salud. Los PS recibieron capacitaciones de corto plazo sobre VIH/SIDA y adherencia al tratamiento por parte de socios implementadores; sin embargo, no existía un plan de sostenibilidad y la supervisión de apoyo era limitada.

Conclusión: El proceso de vinculación de los PS para la provisión de servicios de PTMI orientados a la eliminación de la transmisión materno-infantil del VIH enfrenta desafíos clave relacionados con la identificación, el reclutamiento y la capacitación, los cuales requieren atención para optimizar dicho proceso. Se necesitan marcos institucionales sólidos, el fortalecimiento del cumplimiento de las políticas y una mayor coordinación multisectorial para maximizar la contribución de los PS a esta meta.

Palabras clave: Promotor de salud, VIH, transmisión, reproductiva, materno-infantil.

REFERENCES

- [1] Granich R, Gupta S, Hersh B, Williams B, Montaner J, Young B, et al. Trends in AIDS deaths, new infections and ART coverage in the top 30 countries with the highest AIDS mortality burden, 1990–2013. *PLoS One*. 2015;10(7):e0131353.
- [2] Schouten EJ, Jahn A, Midiani D, Makombe SD, Mnthambala A, Chirwa Z, et al. Prevention of mother-to-child transmission of HIV and the health-related Millennium Development Goals: time for a public health approach. *Lancet*. 2011;378(9787):282–284.
- [3] Joint United Nations Programme on HIV/AIDS (UNAIDS). Start free stay free AIDS free: 2017 progress report. Geneva: UNAIDS; 2017.
- [4] Tanzania Commission for AIDS (TACAIDS). National HIV prevention road map 2023/24–2026/27. Dar es Salaam: TACAIDS; 2024.
- [5] World Health Organization. Global experience of community health workers for delivery of health-related Millennium Development Goals: a systematic review, country case studies, and recommendations for integration into national health systems. Geneva: WHO; 2010.
- [6] Perry HB. A brief history of community health worker programs. Baltimore (MD): Johns Hopkins Bloomberg School of Public Health; 2013.
- [7] Lehmann U, Sanders D. Community health workers: what do we know about them? The state of the evidence on programmes, activities, costs and impact on health

- outcomes of using community health workers. Geneva: World Health Organization; 2007.
- [8] Jackson W, Singh D. Bridging healthcare gaps: the role of community health workers in addressing access inequities. 2024.
- [9] World Health Organization. Declaration of Alma-Ata. Geneva: WHO; 1978.
- [10] Haver J, Brieger W, Zoungrana J, Ansari N, Kagoma J. Experiences engaging community health workers to provide maternal and newborn health services: implementation of four programs. *Int J Gynaecol Obstet.* 2015;130 Suppl 2:S32–S39.
- [11] Ministry of Health, Community Development, Gender, Elderly and Children. National community-based health programme: implementation design. Dar es Salaam; 2017.
- [12] Ministry of Health of Rwanda. National community health strategic plan July 2013–June 2018. Kigali: Ministry of Health; 2013.
- [13] National Health Mission. About Accredited Social Health Activist (ASHA). New Delhi: Ministry of Health and Family Welfare; 2014. Available from: <https://nhm.gov.in/index1.php?lang=1&level=1&sublinkid=150&lid=226>.
- [14] Advancing Partners and Communities (APC). Community health systems catalog country profile: Tanzania. Washington (DC): APC; 2017. Available from: https://www.advancingpartners.org/sites/default/files/catalog/profiles/apc_tanzania_profile-web_tagged.pdf.
- [15] Perry HB, Chowdhury M, Were M, LeBan K, Crigler L, Lewin S, et al. Community health workers at the dawn of a new era: 11. CHWs leading the way to Health for All. *Health Res Policy Syst.* 2021;19(1):111.
- [16] Ballard M, Dahn B, O'Donovan J, Jiménez A, Kawooya P, Raghavan M, et al. One term to transform: universal health coverage through professional community health workers. *Lancet.* 2025.
- [17] Aelie G. Representations of community health workers in Tanzania's national community-based health program policy: a descriptive case study. 2018. Available from: <http://www.thecitizen.co.tz/magazine/1840564-4537704-14diji7z/index.html>.
- [18] Mkumbo E, Hanson C, Penfold S, Manzi F, Schellenberg J. Innovation in supervision and support of community health workers for better newborn survival in southern Tanzania. *Int Health.* 2014;6(4):339–341.
- [19] Shoo R, Mzige A. Review of community health worker cadres training programs in Tanzania. Report commissioned by the United Republic of Tanzania Ministry of Health and Social Welfare and UNICEF; 2011.
- [20] Rafiq MY, Wheatley H, Mushi HP, Baynes C. Who are CHWs? An ethnographic study of the multiple identities of community health workers in three rural districts in Tanzania. *BMC Health Serv Res.* 2019;19(1):1–15.
- [21] Jaskiewicz W, Deussom R. Recruitment of community health workers. Draft report. 2013.
- [22] Yin RK, Hollweck T. Case study research design and methods. 2014.
- [23] Ministry of Health. National operational guideline for community-based health services. Dar es Salaam: Ministry of Health; 2021.
- [24] National Bureau of Statistics. Tanzania HIV impact survey (THIS) 2016–2017. Dar es Salaam; 2018.
- [25] Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res.* 2005;15(9):1277–1288.
- [26] Ministry of Health and Family Welfare, Government of India; National Rural Health Mission. Guidelines for community processes. New Delhi; 2013.
- [27] Kanté AM, Exavery A, Jackson EF, Kassimu T, Baynes CD, Hingora A, et al. The impact of paid community health worker deployment on child survival: the CONNECT randomized cluster trial in rural Tanzania. *BMC Health Serv Res.* 2019;19(1):492.
- [28] Karuga R, Kok M, Luitjens M, Mbindyo P, Broerse JEW, Dieleman M. Participation in primary health care through community-level health committees in sub-Saharan Africa: a qualitative synthesis. *BMC Public Health.* 2022;22(1):1–15.
- [29] Banerjee B. National Health Mission. In: Taneja DK, editor. Health policies and programmes in India. New Delhi; 2017. p. 86.
- [30] Zulliger R. Pakistan's Lady Health Worker Program. 2015.
- [31] de Castro P, Bucciardini R, Tatarelli P, Campagnoli M, Abegaz T, Berhe M, et al. Training for community health workers: the first step towards a model of community antiretroviral therapy delivery. *Afr J Soc Work.* 2019;9(2):10–15.
- [32] Schneider H, Hlophe H, Van Rensburg D. Community health workers and the response to HIV/AIDS in South Africa: tensions and prospects. *Health Policy Plan.* 2008;23(3):179–187.
- [33] Lema IA, Sando D, Magesa L, Machumi L, Mungure E, Sando MM, et al. Community health workers to improve antenatal care and PMTCT uptake in Dar es Salaam, Tanzania: a quantitative performance evaluation. *J Acquir Immune Defic Syndr.* 2014;67 Suppl 4:S195–S201.
- [34] Karuga RN, Mireku M, Muturi N, McCollum R, Vallieres F, Kumar M, et al. Supportive supervision of close-to-community providers of health care: findings from action research conducted in two counties in Kenya. *PLoS One.* 2019;14(5):e0216527.
- [35] Kawakatsu Y, Sugishita T, Orwenjo K, Kibosia K, Wakhule S, Were E, et al. Effectiveness of refresher training for community health workers and their supervisors on defaulter tracing activity in Nyanza Province, Kenya. 2013.
- [36] Pallas SW, Minhas D, Pérez-Escamilla R, Taylor L, Curry L, Bradley EH. Community health workers in low- and middle-income countries: what do we know about scaling up and sustainability? *Am J Public Health.* 2013;103(7):e74–e82.