

Perceived Barriers Toward Provider-Initiated HIV Testing and Counseling (PITC) in Pediatric Clinics: A Qualitative Study Involving Two Regional Hospitals in Dar-Es-Salaam, Tanzania

This article was published in the following Dove Press journal:
HIV/AIDS - Research and Palliative Care

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Background: According to Provider-Initiated HIV Testing and Counseling (PITC), health-care providers recommend HIV testing and counseling to persons attending health care facilities as a standard component of medical care. In order to reduce the morbidity and mortality of late Human Immunodeficiency Virus (HIV) diagnosis, timely diagnosis and initiation of ARVs is necessary. This aims to accelerate universal access to HIV prevention, treatment, care, and support services for people living with HIV/AIDS. The present study aimed to explore perceived barriers toward PITC provision in pediatric clinics.

Methods: The study had a cross-sectional exploratory study design. In-depth interviews were used to collect data from the informants in Mwananyamala and Temeke hospitals in Dar-es-Salaam. Nineteen informants were recruited purposely for in-depth interviews. All the interviews were audio recorded, transcribed verbatim, and translated from Swahili to English. Lastly, data were analyzed using a thematic analysis approach.

Results: The study findings showed six barriers including inadequate training on PITC among healthcare providers, little practice of PITC provision, inability to properly counsel patients due to little knowledge, poor attitude of healthcare providers in providing PITC, shortage of healthcare providers, and little motivation and incentives among healthcare providers. Patient barriers included little understanding of PITC among parents/guardians of children and its importance in terms of their children's health, absence of parents, overcrowding at clinics, HIV/AIDS stigma, lack of privacy at clinics, and harsh language of some of the healthcare providers. Health facility barriers included inadequate space to provide PITC and shortage of medical equipment and medical supplies for HIV testing. Policy-related barriers included the absence of PITC guidelines in each consultation room.

Conclusion: Perceived barriers toward PITC must be understood for effective implementation of PITC to reach 90-90-90 goal. The study identified several barriers which need to be addressed in order to improve PITC provision.

Keywords: pediatric clinics, HIV/AIDS, PITC, perceived barriers

Introduction

HIV/AIDS continues to be one of the major public health problems affecting people worldwide. Children are not spared by the epidemic. By the end of 2015, it was estimated that 5 million children died of AIDS-related causes since the start of the HIV epidemic and more than 90% of them were living in sub-Saharan Africa.¹ According to the Tanzania

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HIV impact survey (THIS) of 2017, the prevalence of HIV among children aged 0–14 was 0.4%.²

The UNAIDS goals to end the HIV epidemic calls for the ambitious 90-90-90 target. In order to achieve the first ninety (90% of people should know their HIV status), provider-initiated counseling and testing is inevitable.^{3,4} In Tanzania, the PITC policy was adopted in 2007 but still, only a small proportion of people in the country know their HIV status. Furthermore, the provision of PITC among healthcare providers is still low.

Whereas it is estimated that children make more than one attendance to health facilities per year, the proportion receiving PITC is far below the proposed goal.⁵ It is reported that only sixty percent of people in Sub-Saharan Africa know their HIV status, hence more new infections and HIV related deaths.⁶ Also, in a recent study done in Tanzania, it was reported that only 30% of children were offered PITC.⁷

Mitigation of the HIV burden in children includes among others, efforts toward the 90-90-90 goal; which is 90% of the people living with HIV should know their status, 90% of the people who know they are HIV positive should be accessing treatment, and 90% of the people receiving treatment should have suppressed viral load.⁸ In order to make progress toward the 90-90-90 goal, it is important for people to know their HIV status, which could be through voluntary HIV counseling and testing or through provider-initiated HIV counseling and testing (PITC).^{6,9}

While PITC may have high testing acceptability, most studies show the low PITC provision among healthcare providers in pediatric cases in both inpatient and outpatient departments. In Zimbabwe, one study showed that among 2,831 children attending health clinics who were eligible for PITC, only 54.2% underwent HIV testing.¹⁰ HIV test was also not offered to 47% of children who were eligible for PITC.¹¹

Despite PITC being the corner-stone of diagnosis of HIV, there are still several persisting perceived barriers which prevent scaling up of PITC services' delivery in most of the countries in Sub-Saharan Africa. The most common barrier to HIV testing being symptom based PITC approach followed by many health providers/clinicians, thus, late HIV diagnosis.⁴

Healthcare provider barriers to PITC provision include few human resources for health available causing healthcare providers to attend to too many patients at clinics and therefore available health care providers feel overwhelmed by the additional work load required to offer PITC.¹²

Healthcare providers face challenges in providing HIV testing and counseling to children due to uncertainty about

consent. In some states, the available guardians deemed it unsuitable to give consent, hence hindering PITC provision. One study showed that nearly 60% of guardians did not deem it suitable to give consent, thus PITC was not provided to the children.¹¹ This was obtained from the study of PITC in children, hence this study will explore more patient barriers toward PITC provision.

Other health facility barriers include lack of HIV testing facilities, lack of drugs and reagents, and longer distances to health facilities. This was described by the study on knowledge, attitude, and acceptability of PITC from a patient's perspective.¹³ Thus, broader health system strengthening is needed to ensure good PITC coverage.

Most studies on PITC have looked at assessing healthcare providers' knowledge, attitude, acceptability, and practice of PITC. There is limited knowledge on perceived barriers toward PITC provision by healthcare providers, patients and health facilities, which is crucial, with new focus on reducing new HIV infections. Since PITC is a provider decision, there is an important need to understand what the perceived barriers toward provision of PITC are.

This study assessed the perceived barriers toward PITC in pediatric clinics which the majority of clients attend. The study explored the perceived barriers from the perspective of healthcare providers and patients, and health facility aspects. The three sources were triangulated to show the existing perceived barriers toward PITC provision. When the barriers toward PITC are known and taken into consideration, it will increase knowledge and practice of PITC. The study findings will also help improve early HIV diagnosis by addressing the barriers toward PITC provision, hence reducing HIV/AIDS morbidity and mortality in children.

Materials and Methods

Objectives, Design, and Setting

This study had four objectives: first was to explore healthcare providers' perceived barriers toward PITC provision in pediatric clinics; secondly to explore patients' perceived barriers toward PITC in pediatric clinics; thirdly to assess health facility barriers which influence PITC provision in pediatric clinics; and lastly to analyze policy-related barriers toward PITC provision in pediatric clinics.

To achieve these objectives, a case study approach was adopted from study respondents in Mwananyamala and Temeke hospitals in Dar-es-Salaam. Dar-es-Salaam was chosen as the study area. According to the 2017 Tanzania

HIV impact survey, the national prevalence of HIV was 5% and in Dar-es-Salaam region the prevalence was 4.7%. Mwananyamala referral hospital is in Kinondoni District, with a population in catchment area around 2,226,692, which is the largest of all with a bed capacity of 254, while Temeke Referral hospital in Temeke district has a 1,368,881 population in the catchment area with 304-bed capacity. Both hospitals offer all the referral services including HIV testing and counseling, and access to high-tech diagnostic equipment.

Sampling and Recruitment

Purposive sampling was used to obtain a total number of nineteen informants in two regional hospitals in Dar-es-Salaam city, which were Mwananyamala and Temeke hospitals in Kinondoni and Temeke districts (2017 PITC uptake was around 11.2% and 12.6% respectively). The study population included District AIDS Control Coordinator (DACC) at the district level and all health care providers working in pediatric clinics, including RCH and outpatient department, health facility Medical Officer in-charge (MOI), and parents/guardians of the children (who must have known the child for more than one year), attending pediatric clinics in Reproductive and Child Health clinics (RCH) where under-five year old children attend and outpatient departments where above-five year old children attend at the facility level.

Inclusion Criteria

The inclusion criteria included nurses and doctors working in pediatric clinics for more than 6 months prior to the study, District AIDS Control Coordinator, Health facility Medical Officer in charge, and parents/guardians of the children attending pediatric clinic at the time of the study. In Mwananyamala hospital, nine informants participated in this study, these included 2 doctors, 1 nurse, 1 MOI, and 5 parents/guardians of children. In Temeke hospital, eight informants participated in this study including 1 doctor, 1 nurse, 1 MOI, and 5 parents/guardians of children. From each district, DACC participated.

Data Collection Methods and Instruments/Tools

In-Depth Interviews

These included direct unstructured formal interviews on the basis of one by one, involving healthcare providers, parents/guardians with children attending hospital, DACC, health facility MOI, and Hospital Secretary. Respondents'

interview guide was used to seek information in the form of questions, probes and additional description. Interview guides included in depth interview guide with key issues of perceived barriers toward PITC exploring healthcare providers' barriers, patients' barriers, and health facility related barriers. The questions were molded further depending on the responses to the questions. The length of each interview was 30 min to one hour. The themes of interview covered barriers toward PITC provision.

Key Informant Interviews

Out of 19 respondents, 6 were subjected to key informants' interviews including DACC from each district and Health facility MOI and Hospital Secretary from each hospital. The aim was to get more supporting information from the administration which should support PITC provision. The key informant interview was guided by a specific set of questions. The key informant interview lasted for 30 to 45 mins.

Data Collection Procedures

This study was preceded by introductory visits prior to data collection to pre-test the tools and ensure that collection tools are valid. Interviews for healthcare providers and officials were conducted in their offices during their proposed free time. All caretaker interviews were conducted after doctor's consultation in a quiet and private place away from the providers.

The data collection tools were translated to Kiswahili to minimize language barriers and to provide similar meaning to all participants. Similar language was used to conduct all interviews. Moderators with English/Swahili background were used.

All interviews were tape-recorded using a digital voice recorder and a review session was done at the end of each interview.

There was a research assistant with public health background who was oriented about the research objectives and how to facilitate the interview, note-taking and audio recording. Permission for note-taking and audio recording was requested and granted by the participants. There were no incentives provided to the participants. Daily debriefing sessions were conducted per required need.

Data Analysis

After the audio files' transcription, data were analyzed using a thematic analysis approach (Patton 1990). Thematic analysis approach involved identifying, analyzing, and reporting patterns (themes) within the data. The analysis in this study, using a thematic approach, involved coding in six main

phases to generate established meaningful patterns with the aim of identifying themes within the data. This included familiarization with the collected data, creation of codes, searching for themes among the codes, reading and reviewing the coded data to see if they form coherent patterns, define and refine the existing themes that were presented in the final analysis, and presentation of the themes based on the final analysis. The analysis was done with the assistance of NVivo qualitative data analysis software. Coding was checked by a fellow independent researcher by cross checking interpretation and reliability. Finally, the in-depth picture of the case was presented using narrative supported by verbatim quotations.

Results

Characteristics of the Study Respondents

A total number of 19 respondents participated in the in-depth interview including 6 males and 8 females. This included 3 medical doctors, 2 nurses, 2 medical officers in charge, 2 DACC and 10 parents/guardians of the children attending the pediatric clinic. The mean age of all study participants was 34 years. In both health facilities which were studied, most of the parents/guardians were mothers of the children and were petty traders and housewives.

Perceived Healthcare Providers' Barriers Toward PITC Provision

This study revealed six barriers, including inadequate training on PITC among healthcare providers, little practice of PITC provision, inability to properly counsel patients due to little knowledge, poor attitude of healthcare providers toward PITC provision, shortage of healthcare providers, and little motivation and incentives. Each of the findings is substantiated below.

Inadequate Training on PITC Among Healthcare Providers

The study found that some healthcare providers have not been given training on PITC. Even those healthcare providers who were trained on PITC reported that they were overloaded with work due to the shortage of healthcare providers, thus they cannot effectively offer PITC;

There are those who are trained on PITC and those who are not trained on PITC and some of us who have received PITC training find that we do not get time for PITC provision because we are very few. (Healthcare provider, 01)

Further, all healthcare providers reported having received training on PITC, but it was more than one year ago;

There is low PITC provision due to the fact that some of the healthcare providers received PITC training in the past and there are no recent updates offered on PITC. (Healthcare provider, 03)

However, it was also reported that some of the NGOs, such as Management Development for Health (MDH), were ready to fund and facilitate training on PITC to some of the health facilities according to the available funds. This caused other facilities to be funded by the government only, hence few opportunities for training on PITC;

MDH is always ready to offer PITC training when we request them; they do organize a lot of training for us depending on our need. You know the truth is, health facilities which have other sources of funds apart from the government, seem to be doing better than the rest of health facilities. This is because they are motivated with training and have good awakening on PITC. (DACC 01)

Little Practice of PITC Provision

The study found that PITC provision was mandatory in under-five children and their parents if they would have to be accepted in the RCH clinics. However, for children above five years who are seen at outpatient departments (OPD) together with adults before being referred to a pediatrician for further management, PITC provision is entirely dependent on the healthcare providers attending to them;

For under-five children at RCH, HIV testing is offered to them regardless of any situation as it is mandatory for them. The problem is for older children who are attending together with adults at OPD, not all of them are offered PITC. (Healthcare provider, 03)

Healthcare providers reported that the main challenge for PITC provision was lack of seriousness to provide PITC service. Most of the healthcare providers thought there were PITC/HIV focal people responsible for that, thus, PITC not owned by all healthcare providers or is not part of their responsibilities;

You know the challenge is that healthcare providers take the issue of PITC provision lightly, so patients are not counseled enough as healthcare providers think patients will receive proper counseling at CTC/HIV testing room with specific healthcare providers appropriate for counseling. (MOI 01)

A further challenge was that the healthcare providers practiced symptom based approach whereby healthcare providers initiate PITC to the patients presenting symptoms and signs of HIV/AIDS. This also included some medical cases whereby HIV testing will be part of the management of the disease;

If a doctor sees the need, he/she counsels the patients for HIV testing at OPD, and if he thinks he cannot provide HIV counseling enough there are senior nurses in CTC who can intervene. Hence the idea of testing each and every patient is not applicable all the time. (MOI 02)

Inability to Properly Counsel Patients Due to Little Knowledge

Healthcare providers do not have enough knowledge of counseling for HIV testing for effective PITC provision. This results in inability to properly counsel patients, leading to parents'/guardians' refusal to have their children tested for HIV;

Healthcare providers do not have sufficient knowledge on HIV counseling, so it is possible that when we talk to our clients we do not persuade them enough. (MOI 02)

Poor Attitude of Healthcare Providers Toward PITC Provision

Most of the parents/guardians of the children reported that healthcare providers do not see the importance of PITC provision and sometimes parents/guardians of the children may request the test for their children;

I think healthcare providers do not see the importance of PITC provision as they are only interested in attending to the disease that the patient has first, sometimes we as patients tend to request the HIV test. (Guardian, 04)

Shortage of Healthcare Providers

The findings of this study showed there was a shortage of doctors; one doctor was attending an average number of above 30 patients per day. This situation is not effective for PITC provision as PITC requires more time to counsel the patients to agree to the HIV test;

I can serve up to 50 or 60 patients per day, and it might take 15 to 20 minutes to provide PITC. If all of the patients agree, there is no problem but you can find that most of them require more time to counsel for them to agree to undergo

HIV testing. Now this is not possible for all patients to be attended on time. (Healthcare provider, 01)

Furthermore, the most common findings from this study contributing to the shortage of healthcare providers were redundancies which took place in the country due to fake certificates. Majority of healthcare providers lost their jobs since this fifth presidential term. Also, there will be no new recruitment until the exercise of verifying certificates is finished. Thus, there were few healthcare providers available at the time of this study;

There is a shortage of healthcare providers at the health facilities and this is because a lot of people were fired by the current leadership because of possessing fake certificates. (Healthcare provider, 01)

Little Motivation and Incentives to the Healthcare Providers

The findings from this study showed that there were very few available incentives and mainly from one of the NGOs named Management and Development for Health (MDH), covering only those healthcare providers with patients post HIV counseling and testing who were found to be HIV positive. This caused lack of motivation among healthcare providers. Also, the shortage of healthcare providers and inadequate rooms to offer PITC at the health facilities contribute to low motivation among the available healthcare providers to offer PITC;

You cannot demand much from the few healthcare providers available unless you motivate them with more incentives and more staff. "Even a donkey has to share the load with other donkeys." This is a Swahili parable used to stress the matter. (MOI 01)

Perceived Patients' Barriers Toward PITC Provision Among Healthcare Providers

Further, the study sought to explore perceived patients' barriers toward PITC provision in pediatric clinics. This study revealed six barriers including little understanding of PITC among parents/guardians of children and its importance in their children's health, the absence of parents, overcrowding at clinics, HIV/AIDS stigma, lack of privacy at clinics, and harsh language used by some of the healthcare providers.

Low Understanding of PITC Among Parents/Guardians of Children and Its Importance in Their Children's Health

The study found that there are few parents/guardians of children who had a good understanding of PITC and how important it is for someone to know his/her health status. However, in their own words, some respondents revealed that at the community level, many people still have a negative perception toward HIV/AIDS. This was reported to have hampered them to access HIV services including VCT because of lack of education on HIV/AIDS;

You know that many people think that being infected with HIV is the end of life, but it is not. People still have fear of HIV testing and this is caused by lack of education, thus we need to educate people that HIV/AIDS is like any other disease if you start treatment early. (Parent 02)

Absence of the Parents During Child's Visit to the Hospital

The study found that the absence of the parents during the child's visit to hospital was one of the barriers toward readiness to undergo HIV testing. This was because most of the children were accompanied by guardians, most of whom declined HIV testing for children since they are not the parents. Hence, healthcare providers were not able to provide PITC due to the absence of the parents during a child's visit to the clinic;

We provide counseling to the guardian accompanying the child to the clinic when the parent is not present. If the guardian is not comfortable for the child to undergo HIV test, we do not force HIV test on the child. We just emphasize that; the parent should accompany the child on the next visit to the hospital. (Healthcare provider, 05)

Patient Overcrowding

Furthermore, the study found that both health facilities were overcrowded by patients and this was mainly caused by the shortage of healthcare providers, thus PITC could not be offered as PITC is time-consuming;

You can find that two doctors are serving about 200 patients, this causes the healthcare providers to attend patients in a hurry and not performing PITC which consumes time. (Healthcare provider, 04)

HIV/AIDS Stigma

The study found that many parents/guardians were not comfortable to undergo the HIV test due to the fear of being gossiped about in their communities;

Sometimes the patients fear that they will be gossiped about and discriminated against in the community hence refuse to be tested. This is because information on HIV/AIDS is still low in the community. (Parent, 07)

Lack of Privacy

The study found that lack of privacy was present in both health facilities. This was due to a shortage of consultation rooms which caused the doctors to share consultation rooms, which is not good in maintaining privacy among patients for effective PITC. Thus, due to lack of privacy, many patients are afraid to undergo the HIV test, hence refusing PITC offered by healthcare providers;

Due to a shortage of rooms, doctors tend to share the rooms thus no privacy among the patients. This has caused patients not to be open about their health status and sometimes refuse HIV testing. (Healthcare provider 03)

Harsh Language Used by Some of the Healthcare Providers

The study found that parents/guardians of children reported harsh language used to communicate with them from some of the healthcare providers which cause parents/guardians of the children attending the clinic not to accept HIV testing for their children;

The healthcare providers are not friendly most of the time as they are harsh and always in a hurry to attend to their patients thus do not communicate well with their patients for them to understand well and agree to undergo HIV test. (Guardian 01)

Health Facility Barriers

This study revealed two barriers including inadequate space to provide PITC and shortage of medical equipment and medical supplies for HIV testing.

Inadequate Space to Provide PITC

The study found that after PITC provision in the doctor's room, the patient has to go to HIV testing points for HIV test and this was due to a shortage of rooms. The fact that the HIV test is not done in the same

doctor's consultation room causes some of the patients to abscond from treatment;

Ideally, for effective PITC the doctor should initiate PITC and conduct HIV testing in the same room, which is not possible as healthcare providers tend to share the rooms. (DACC 02)

Shortage of Medical Supplies and Equipment for HIV Testing

The study found that there was a shortage of HIV test kits and reagents in some quarters and this was due to negligence in ordering and purchasing, thus running out of medical supplies;

In reality, even if we say we have run out of equipment, it is just because of issues in ordering and purchasing from MSD. (DACC 01)

Policy Related Barriers

This study revealed the presence of few PITC guidelines in specific HIV testing points and lack of implementation of the available PITC guidelines among healthcare providers as the policy related barriers.

The Presence of Few PITC Guidelines in Specific HIV Testing Points

The study found that PITC guidelines were available only in the specific HIV testing points and not in each doctor's consultation room;

At every HIV testing point, there are guidelines and signs available which guide on PITC provision. (MOI 01)

Regarding the PITC guidelines, it was reported that healthcare providers do not revise the guidelines often in order to keep themselves updated, since healthcare providers do not have the culture of reading books for themselves, because most of the time they are overwhelmed with work;

Most of the healthcare providers do not revise the guidelines often as they are busy attending patients. You know most of the Tanzanians do not have the culture of reading books often and you will not be surprised finding guidelines covered with dust. (Healthcare provider, 03)

Lack of Implementation of the PITC Guideline Among Healthcare Providers

As reported earlier, the study found that healthcare providers were not able to implement PITC guideline which recommends that PITC should be provided to each and every patient attending a health facility. It was reported that this was caused by the health facilities being overburdened and under-resourced as there was a shortage of healthcare providers and lack of adequate space to offer PITC to each patient attending the health facility;

The idea of testing each and every patient attending the health facility is not possible because we are few and most of us tend to share consultation rooms, hence no privacy. We tend to provide PITC only to the patients who should know their status to complete the treatment because it is not possible to test each and every patient. (Healthcare provider, 03)

Discussion

This study focused on exploring perceived barriers toward PITC provision among children in pediatric clinics. The study found that one of the healthcare providers' barriers toward PITC provision was lack of training on PITC among healthcare providers. Presence of healthcare providers well-trained on PITC is important for effective PITC provision. Even the Tanzania National PITC guidelines together with Tanzania National HIV/AIDS Policy, have emphasized the availability and accessibility of trained healthcare providers for effective PITC provision especially in pediatric departments. Similar findings have been reported on lack of adequate knowledge and training in PITC among healthcare providers as the barriers toward PITC provision.^{12,14,15} If healthcare providers are not empowered with regular training on PITC, the efforts toward reaching 90% of children knowing their status will be a waste as there will be no effective PITC provision as only a small number of patients will be offered PITC services.

Shortage of healthcare providers was found to be a barrier toward PITC provision in health facilities. The study found that one healthcare provider can attend to more than 50 patients per day, which is a large number contrary to standards stipulated by WHO. Thus, healthcare providers do not have enough time to spend on PITC as PITC is time-consuming. Other studies in low income countries have identified similar situations, ie, there are few human resources for healthcare provision, which makes them feel overwhelmed when an extra workload of PITC provision is added, taking

into consideration that they are already attending to too many patients at the clinics.^{11,13-17} Additionally, healthcare providers reported that the shortage of healthcare providers was caused by redundancy which took place in the country due to fake certificates recently. Such shortage of healthcare providers hinders effective PITC provision as the healthcare providers are few, hence overloaded with patients. That causes them to attend to patients in a hurry in order to see all the patients attending the health facility. Thus, PITC is not offered to patients in order to save time to be able to attend to more patients.

In this study we found that in some of the situations, healthcare providers still practice a symptom-based approach, whereby they provide PITC to patients with symptoms and signs of HIV and mostly in cases where HIV testing will be part of the management of the disease. Similar findings have been reported by some studies about healthcare providers using a symptom-based PITC approach leading to fewer patients being offered PITC services, especially those who have presented with underlying symptoms and signs of HIV/AIDS.^{4,14} The practice of symptom-based PITC approach followed by many health providers/clinicians has resulted in late HIV diagnosis, hence more HIV related deaths in children.⁴

Healthcare providers reported that there were few incentives and motivation available for them to offer PITC to their patients. This finding is supported by a qualitative study on health system barriers toward PITC which reported that healthcare providers had ordinary salaries with lack of extra payment for providing PITC services.^{12,15} Our findings provide an illustration of the impact of few incentives and motivation available causing poor motivation of healthcare providers to offer PITC to each patient they attend to, leading to low PITC provision and therefore hampering the reaching of 90-90-90 UNAIDS goal by 2020.

Understanding PITC is essential for patients to be willing to accept the HIV test.¹⁸ In this study, some of the parents/guardians had little understanding of PITC and did not give consent when healthcare providers offered PITC to them and their children. Our findings revealed that most of them were unaware of the importance of PITC. Another study reported more than half of the population in one district had no correct understanding of HIV counseling and testing, hence not willing to undergo HIV counseling and testing.¹⁹

Presence of the parents in this study was an important aspect for readiness to undergo HIV testing. In some situations, children were brought to the hospital by the guardians

who could not give consent for HIV test. This was similarly reported by other studies which showed that nearly 60% of guardians were not suitable to provide consent for HIV test, thus PITC was not provided to the children.^{11,16} This caused PITC not to be provided to the children since guardians could not consent as parents were not available during the clinic visit.

HIV/AIDS stigma also emerged as a barrier toward PITC provision in this study. This was shown by the fact that most of the parents were concerned about the privacy of the status of their children. Similar studies reported similar findings on stigma, indicating that the main barriers toward PITC provision were attributed to fear of stigma.^{11,15,16} Furthermore, 26.5% of the respondents did not want to get tested because of stigmatization.¹³ Stigma continues to persist in the community which leads to people being afraid to seek HIV/AIDS services, thus in circumstances where healthcare providers offer PITC services to the patients, most of the patients tend to decline HIV testing.²⁰

Parents and guardians were concerned about poor consent seeking from healthcare providers. They felt that they were not given proper counseling, mandatory for their children to be tested, especially in RCH clinics, even if they were not ready for HIV testing. This leads them to decline the HIV test for their children. This is contrary to what Tanzania PITC guideline recommends on consent seeking before HIV test.^{9,21} Consent attaining is important, but this is not very effective to increase the number of children tested for HIV since parents/guardians tend to refuse PITC service offered to them and their children, thus hindering treatment as PITC service is part of the management of their children. Evidence from another qualitative study done in Malawi has reported that removal of the decision on whether to test from the guardian has reduced the proportion of guardians declining to have their child tested from 6.0% to 0.5%.¹⁶

The interviews revealed the use of harsh language by healthcare providers to the patients they attend to. This caused parents/guardians not to disclose their HIV status and to refuse to accept PITC service offered to them and to their children. This was similarly documented from other studies, that harsh language used by healthcare providers toward parents/guardians of the children attending the clinic was a barrier toward PITC resulting in non-consent most of the time.^{11,15} This resulted in poor communication between the healthcare providers and the patients, which is not good for PITC provision.

The study found that there was a shortage of consultation rooms with inadequate space to provide PITC. This caused doctors to share consultation rooms which is not conducive to offer PITC due to lack of privacy. Other studies reported the same findings of doctors tending to share the consultation rooms due to inadequate physical space to offer PITC services in privacy in available health facilities.^{1,4,13,15,22} Ideally, PITC should be conducted in the same consultation room to reduce the chance of the patient absconding without being tested for HIV and also to reduce unnecessary queues.²³

Furthermore, a shortage of HIV test kits and reagents in some quarters was reported and this was due to negligence of the hospital management in ordering and purchasing the medical equipment. This was similarly documented from other studies, that HIV test kits and reagents being out of stock were health facility barriers toward PITC provision in health facilities.^{12,13,15,22} This shows that timely ordering and purchasing is hindered due to the negligence of responsible people in hospital management which could be avoided.

The findings of this study showed guidelines are available but only to the HIV testing points and not at each consultation room. It was reported that despite the available few guidelines, most of the healthcare providers were not revising the guidelines and implementing PITC guideline. Similar findings were reported in the study done in Iringa which showed that the present policy and guidelines on PITC and HIV testing and counseling were not implemented.²² This is because many health facilities are overburdened and under-resourced, thus not able to provide PITC to each patient attending the health facilities as stated in the guideline.^{21,22}

Limitations

The study included the perspective of parents/guardians with children attending a pediatric clinic, which is within the health facility setting. This might cause them to be unrealistic in order to avoid the risk of being denied health services at the next visit. To minimize this, interviews were conducted at a distance from consultation rooms so as to observe adequate privacy.

Bias from healthcare providers' interview was anticipated as one of the limitations since they tend to report patients as the source of barriers toward PITC and not on their side in offering PITC to the patients, as reported from other studies in the past. In this study, bias was mitigated with triangulation from an interview with the patients who were supposed to be offered PITC services by healthcare providers.

The study was not able to identify situations in other health facilities in Tanzania which may display different barriers toward PITC provision. Thus, despite the fact that the study involved two health facilities, findings may not be generalizable to other health facilities in other regions in Tanzania, hence more studies in different health facilities are needed to address more barriers to PITC.

Conclusion

The study has revealed barriers toward PITC provision from the perspective of healthcare providers, patients, health facility and policy which inter-relate, although findings may not be generalizable. We recommend, however, that the government together with the policy makers and managers address the barriers identified in this study so as to encourage PITC provision and further scale up of PITC services. Further research is needed to assess whether addressing the barriers observed in this study will improve PITC provision in order to reach the 90-90-90 goal.

Abbreviations

AIDS, Acquired Immunodeficiency Syndrome; ARVs, Anti-retrovirals; CBO, Community-Based Organizations; DACC, District AIDS Control Coordinator; HIV, Human Immunodeficiency Virus; IDI, In-Depth Interview; MDH, Management and Development for health; MOI, Medical Officer In charge; NGO, Non-Governmental Organization; OPD, Outpatient Department; PITC, Provider Initiated HIV Testing and Counseling; RCH, Reproductive and child health; UNAIDS, United Nations Programme on HIV and AIDS; WHO, World Health Organization.

Data Sharing Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics and Consent Statement

Ethical Issues: ethical approval was obtained from the MUHAS Institutional Review Board (IRB) before it was implemented. Furthermore, all the fundamental ethical principles (including the respondents' written informed consent, risks, benefits and comfort of the respondents) were followed according to the research ethical guidelines.

Acknowledgment

The authors would like to acknowledge Dr Amon Sabasaba for his contribution to revising the manuscript.

Author Contributions

Both authors conceived the idea and designed the study, contributed towards data analysis, drafting (RM) and critically revising (AA) the paper, gave final approval of the version to be published, and agreed to be accountable for all aspects of the work. RM collected and analyzed the field data. AA commented on the data collection instrument.

Disclosure

The authors declare no conflicts of interest in this work.

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