

Socio-cultural and economic barriers, and facilitators influencing men's involvement in antenatal care including HIV testing: A qualitative study from urban Blantyre, Malawi

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Abstract

Background

Male partner involvement in antenatal care (ANC) is associated with positive maternal and neonatal outcomes. However, only a handful of men attend ANC with their partners. This study aimed to understand the underlying barriers and facilitators influencing men's ANC attendance including HIV testing in Blantyre, Malawi.

Methods

Data were collected during a formative qualitative study of a cluster-randomised trial. Six focus group discussions (FGDs) with 42 men and women and 20 in-depth interviews (IDIs) were conducted at three primary health centres in urban Blantyre, Malawi. FGD participants were purposively sampled with IDI participants subsequently sampled after FGD participation. Thematic analysis was used to analyse the data.

Results

The economic requirement to provide for their families exerted pressure on men and often negatively affected their decision to attend ANC together with their pregnant partners despite obvious benefits. Peer pressure and the fear to be seen by peers queueing for services at ANC, an environment traditionally viewed as a space for women and children made men feel treated as trespassers and with some level of hostility rendering them feeling emasculated when they attend ANC. Health system problems associated with overall organization of the ANC services, which favours women created resistance among men to be involved. An association between ANC and HIV testing services discouraged men from attending ANC because of their fear of testing HIV-positive in the presence of their partners. The availability of a male friendly clinic offering a private, quick, supportive/sensitive and flexible service was considered to be an important incentive that would facilitate male men's ANC attendance. Men described compensation to cover transport and opportunity cost for attending the clinic as a motivator to attending ANC services and accepting an HIV test.

Conclusion

Peer and economic influences were the most influential barriers of men attending ANC and testing for HIV with their pregnant partners. Addressing these socio-economic barriers and having a male friendly clinic are promising interventions to promote male ANC attendance in this setting.

Background

Antenatal care (ANC) presents an opportunity for health screening to both the female and male expectant partners (1). For example, up to 94% of women attending ANC accept to test for HIV globally (2). However, this opportunity remains underutilized to reach male partners of ANC attendees in contexts with high

Human Immunodeficiency Virus (HIV) prevalence such as sub-Saharan Africa (SSA) (3). This is of concern considering that SSA accounts for 70% of the global HIV burden including illness and deaths (4). In addition, men in general are less likely to test for HIV (5) and consequently have much higher death rates because they start HIV treatment late compared to women in SSA (6).

Malawi is among the countries with a generalised HIV epidemic with 8.8% adult prevalence of its 18 million population living with HIV (7, 8). Gaps in the Malawi HIV testing programme remain among key populations such as men, adolescents, female sex workers and men who have sex with men (7,(4)). The approach for providing HIV services in Malawi is predominantly passive (i.e. clinic based) although some community-based HIV testing services are provided through non-state implementers. The bulk of the HIV programme in the country is externally funded by Global Fund and The U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Malawi has made a lot of progress in her effort to attain the UNAIDS 90-90-90 targets by having up to 88% of all people living with HIV (PLWH) know their status in 2016 (7). However, starting HIV treatment following learning a positive HIV result remains a challenge, a common theme in many SSA countries.

Recent studies have demonstrated that ANC may hold the key to reaching male partners in SSA with HIV testing services (9-11). More importantly, male involvement (MI) which involves actively engaging the male partner during pregnancy in ANC services has been shown to improve maternal and neonatal outcomes such as lowering neonatal deaths as demonstrated in cohort studies in Africa (12). Men who attend ANC services with their female partners are also more likely to test for HIV (13, 14). Although MI in ANC services is associated with positive outcomes, several barriers impede men from attending ANC and may operate at different levels including individual, couple, community, and health system. (15) While some barriers such as masculine norms may have been discussed globally, most barriers may be context specific.

This study investigated barriers and facilitators influencing men's decision-making regarding ANC attendance in Blantyre, Malawi. Results presented in this paper may contribute to the literature that informs the direction towards identifying effective interventions for increasing MI in Malawi and similar contexts.

Methods

Study design and data collection approaches

This was an analysis of primary data from a formative qualitative study of a multi-arm, multi-stage cluster randomised trial from a study called Partner Assisted Self-testing and Linkage (PASTAL ISRCTN18421340) (16). The study was conducted at three primary health centres (PHCs) of Zingwangwa, Ndirande and Bangwe located in urban Blantyre, Malawi. Six focus group discussions (FGDs) and 20 in-depth interviews (IDIs) were conducted to collect qualitative data. FGDs were used to enable researchers elicit collective views that represented community perceptions around the barriers and facilitators of male partners' attendance to ANC through group discussions. In-depth interviews enabled

interviewers to build rapport with participants and to enhance understanding of individual views and responses that are not influenced by other participants in a group context. Combining FGDs and IDIs allowed triangulation of data through constant comparison of the results.

Sampling

Purposive sampling was employed with the aim of recruiting ANC attending pregnant women to participate in the FGDs and as a way of reaching out to their partners. Sampling was implemented during pregnant women's routine visit to the ANC at the selected PHC (Figure 1). While ANC attendees waited in a group at a waiting bay to access ANC services, the study team utilised the routine early morning health education talks to introduce themselves and study by providing oral information on its purpose and the importance of their participation. Recruitment aimed to have between 8 to 12 participants for the FGDs and 20 participants for the IDIs. After accessing the ANC services, women were then approached individually and requested to voluntarily participate in the study. Women who showed interest were requested to provide an informed consent and recruited for the FGD which took place immediately after receiving ANC service. Women who participated in FGDs were given a letter inviting their male partners to participate in the study. The partner's phone number was obtained from the women during the group discussion. Male partners were contacted via a phone call after 5 o'clock in the evening as this was suggested by most women to be the most convenient time as they would have clocked off from work or business. Male partners were then informed about participating in the study, venue and time for the interviews. All FGDs and IDIs were conducted in the local language (Chichewa) and were led by social scientists (DS and MK) who are both fluent in the local language of use.

Data collection

Data were mainly collected by two researchers, a senior social scientist (MK) with a PhD led FGDs while a research assistant (DS) with a BSc took the field notes during the FGD's and led the IDIs (Figure 2). Research participants had no relationship with the researchers although women had interacted with the researchers before engaging the male participants. A semi-structured question guide was used during the FGDs and the IDIs with embedded and flexible probes to prompt additional discussion and correct course of discussion. All FGDs and IDIs were recorded with digital recorders and the recorded qualitative data were transferred onto a computer, before translation and transcription. The FGD's were in-between 1 hour to 1 hour 30 minutes, whilst the IDI's lasted a maximum of 30 minutes. The FGD and IDI participants also completed a short questionnaire to collect their demographic data and these were analysed quantitatively (see Figure 5 in results section). Apart from the participants and interviewers, there was no one present in the data collection rooms.

Data Analysis

Six FGDs and 20 IDIs were transcribed and translated for this analysis. After translation and transcription, the data were transferred to Nvivo version 10 for organisation and analysis. Thematic analysis was used to analyse qualitative data (17). Data analysts (MK, DS, AC) familiarised with data by reading and re-

reading transcripts to look for implied meanings and try to see the data in context. Inductive and deductive coding was done by developing an initial coding framework based on the research objectives and also reading transcripts multiple times while attaching labels to data on the basis of meanings that the researcher discerned in the data. Data were conceptualised by constant comparison of points raised by different people within and across FGDs and IDIs. Themes were developed by grouping several categories/codes that represented a unified subject/topic (Figure 3). Data are presented as a descriptive narrative with quotes used to support each emerging theme.

The overall analysis was guided by the social identity theory which was introduced by social psychologists Henri Tajfel and John Turner in the 1970's (18). The theory is based on the idea that people categorise themselves based on the social groups to which they belong (Figure 4). The theory has three processes namely; social categorization, whereby people are defined based on social categories rather than their individual categorization. The second process is social identification where people tend to behave in the way that they believe their group should behave. The third is social comparison where people compare themselves to another group in terms of having a higher or lower social standing. A number of factors were at play in the male decision-making process to go to ANC and test for HIV and these were critiqued in light of the social identify theory in this study. Most factors involved men categorising themselves in different groups affecting their decision to attend ANC and have an HIV test.

Participant characteristics

Over half of the participants were women (24/42, 57%) (Figure 5). Men were older with median age of 28.5 years (interquartile range [IQR]: 25-31) while median age for women was 23.5 (IQR: 19-29). There was generally equal representation of female participation from the three clinics although in Bangwe there were fewer men: 2 vs 8 each in Ndirande and Zingwangwa. More women than men reported lower level of formal education with 70% of the women having completed primary school only compared to only 30% of the male partners. All six participants who said they were paid employees were men with none of the 24 women reporting being in any form of paid employment. Overall, 38/42 (90.5%) of the participants reported that they were married. Of the participants who did not previously test for HIV, 5/15 (33.3%) were men and 10/15 (66.7%) were women. Social desirability bias may explain this finding as women are consistently found to have higher HIV testing percentage in the literature (5). Overall the study had 42 participants, 18 men and 24 women.

Results

Factors influencing men's decision-making process to attend or not attend ANC with their pregnant partners and testing for HIV have been organised into two broad themes namely: barriers and facilitators to male partner involvement. Five sub-themes emerged under the barriers to male partners of ANC attending women, while four sub-themes emerge as facilitators to MI.

Barriers of male partner's decision to attend ANC and test for HIV

The five key factors that influenced male partner's decision not to attend ANC with a pregnant partner and test for HIV in ANC clinics were community norms and beliefs, peer influence, risk of attending ANC and opportunity cost associated with attending ANC services. These are discussed next.

Community norms and beliefs

Views of the societal norms and long held traditional beliefs regarding the roles and responsibilities of women and men seemed to play a major role in the decision making regarding male partner ANC attendance and testing for HIV at ANC clinic during a scheduled clinic visit for a female partner. ANC were traditionally considered to be spaces restricted to women and therefore not suitable for male partners because the focus of the services in these clinics were mainly directed to benefit pregnant women.

"Some people (in the community) say such men have nothing to do that is why they go there (at antenatal care), explaining that if they had some work to do they would not be wasting time going there". Ndirande PHC-Female FGD 01.

The quote demonstrates how community norms fuels the perception that men should not attend ANC with their pregnant woman. It also highlights how men who attend such clinics are perceived to have nothing productive to do.

Peer Influence

Male partner's peers and social networks seemed to influence their decision to either attend or ignore attending ANC even at a request of their pregnant partners. Male partners frequently reported that their peers would not consider attending ANC with their partners. Male partner's ability to conform to the ideals and values of their social networks was visibly determined by how they conducted themselves in terms of not embracing any attribute that their peers had embraced. Thus, male network members who were close friends to a male partner of a pregnant woman or individuals whose opinions were more valued influenced how within such network perceived their attendance at the ANC. The following quotes demonstrate how opinions of peers could alter male partner's perspectives and eventually decision about attending ANC and test for HIV:

"My friends were just laughing at me, for example two days ago before I came here, I told them my wife wants to start going to ANC. I want to go with her to see how the process is like. My friends said, 'you are stupid because ANC is for women only, not for men". Ndirande PHC-Male FGD 01.

The above quote demonstrates how peers ridicule and demean other men for simply attending ANC with their partner and how a circle of friendships influences men's attitude and behaviour attending ANC. It also vividly illustrates real life experiences of men emasculated or perceived as not being a man enough just because they chose to attend ANC clinic. One participant described how opinions from friends about ANC are taken into consideration during decision-making processes to eventually deter male partners who may have not been totally against attending ANC initially:

"As someone already said most men talk about discouraging things. So when you pay so much attention to them, you tend to follow your friends – '... the way my friends talked, I can't be going there with my wife.' So when you take those things seriously, and you were also doubting in the first place then that's it". Zingwangwa FGD Male.

The influence of male network members on male partner's decision to attend ANC was also described by female participants, who narrated that women often find it challenging to convince their partner to attend ANC. Female participants were aware that most male partners are discouraged from attending ANC by their close friends as illustrated by the following quote:

"It's mostly men themselves who discourage each other. For us women, we may be encouraging the men to be coming with us to antenatal clinic but you find that their friends are the ones who make them lazy by telling them 'how can you let a woman lie to you? How can you go to the hospital with a woman? Don't accept that, you are stupid to do that.' With such discouragement if the man had thoughts of going to the hospital, he becomes lazy as well because of what his friends said".
Zingwangwa FGD Female.

The quote demonstrates how male partners, influenced by their peers, attempt to enact their masculine roles by avoiding to be associated with ANC which is traditionally considered to be associated with women. Accepting to attend ANC clinic with a female partner would implicitly relinquishing one's masculine power and control in submission to demands of a female partner.

Perceived risks associated with male partner's attendance of ANC

In a cultural context of reward and sanctions, male partner's anticipated that they would encounter certain negative consequences from their social networks because they opted to attend ANC clinic with their pregnant partner and this would damagingly affect their social image and position. The perceived negative reactions from their social network that male partner's expected included weakening their male friendship bonds, being perceived as fearing and subordinate to one's partner, and being disrespected by their male friends as captured in this quote:

"Even the relationship or friendship one had with his friends gets affected. When you go to ANC, it's more like you will just be chatting with your wife only rather than chatting on our own as men."
Zingwangwa FGD Male.

Thus, men were afraid to lose their social identity in the community but also the social capital that they have built by merely choosing to visit ANC clinic with a pregnant partner. Another participant described the perception that men who attend ANC are either afraid of their partner or that the woman cast a magic spell on the man through witchcraft to coerce him to attend ANC which he would have otherwise not accepted in his normal self.

"Others say 'the man is stupid and he is scared of his wife. That's why he has gone to ANC for testing.' They say 'the woman has forced him to go get tested' while others say that 'he is scared of

his wife or maybe the wife used traditional medicine.’” Ndirande Mixed FGD Male.

In the quote, a male partner’s choice to attend ANC is interpreted as either being foolish or as a sign of subordination to the demands of a wife or simply lack of power in the relationship. Furthermore, supernatural forces are sometimes used to explain this kind of behaviour which is perceived as being unnatural for the male gender identity. The risk of losing respect in one’s network is a concern for some male partners who attend ANC, with one participant reporting that he witnessed men disrespecting male partners of pregnant women who had attended ANC:

“I have been seeing other men looking down upon or saying rude things to other men who have escorted their wives to the hospital at ANC. They say things like ‘he is stupid’ or maybe ‘I cannot participate in escorting my loved one to ANC’, or maybe ‘I am busy’.” Bangwe IDI, Male.

Opportunity cost/time conflict/food Insecurity

The amount of time required for male partners of pregnant women to be at ANC clinic was a challenge as most male partners who felt that visiting a clinic would keep them away from potential employment or economic opportunities that could help them provide for their families. This concern was amplified for poor men who were experiencing food insecurity and living in a precarious economic environment. Thus, the choice to go to an ANC clinic with a female partner conflicted with the male gender role to provide for the family as illustrated in this quote:

“It is true that many people say that a man who goes to ANC has nothing to keep him busy with. They say ‘if both a man and a woman go to ANC, who will go look for food? Will the family eat ANC?’” Zingwangwa IDI Male.

The quote suggests seemingly clear gender roles and responsibilities for men and women in Malawi. It also depicts stigmatisation linked failure to conform to one’s gender roles. For an employed male partner, their decision to attend ANC clinic with their partner was further compromised where the employer failed to allow them to leave their workplaces. Male study participants mentioned that it was difficult for employed men to be excused from work to attend ANC with their partner:

“I work at someone’s house and I have come here. So another day comes I should tell them I am going to ANC again, they will say are you the one pregnant or what? You were supposed to go the first day of registration only, so most times you try to protect your job” Zingwangwa FGD Male.

The quote clearly demonstrate that men may not have sufficient grounds to justify attending ANC clinics because biologically, they do not carry the pregnancy. However, there is a recognition by employers that men can attend the first ANC visit only.

Fear to test for HIV

Almost all participants mentioned that because of stigma, male partners of ANC attending women were scared to test for HIV publicly at ANC. It was frequently mentioned that male partners would rather go for HIV testing by themselves first to see the outcome alone before going for the second time with their partners when they are confident about the test outcomes. The quote below illustrates the need for male partners to have a separate initial HIV test before agreeing to attend ANC with their partner.

"It's better to go behind her back or maybe go to Banja Lamtsogolo (HIV testing centre) or health centre to get tested and see the outcome by yourself first." Ndirande PHC-Male FGD 04.

It seems that fear of learning one's HIV sero-status for the first-time with a sexual partner was intimidating to most male partners especially if the test result were HIV-positive. Male partners were also worried about the negative consequences associated with taking an HIV test together with a partner. Importantly, the fear of learning about HIV-discordant results together was perceived to lead to marriage breakup and inadvertently revealing infidelity especially of the male partner:

"The part that I feel like is tough is if my wife or let's just say when two people want to get tested, the first thought is if one is found negative the other positive then that's the end of the marriage."

Ndirande PHC-Male FGD 03.

This finding highlights the lack of information on the part of the general population about managing HIV discordant couples and the role of treatment as prevention. As such, a default response to HIV sero-discordant result is to think about the incompatibility of sexual partners based on their divergent HIV serostatus resulting into marriage breakups.

Facilitators of men's decision to attend ANC

Several factors were identified to encourage male partners to decide to attend ANC with their female partners. These included an arrangement that give priority to couples during consultations, health education targeting male partners, the benefit of couples testing and availability of a male friendly space within the ANC clinic.

Priority consultation for couples

Study participants recognized that male partners would be encouraged to attend ANC where couples are given priority when undergoing formalities at ANC clinic and if they understood that their attendance at the clinic would mean that their female partner would receive prompt medical attention than the rest of women who present without a male partner. A quote below illustrates this:

"The ones who come with their partners are the first to be assisted so that the man should go back in good time to continue with his work. They both leave early that's the good part of it." Ndirande IDI, Female.

In the quote, a female participant demonstrates that male partner's knowledge that they would spend less time at a facility might encourage them to accept attending ANC with their female partner. However, it was not clear from the data whether the ANC clinics currently provided preferential treatment to couples and whether male partners are aware about this provision.

Health education for benefit of male partners

Another important factor that facilitated male involvement in ANC was a prospect of learning new things through the regular health talks at facilities before service provision starts. With a male partner in attendance, both partners get to hear about the health of the woman and the baby.

"I have learnt a lot here, they educated us on the right types of food to eat, the right sides to sleep and how much exercise and work the woman can do which is very helpful because I was not aware of all this information." Ndirande PHC-Male FGD 06.

In the quote, a man expresses excitement for learning new things about how to manage the gestation period for wife to ensure smooth delivery of the baby.

Value of testing together

It was also highlighted by participants that testing together for HIV helps them to know each other's status cementing their relationship.

Its good because you get to know each other's status and including you are also counselled together, so you are able to remind each other on what you were told to do so it's helpful. Ndirande PHC-Female IDI.

Male friendly clinics

Most participants said having a male friendly clinic within ANC would allow male partners of ANC attending pregnant women to feel comfortable to visit a space that is traditionally associated with women and children:

'having a male friendly clinic can help if it can be aside. Most men would go since they won't have to be shy anymore knowing they will not have to sit amongst women. And if am found positive everything will be discussed right there'. Zingwangwa IDI female

The quote suggest that the current arrangement of ANC services is not conducive to the male partners who feel outnumbered and uncomfortable to sit among women. However, having a male friendly clinic would provide a safe sanctuary for male partners.

Discussion

The main findings from this analysis vividly demonstrated that peer pressure (19) and opportunity cost of attending ANC instead of being at work (20) exerted significant influences on male partners and played major role in their decision to engage or attend antenatal care along with their pregnant partners. It was found that men as peers perceived themselves as a strong group hence did not see the need of listening to their partner. Social interaction also influenced male partners of ANC attending pregnant women as they would rather chat with fellow men and not seen as always with a female partner. Concepts from the *social identity model* appear to explain in part the dynamics reported in this study. “Social identity is the portion of an individual's *self-concept* derived from perceived membership in a *relevant* social group (21)”. In particular, individuals belonging to a particular group are expected to “behave” and conform to group norms and expectations. It was observed that narratives from the male partners of ANC attending pregnant women themselves appeared to support the idea that men often value the opinion of their peers as men more than their household members. Men's view that they would not want to disappoint their friends or feel embarrassed in their company by attending ANC with their pregnant partner supported the notion of the “self” and in particular the self-construct (Figure 3). Of note, study participants mentioned that the society perceived or expected male partners of ANC attending pregnant women not to attend ANC as it was a woman's space (22). Although this can be construed as a cultural belief, it may also be a form of social identity ascribed to men as a group.

Economic influences from different dimensions were a critical aspect for male partners to consider before deciding to attend ANC with their pregnant partner (16). While other authors have reported unidimensional aspects such as out of pocket costs (15, 22), this study revealed a number of other interesting economic aspects that have not been well described before in this urban and poor setting. Broadly speaking, economic influences could be grouped into direct and indirect factors. Direct economic influences include out-of-pocket costs such as transport and food (22). For male partners who participated in the study, these direct economic costs did not seem to be a big factor in the decision to attend ANC. However, indirect costs or opportunity cost of not being at work seemed to have a far greater effect in the decision to attend ANC (16). There were a couple of examples of how indirect economic costs impacted male partners' decision. Firstly, spending more time at the hospital instead of engaging in an economic activity was a big factor (15, 16), compounded by informal self-employment or manual jobs with daily small income often less than US\$5 a day. Secondly, for those who were employed, they often feared remuneration deductions or even being dismissed for missing work. In order to remedy this, participants suggested that they would prefer to receive a formal invitation from the clinic which they could tender at their work place to obtain permission from their line managers for the ANC visit.

The study also found other barriers that are well documented in the literature. Structural problems associated with how the ANC service is offered which favours women as opposed to their male partners. It was observed in this study and other studies that while there are plenty of activities during the ANC visit, there is little male partner-centred focus in the curriculum (23). This was particularly discouraging even to those male partners who had initially attended ANC in the first place who would later act as “negative” change agents by discouraging other men. A key facilitator to male partner ANC attendance mentioned by participants in this study was having a male friendly clinic. (16) Although other authors

have suggested male protected time as a potential facilitator (15, 24), having a male friendly clinic encompassed more than protected time. Both male partners and ANC attending pregnant women agreed during the interviews that more male partners would feel comfortable attending a private, quick, smiling and flexible service that targets them and their pregnant partner. This finding was interesting as male partners did not express need for an entirely new place but simply a “culture” change within the same physical space of the primary clinic.

This study also revealed that cultural norms in Malawi view ANC as a woman’s space with male partners considered trespassers. Society beliefs that only women should attend ANC were prominent during FGDs and IDIs. Such an observation has been reported by a number of authors in different settings in Africa (3, 15). Such cultural norms view ANC as a gendered setting with male partners exclusively assigned the role of the bread winner despite being responsible for the pregnancy while child bearing is strictly a domain for women.

As described by other researchers, extreme fear of testing for HIV among male partners was found to be a strong deterrent to ANC attendance (25). In general, male partners believed that an ANC visit is synonymous to going for HIV testing. Although some male partners described it as protecting their fragile partner from emotional breakdown in a public place, narratives of infidelity almost explain this fear. Conversely, it was interesting to note that even some male partners suggested that testing negative together could cement their relationship with their partner. Such sentiments suggest that only a positive HIV test is feared by the male partners and not necessarily the testing. The fact that HIV testing at ANC is “batched” i.e. done in a group did not help matters with male partners feeling insecure about the lack of privacy and confidentiality particularly in the event that a positive test would be encountered.

Key strengths include the approach of using same participants for FGDs and then sampling some for IDIs. During IDIs, participants were then able to relate the questions and discussion to their personal experience. Such an approach would explain the rich data that were collected during both FGDs and IDIs. Another strength is the inclusion of participants from three PHCs that were geographically well separated although from the same urban city. This approach might have helped to draw internally representative accounts that may apply to people in this setting and potentially other similar settings within the African region.

Here two notable limitations of the study are given. Bangwe PHC had fewer male partners than Ndirande and Zingwangwa. Given that male partners were the main focus of this analysis, findings may have limited scope to male partners of pregnant women from Bangwe PHC. The selection of participants for the IDIs may have been too subjective given that the selection was after participants had participated in a FGD before. However, the selection was made in a quasi-random fashion albeit using names of focus group discussion participants in order to minimise the impact of this limitation.

Conclusions

In summary, this study found that peer and economic influence were the strongest social barriers stopping male partners from attending antenatal care with their pregnant partners. Having a male friendly clinic - i.e. a room or rooms with a friendly service for male partners including flexible hours, private and confidential service and smiling personnel - was a novel facilitator suggested by participants.

Abbreviations

ANC - antenatal care

COMREC- College of Medicine Research Ethics Committee

FGD – focus group discussion

IDI – In-depth interviews

HIV- Human Immunodeficiency Virus

LSHTM- London School of Hygiene and Tropical Medicine

MI- Male Involvement

PASTAL- Partner Assisted Self-testing and Linkage

PEPFAR- President's Emergency Plan for AIDS Relief

PHC- Primary Health Centres

PLWH – People Living with HIV

SSA - Sub-Saharan Africa

Declarations

Ethics approval and consent to participate

The study was approved by the College of Medicine Research Ethics Committee (Approval number: P.08/15/1784) and by the London School of Hygiene & Tropical Medicine Ethics Committee (Reference number: 10332). All focus group discussion and in-depth interview participants gave written or thumb print with witness consent before group discussion or interview. The computer used for data storage and management was password protected with only authorised personnel allowed to access data. All the data were anonymised by removing personal identifiers and names were replaced with numbers.

Consent for publication

Not applicable

Availability of data and materials

The final fully anonymised data from the study will be made publicly available through the LSHTM data repository (<http://datacompass.lshtm.ac.uk/>).

Competing interests

There is no competing interest to declare for this work.

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References

1. Hershow RB, Zimba CC, Mweemba O, Chibwe KF, Phanga T, Dunda W, et al. Perspectives on HIV partner notification, partner HIV self-testing and partner home-based HIV testing by pregnant and postpartum women in antenatal settings: a qualitative analysis in Malawi and Zambia. *Journal of the International AIDS Society*. 2019;22 Suppl 3:e25293.
2. Wettstein C, Mugglin C, Egger M, Blaser N, Vizcaya LS, Estill J, et al. Missed opportunities to prevent mother-to-child-transmission: systematic review and meta-analysis. *AIDS (London, England)*. 2012;26(18):2361-73.
3. Aliyu MH, Sam-Agudu NA, Shenoi S, Goga AE, Ramraj T, Vermund SH, et al. Increasing male engagement in the prevention of vertical transmission of HIV: what works in sub-Saharan Africa? *BMJ (Clinical research ed)*. 2019;365:i1965.
4. UNAIDS. UNAIDS Data. Geneva, Switzerland: UNAIDS; 2018.
5. Staveteig S, Wang S, Head SK, Bradley SEK, Nybro E. Demographic Patterns of HIV Testing Uptake in Sub-Saharan Africa. DHS Comparative Reports No. 30. Calverton, Maryland, USA: ICF International; 2013.
6. Cornell M, Schomaker M, Garone DB, Giddy J, Hoffmann CJ, Lessells R, et al. Gender differences in survival among adult patients starting antiretroviral therapy in South Africa: a multicentre cohort study. *PLoS Med*. 2012;9(9):e1001304.
7. Malawi Ministry of Health. Malawi Population-based HIV Impact Assessment (MPHIA) 2015-16: First Report. Lilongwe, Malawi; 2017.
8. UNAIDS. Ending AIDS. Progress towards the 90–90–90 targets. Geneva, Switzerland: UNAIDS; 2017.
9. Choko AT, Corbett EL, Stallard N, Maheswaran H, Lepine A, Johnson CC, et al. HIV self-testing alone or with additional interventions, including financial incentives, and linkage to care or prevention among male partners of antenatal care clinic attendees in Malawi: An adaptive multi-arm, multi-stage cluster randomised trial. *PLoS Med*. 2019;16(1):e1002719.
10. Masters SH, Agot K, Obonyo B, Napierala Mavedzenge S, Maman S, Thirumurthy H. Promoting Partner Testing and Couples Testing through Secondary Distribution of HIV Self-Tests: A Randomized Clinical Trial. *PLoS Med*. 2016;13(11):e1002166.
11. Thirumurthy H, Masters SH, Mavedzenge SN, Maman S, Omanga E, Agot K. Promoting male partner HIV testing and safer sexual decision making through secondary distribution of self-tests by HIV-negative female sex workers and women receiving antenatal and post-partum care in Kenya: a cohort study. *The lancet HIV*. 2016;3(6):e266-74.
12. Aluisio A, Richardson BA, Bosire R, John-Stewart G, Mbori-Ngacha D, Farquhar C. Male antenatal attendance and HIV testing are associated with decreased infant HIV infection and increased HIV-

- free survival. *Journal of acquired immune deficiency syndromes* (1999). 2011;56(1):76-82.
13. Lolekha R, Kullerk N, Wolfe MI, Klumthanom K, Singhagowin T, Pattanasin S, et al. Assessment of a couples HIV counseling and testing program for pregnant women and their partners in antenatal care (ANC) in 7 provinces, Thailand. *BMC international health and human rights*. 2014;14:39.
14. Hensen B, Taoka S, Lewis JJ, Weiss HA, Hargreaves J. Systematic review of strategies to increase men's HIV-testing in sub-Saharan Africa. *AIDS (London, England)*. 2014;28(14):2133-45.
15. Morfaw F, Mbuagbaw L, Thabane L, Rodrigues C, Wunderlich AP, Nana P, et al. Male involvement in prevention programs of mother to child transmission of HIV: a systematic review to identify barriers and facilitators. *Systematic reviews*. 2013;2:5.
16. Choko AT, Kumwenda MK, Johnson CC, Sakala DW, Chikalipo MC, Fielding K, et al. Acceptability of woman-delivered HIV self-testing to the male partner, and additional interventions: a qualitative study of antenatal care participants in Malawi. *Journal of the International AIDS Society*. 2017;20(1):21610.
17. Ritchie J, Lewis J. *Qualitative Research Practice, a Guide for Social Science Students and Researchers*. Lonson: SAGE Publications Ltd; 2003.
18. Tajfel H. Social identity and intergroup behaviour. *Social Science Council*. 1974;13(2):65-93.
19. Yamanis TJ, Dervisevic E, Mulawa M, Conserve DF, Barrington C, Kajula LJ, et al. Social Network Influence on HIV Testing Among Urban Men in Tanzania. *AIDS and behavior*. 2017;21(4):1171-82.
20. Arnold EA, Weeks J, Benjamin M, Stewart WR, Pollack LM, Kegeles SM, et al. Identifying social and economic barriers to regular care and treatment for Black men who have sex with men and women (BMSMW) and who are living with HIV: a qualitative study from the Bruthas cohort. *BMC health services research*. 2017;17(1):90.
21. Turner J, Oakes P. The significance of the social identity concept for social psychology with reference to individualism, interactionism and social influence. *British Journal of Social Psychology*. 1986;25(3):237–52.
22. Nyondo AL, Chimwaza AF, Muula AS. Stakeholders' perceptions on factors influencing male involvement in prevention of mother to child transmission of HIV services in Blantyre, Malawi. *BMC public health*. 2014;14:691.
23. Ditekemena J, Koole O, Engmann C, Matendo R, Tshefu A, Ryder R, et al. Determinants of male involvement in maternal and child health services in sub-Saharan Africa: a review. *Reproductive health*. 2012;9:32.
24. Nyondo-Mipando AL, Chimwaza AF, Muula AS. "He does not have to wait under a tree": perceptions of men, women and health care workers on male partner involvement in prevention of mother to child transmission of human immunodeficiency virus services in Malawi. *BMC health services research*. 2018;18(1):187.
25. Matovu JK, Wanyenze RK, Wabwire-Mangen F, Nakubulwa R, Sekamwa R, Masika A, et al. "Men are always scared to test with their partners ... it is like taking them to the Police": Motivations for and

Figures

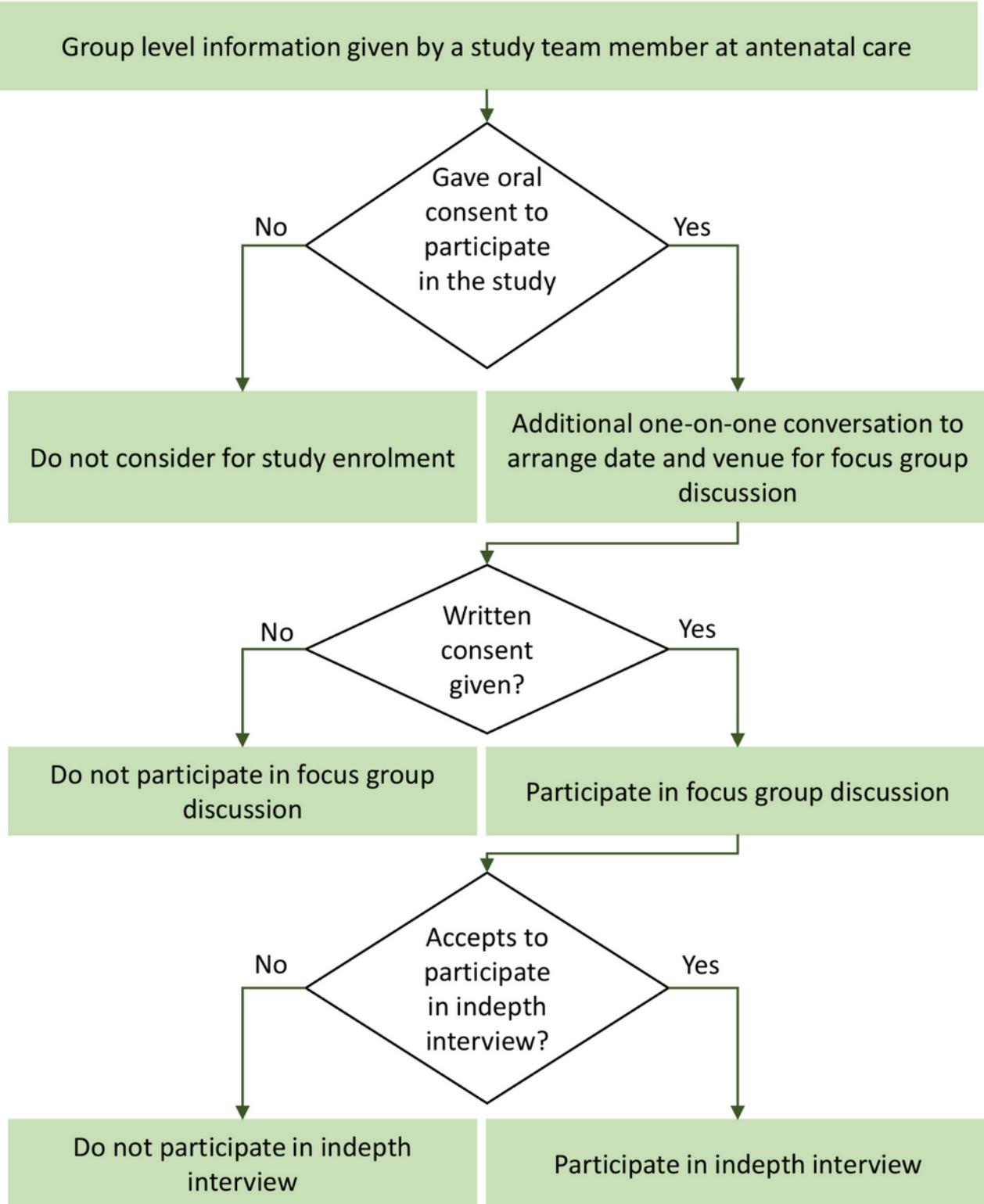


Figure 1

Flow of participants and recruitment

No. Item	Item	Guide questions/descriptions
Domain 1: Research team and reflexivity		
<i>Personal characteristics</i>		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? Moses Kumwenda
2.	Credentials	What were the researcher's credentials? E.g. PhD, MD Moses Kumwenda PhD, MA, BA
3.	Occupation	What was their occupation at the time of the study? Social Scientist
4.	Gender	Was the researcher male or female? Male
5.	Experience and training	What experience or training did the researcher have? 8 years of conducting qualitative interviews; training in qualitative research methodology.
<i>Relationship with participants</i>		
6.	Relationship established	Was a relationship established prior to study commencement? None
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research Researchers from Malawi Liverpool Wellcome Trust conducting a study involving antenatal care attendees.
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic. Male, assumed that the male partner had been invited by his partner attending antenatal care

Figure 2

Consolidated criteria for reporting qualitative research (COREQ)

Extract original audio files for focus group discussions (FGDs) and in-depth interviews (IDIs)

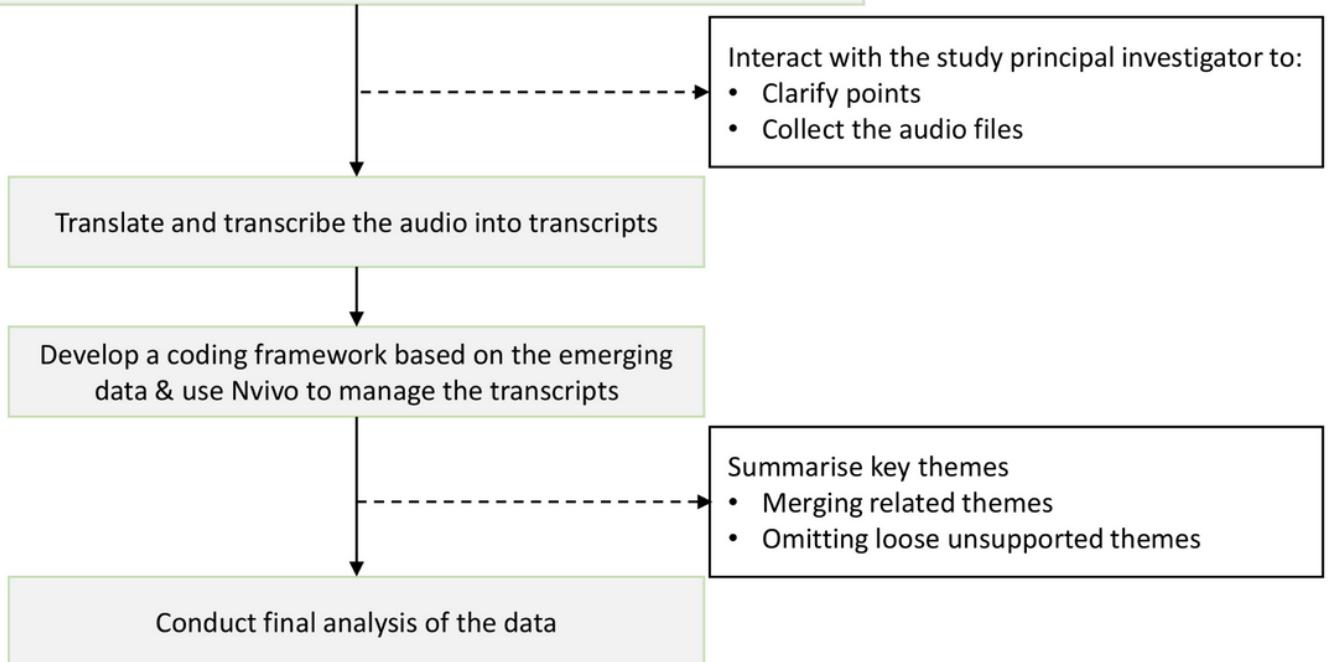


Figure 3

Process of data analysis

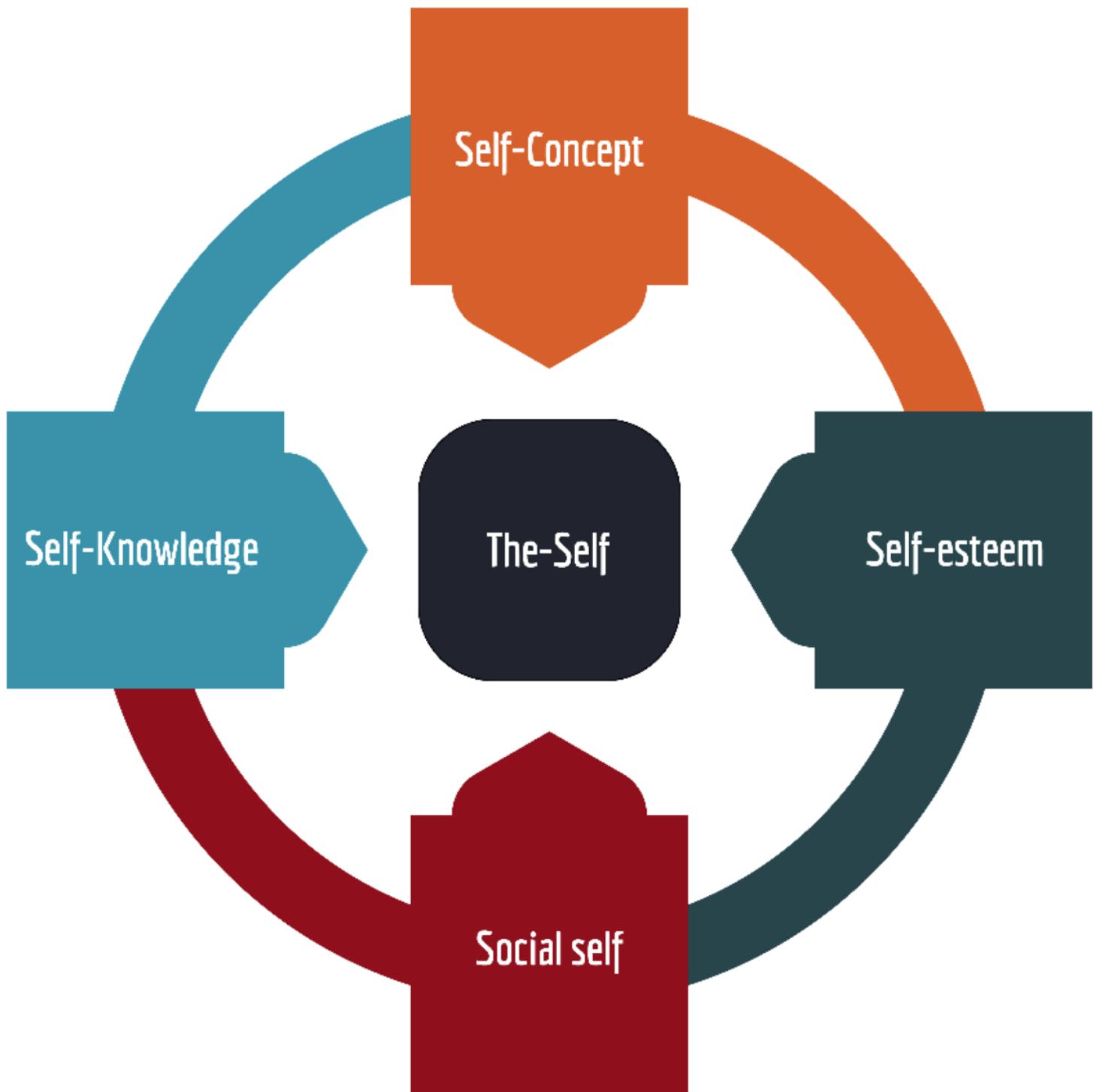


Figure 4

The constituent on one's self Source: Modified from Social Identity theory Tajfel (1971) British Journal of Social and Clinical Psychology

Characteristic		Men		Women		Overall	
		n	%	n	%	n	%
Total	Number	18	42.9	24	57.1	42	100
Age	Median (IQR)	28.5	25–31	23.5	19–29	27.5	22–30
PHC	Ndirande	8	44.4	10	55.6	18	42.9
	Zingwangwa	8	50.0	8	50.0	16	38.1
	Bangwe	2	25.0	6	75.0	8	19.0
Education	Primary	6	30.0	14	70.0	20	47.6
	Secondary	7	50.0	7	50.0	14	33.3
	Higher	5	62.5	3	37.5	8	19.1
Occupation	Paid employee	6	100	0	0.0	6	14.3
	Paid domestic worker	3	100	0	0.0	3	7.1
	Self-employed	6	66.7	3	33.3	9	21.4
	Unemployed	1	4.8	20	95.2	21	50.0
	Student	1	100	0	0.0	1	2.4
	Other	1	50.0	1	50.0	2	4.8
Marital status	Married	17	44.7	21	55.3	38	90.5
	Never married	1	33.3	2	66.7	3	7.1
	Separated	0	0.0	1	100	1	2.4
Tested with partner before?	Yes	13	48.2	14	51.8	27	64.3
	No	5	33.3	10	66.7	15	35.7

IQR: inter quartile range; PHC: primary health clinic.

Figure 5

Characteristics of study participants by sex Reproduced with permission from Choko et al JIAS 2017

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Additionalfile1COREQv0.1.doc](#)