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Religious leaders' role in pregnant and breastfeeding women's decision making and willingness to use biomedical HIV prevention strategies: a multi-country analysis

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Abstract

Oral Pre-Exposure Prophylaxis (PrEP) is an established option, and the dapivirine vaginal ring is emerging as a promising strategy for HIV prevention option for women. Because of this, understanding the contextual and cultural factors that will support the increased uptake of these products is crucial. In sub-Saharan Africa, religious leaders may be important stakeholders to involve in product information, education and roll-out. We conducted a sub-analysis of data from 232 participants taking part in the MTN-041/MAMMA study to explore religious leaders' involvement in pregnant and breastfeeding women's health. Study participants viewed biomedicine and spirituality as interlinked and believed that women could seek health-related care from medical experts and turn to faith-based organisations for religious or spiritual needs. Religious leaders were invested in the health of their congregations, endorsed a variety of sexual health strategies, and were eager to learn more about emerging HIV prevention technologies. These data signal the role of religious leaders in supporting their communities, and the importance of involving religious leaders in efforts to roll out new HIV prevention products to facilitate uptake.

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Keywords

HIV prevention; religious leaders; PrEP; vaginal ring; pregnancy

Introduction

In sub-Saharan Africa, faith-based organisations are central to daily life in rural and urban areas (Rankin et al. 2008). Religious leaders play an influential role in these communities, including as counsellors in personal relationships (Vigliotti et al. 2020). Religious leaders have been instrumental in the promotion of various health practices (Mtenga et al. 2016; Duff and Buckingham 2015) including efforts to address the HIV epidemic (Olivier and Wodon 2014; Otolok-Tanga et al. 2007). Nevertheless, some religious leaders perpetuate stigma around HIV and HIV prevention (Keikelame et al. 2010; Oluduro 2010; Amuche, Emmanuel, and Innocent 2017; Ochillo, van Teijlingen, and Hind 2017; Campbell, Skovdal, and Gibbs 2011).

There is limited research on religious leaders' role and level of influence on women's HIV-related health practices, particularly during pregnancy and breastfeeding. Women in sub-Saharan Africa are disproportionally affected by HIV during these periods (Thomson et al. 2018), and it is crucial to develop a better understanding of how religious leaders could be involved in biomedical HIV prevention uptake and adherence initiatives.

The influence of faith-based organisations in past biomedical interventions provides a glimpse into their potential role in HIV prevention. Faith-based organisations have been influential in the promotion of the malaria vaccine in several sub-Saharan Africa countries (Mtenga et al. 2016; Zarocostas 2004) as a favourable alternative to an increase in disease burden that could cause financial hardships for families (Zarocostas 2004). The success of these interventions suggests religious leaders' acceptance of vaccines as a mean to reduce the threat of childhood illness and to protect communities' health (Febir et al. 2013; Bingham et al. 2012). HIV prevention strategies differ from malaria vaccines in that their use sometimes conflicts with religious doctrine (Nunn et al. 2012; Morgan, Green, and Boesten 2014). Nonetheless, religious leaders' support for malaria vaccines offers promise for their potential support of biomedical HIV prevention. There has been some effort to integrate spirituality into health-related theories and models (Saad, de Medeiros, and Mosini 2017; Koenig 2012; Winiarski 1997). Winiarski's biopsychosocial spiritual model, for example, acknowledges that there are many aspects to a person and that these aspects interact (Winiarski 1997). According to Winiarski, omitting the spiritual aspect (which would encompass religion and faith) from biomedical interventions misses an important domain influencing people's health-seeking behaviour.

In sub-Saharan Africa, faith-based organisations' and religious leaders' support for health care practices such as family planning, sexual and reproductive health and HIV have differed across faiths and over time (Tomkins et al. 2015; Gusman 2009; Boulay, Tweedie, and Fiagbey 2008; Hartwig, Kissioki, and Hartwig 2006; Ansari and Gaestel 2010; Watt et al. 2009; Morgan 2014). In relation to HIV, religious leaders initially in sub-Saharan Africa distanced themselves from the virus by associating it with 'immorality' (Parsitau 2009).

In the last decade, however, some religious leaders have begun engaging in pragmatic interventions such as promoting condom use in married couples and encouraging HIV testing (Parsitau 2009; Trinitapoli 2011; Clarke, Charnley, and Lumbers 2011; Trinitapoli 2009; Yeatman and Trinitapoli 2008; Downs et al. 2017). Recent studies have demonstrated that providing HIV education and training to religious leaders increases the likelihood that they will pass this education along to their congregants (Trinitapoli 2011; Stewart, Thompson, and Rogers 2016). Elsewhere, the engagement of faith-based organisations in HIV-related training has helped in fighting stigma (Otolok-Tanga et al. 2007; Stewart, Thompson, and Rogers 2016) and led to an increase in testing and linkage to care for congregants of faith-based organisations offering HIV prevention services (Stewart, Thompson, and Rogers 2016; Downs et al. 2017).

Although research has been conducted on faith-based organisations and religious leaders' promotion of HIV testing and condom use, there is a paucity of work on their engagement in the introduction of new HIV biomedical prevention strategies. These strategies include oral pre-exposure prophylaxis (PrEP), which is recommended by the World Health Organization (WHO) for pregnant and breastfeeding women (WHO 2017), and the dapivirine vaginal ring, which recently received WHO prequalification confirming that it meets global standards and is progressing through a regulatory pathway for licensure and approval (IPM 2020). This paper draws on qualitative research conducted through the Microbicide Trial Network (MTN) to better understand the involvement of religious leaders in women's health practices in diverse sub-Saharan Africa settings during pregnancy and breastfeeding, with particular attention to their potential engagement in support and rollout of these two HIV prevention products.

Methods

Study design

The Microbicide Trials Network (MTN) — 041/MAMMA (Microbicide/PrEP Acceptability among Mothers and Male Partners in Africa) was a multisite qualitative study conducted in Blantyre, Malawi; Johannesburg, South Africa; Kampala, Uganda; and Chitungwiza, Zimbabwe. The study aimed to explore anticipated interest in and support of oral PrEP and the dapivirine vaginal ring. Participants were enrolled between May and November 2018 in in-depth interviews (IDIs) or focus group discussions (FGDs) conducted across the four sites. Thirty-six local leaders/stakeholders (referred to as key informants) were purposively selected to take part in IDIs. The stakeholders recruited included seven religious leaders, three clinical doctors, nine nurses, three social service providers, two community health workers, seven traditional care providers, and five other stakeholders such as village chiefs. Additionally, the study recruited three groups to participate in FGDs: 1) currently or recently (past two years) pregnant or breastfeeding women who were HIV uninfected (referred to as women); 2) male partners aged 18+ of currently or recently pregnant or breastfeeding women (referred to as male partners); and 3) mothers/mothers-in-law of women who were currently or recently pregnant or breastfeeding (referred to as grandmothers). Participants for FGDs were recruited from various community or clinic settings [e.g. antenatal and postnatal clinics].

Procedure

All FGDs and IDIs were conducted by trained social scientists fluent in local languages using semi-structured FGD guides, which included a probe about the role of religion and religious organisations. Audio recordings of the FGDs were transcribed and translated into English. All transcripts were reviewed internally at the study sites before going through quality control by US-based research staff. The topic of religious leaders' engagement in women's health practices came up organically among FGD participants across the four sites, usually without probes from the facilitator. Some key informant participants besides religious leaders addressed this topic in IDIs as well.

Data analysis

After data collection, a codebook was iteratively developed by the analysis team with initial input from site team members and weekly meetings by the coding team (van der Straten et al. 2020). The preliminary codebook included codes related to interest in and support of oral PrEP and the dapivirine vaginal ring such as Acceptability, Product Influences, and HIV. Religion emerged as an important theme during initial analysis of FGD transcripts in which participants discussed the role of religion and religious leaders in health practices. A Religion code was therefore added to the codebook and systematically applied to all transcripts. It was defined as any discussion of individuals' religious or spiritual beliefs, practices, and values, including prayer and worship. Discussions of religious groups or institutions were coded Organisational/Institutional. Analysts met weekly to review and compare coding and resolve discrepancies through discussion. For this paper, the lead author and a qualitative analyst undertook a targeted analysis by reviewing the Religion and Organisational/Institutional code reports on all transcripts. They also reviewed and thematically analysed the full transcripts of the seven IDIs with religious leaders. Co-authors from the four study sites reviewed all memos.

Research ethics

Participants provided written informed consent prior to participation in the study. The study protocol was approved by the Western Institutional Review Board (WIRB) and by local IRBs at each study site and was overseen by the regulatory infrastructure of the US National Institutes of Health and the Microbicide Trials Network.

Results

A total of 232 participants took part in the MTN-041 study with 196 participating in FGDs and 36 in IDIs. Demographic characteristics of the four groups of participants are presented in Table 1. Ninety percent of the sample identified as Christian (denomination unspecified) and 9% as Muslim. Overall, 92% of participants reported attending a religious service at least once a week.

Seven religious leaders were purposely selected as key informants (one in Malawi, one in South Africa, three in Uganda, and two in Zimbabwe) (Table 2). These leaders included an Imam, a Charismatic Style Church pastor, an Apostolic Faith Mission Church pastor, an Evangelical Lutheran Church pastor, a Church of Central Africa Presbyterian pastor, a

Roman Catholic priest, and an Anglican Church priest. The average age of religious leaders was 47 years, and 2 were female, 6 were married, and 6 had a college degree. The majority of religious leaders were aware of various HIV prevention methods, and all were familiar with the male condom. Four religious leaders knew of oral PrEP and two of the dapivirine vaginal ring.

The following explores key themes that emerged in the analysis of both the IDIs and the FGDs. Quotations draw more heavily from the IDIs since religious leaders were asked to speak at length about their involvement in their congregants' health, whereas FGD participants' comments about religion arose spontaneously in response to broader questions.

Religious leaders support for the health of pregnant and breastfeeding women

A primary theme that arose from interviewing religious leaders was that they invested in the health of women during pregnancy and breastfeeding with the realisation that this would ensure the health and safety of the next generation of church and mosque members. Although only one leader had a formal health background, all perceived a healthy congregation to be a reflection of their ability to support their followers. As one pastor said:

> …So we very much take care of pregnant women, we need to give their due respect, understand them, know them, their needs so that they can give us good seed which will be the today's church and even church in future. [8036, Male, Religious Leader, Malawi]

Religious leaders said their role as health advisors to women intensified during pregnancy and breastfeeding. They saw themselves as being the first line for health-related information and guidance for women in these communities. Many pregnant and breastfeeding women came seeking spiritual advice and counselling, and religious leaders took it upon themselves to also talk about health issues, given the trusting bond between them since women often had grown up in the faith-based institutions they currently attended. A pastor noted that this trust differed from that between doctor and patient:

> They [women] are quick to believe things that are said by a pastor or prophet compared to what is said by the medical staff. [4028, Female, Religious Leader, Zimbabwe]

Religious leaders interviewed expressed that the guidance offered by their peers to pregnant and breastfeeding women depended on their religious denomination, as certain denominations prohibited followers from seeking medical health care services, instead believing that all illnesses could be healed by prayer. Others provided medical care within church settings and also allowed followers to seek medical care from outside providers.

In this sample, religious leaders did not indicate that they would prohibit biomedical interventions. They explained that while they tried to only address issues they could handle, such as nutritional guidance, they recognised their own lack of medical expertise and recommended that women turn to health care providers and health facilities for antenatal and postnatal care. However, if their congregants struggled to follow medical advice due to a lack of resources, religious leaders would step in to ensure that women's essential needs

were met. The Imam described encouraging women to seek care from health care providers, but also noted that religious leaders often needed to assist with follow-up care:

> Since we are not health workers, we encourage them to go to the health workers… But the health care service has not yet been so good because they go but end up coming with a prescription [without medication] which needs money…So we are like their attendants because they come back saying, 'We need to buy the medicine'. So you give her money so that she can go and buy the medicine. [6044, Male, Religious Leader, Uganda]

Biomedicine and spirituality are intertwined

Several religious leaders expressed the belief that biomedical interventions and spirituality were connected and worked together to accomplish a common goal. They perceived biomedical medicine as powerless and ineffective without prayer, and individuals as half healthy if they lacked either spirituality or biomedical medicine – an expression of synergy that resonated with the biopsychosocial spiritual model (Winiarski 1997). Therefore, they encouraged followers to seek medical care from health facilities after addressing their spiritual needs. A pastor explained:

> Personally, I am much more inclined to the medical side. On the spiritual side I will tell them, 'I am going to pray for you and you also have to pray for yourself but you must go to the hospital because that is where we get broader assistance on how we are we going to protect your baby, if there are any complications they know how they are going to manage them … we need to pray even for the doctors'. [4028, Female, Religious Leader, Zimbabwe]

Although interviewers did not ask specifically about seeking health advice from religious leaders, a number of FGD participants discussed how pregnant and breastfeeding women sought health information and advice from both religious organisations and health facilities. Similar to the religious leaders, these participants highlighted the connection between biomedical medicine and spirituality. As one grandmother noted:

> Personally, I will advise her [pregnant woman] to take both advices [from health facilities and churches]. I will not tell her to drop any because the doctor got the brains from God …. She will take both because there are no pills at church, there are just prayers so both (prayer and pills) work together to achieve a common goal. So I will tell her not to get rid of any, because if she gets rid of one, she will get rid of her healing. [F42, Grandmother, Zimbabwe]

This view was corroborated by others who discussed how religious leaders became the main source of support when health facilities were difficult to reach. However, participants expressed that when they experienced medical issues beyond the capacity of faith-based organisations, they turned to health care providers for further guidance. As one male partner remarked:

> 'We normally get our help from the church. But when there are challenges now that is when we approach doctors'. Later on in the discussion he continued these thoughts: 'Here at church, they bring the medicines to seek approval as to whether

> the medicines are allowed, if they are not allowed they will be told not to use them …' [F45, Male partner, Zimbabwe]

Other participants said that women turned to religious leaders for guidance when their health concerns involved interpersonal or spiritual issues. In one woman's words:

> What takes us to religious leaders, you might have challenges with your pregnancy and then you ask yourself 'Why don't I go to religious leaders …' … If you get a shock inside the womb usually it is about the conflict you have with your neighbours that makes you decide to go to pastors. They provide counselling as well as praying for you. [F62, Female, Uganda]

Some participants described having received ethnomedical advice and products such as herbal mixtures from faith-based organisations to aid the preparation of the birth canal during pregnancy or the tightening of the vagina post-delivery:

> I believe what I am told at church. I was given water [holy water] to drink to open the birth canal. That is what I believe in. I used it on my first child and I delivered well. [F43, Female, Zimbabwe]

Many religious leaders did not object to the use of ethnomedicine because they believed holy water and herbs were gifts from God. Religious leaders who hesitated to recommend ethnomedicine tended to do so out of concern for women's health, as the instructions for using most ethnomedicine were not specific and dosages were approximate. One pastor explained:

> At church we have the spiritual and the health aspect where we need doctors. As pastors we refer and tell people that it is good to always go to the hospital. Yes they can use herbs but some of the herbs may cause problems because they do not have measurements [dosage]. [4027, Male, Religious Leader, Zimbabwe]

In IDIs, nine traditional leaders (7 traditional birth attendants, a chief, and a chief's wife) also spoke about the connection between ethnomedicine and biomedicine. Most traditional birth attendants discussed providing women with medicine to prevent infections or for birth preparation purposes. Traditional birth attendants linked their ability to practise ethnomedicine to religion, and their ability to heal as a gift from God. They acknowledged their own limitations by stating that regardless of whether they provided women with herbs to treat illnesses, they regularly recommended that women seek help from biomedical health facilities for further assistance. These traditional leaders also described how urbanisation impeded their ability to practise ethnomedicine because herbs were becoming scarcer and less effective herbal alternatives were increasing in the local markets. Traditional birth attendants believed that health care providers and traditional leaders should work together to address community health because people seek care from both types of providers.

Sexual health strategies endorsed by religious leaders

Religious leaders expressed different perspectives when it came to recommending condoms as an HIV prevention method. As noted above, some were motivated to provide recommendations for health practices because they felt strongly that these would benefit women's health. Many religious leaders understood the heightened risk of acquiring

HIV and other sexually transmitted infections during pregnancy and breastfeeding, and counselled women to take precautions such as using condoms and testing for HIV regularly during these periods. As a strategy to reduce risk, they spoke of advising male partners to be patient with their pregnant or breastfeeding partners when it came to sex and to allow time for rest late in pregnancy and for healing after delivery. The Imam recommended that men abstain from any sexual contact with their partners until vaginal discharge post-delivery had ceased. Although traditionally women were expected to abstain from sex for six months to two years post-delivery, religious leaders advised their congregants to shorten this to two or three months in an effort to prevent male partners from seeking other sexual relationships.

Two of the seven religious leaders (the Imam and a Roman Catholic Priest) who were hesitant to recommend condoms to their followers associated condoms with family planning rather than a combination of contraception and HIV prevention. They promoted strategies for family planning such as abstinence and encouraged congregants to breastfeed as a form of child spacing, but only endorsed monogamy for HIV prevention. The Imam instructed followers about the power of fasting, which he believed decreased sexual desire and focused the mind on important issues, especially for men. These two leaders believed condoms encouraged promiscuity and viewed them as unacceptable alternatives to abstinence or monogamy.

In contrast, the other five religious leaders endorsed a more comprehensive approach to HIV prevention that included condom use and HIV testing. They understood the need for women to protect themselves and their infants from infection and encouraged HIV positive women to begin treatment immediately and adhere to medications to avoid perinatal transmission. They expressed willingness to accept new HIV prevention products and support and amplify HIV prevention and treatment messages in their communities and saw themselves as ‘fathers/mothers’ who could inform their congregants about new advances in healthcare. As one religious leader explained:

> … It used to appear like it’s not Christian like to use condoms, but now we see that the health of an individual is important … us pastors, pastors’ wives and couples attend HIV/AIDS workshops in order to equip ourselves so that when approached by people we will be able to assist them …. Knowledge is what is important. It [The Bible] says people perish because of lack of knowledge. [4027, Male, Religious Leader, Zimbabwe]

Another leader stated that he told women:

> … if you can’t abstain then try using condoms, then you should [also] go to the health workers for contraceptives to avoid pregnancy … [6044, Male, Religious Leader, Uganda]

Religious leaders therefore understood the importance of preventative measures and wanted to educate themselves so that they were better equipped to educate their congregations. They helped their congregations by providing informed recommendations to individuals who sought assistance.

Religious leaders may facilitate the acceptance and introduction of new HIV prevention products in their communities

When talking about the vaginal ring and PrEP, religious leaders stressed the need for health care providers and spiritual leaders to work together for these products to be accepted by communities. Most religious leaders and some FDG participants declared that without the involvement of religious leaders from the early stages of rollout, acceptance of new HIV prevention products would be slow. To illustrate this point, one leader explained how his leadership was helpful in distributing condoms:

> [The condoms] which were just distributed [by health providers] were misused but when I was given the responsibility … I gave them to the women, they took them and used them … I would say 'please use these things because I want you to be healthy'. So they used them. [6044, Female, Religious Leader, Uganda]

IDI participants who were not religious leaders were not asked about the role of religious leaders during pregnancy and breastfeeding, although some medical providers and health care workers spoke about the challenges of providing care to women from denominations that rejected allopathic medicine. They suggested that when it came to the dissemination of information about new HIV prevention products, it would be important to provide leaders from religious denominations with specific outreach and education activities. A minority of health care providers led health departments in their churches and explained that even though the pastor might not be able to discuss the HIV prevention products, they could appoint someone from the health department to disseminate information to congregants. One nurse explained:

> Pastors are listened to though he cannot get into the products' [HIV prevention products] details during his preaching sermon, but he can have someone who will be at the health department. [4059, Female, Head Nurse, Zimbabwe]

Religious leaders' involvement in new HIV prevention products was also discussed among other stakeholder groups:

> I think when you go there [church] for counselling, they can also teach couples about these [HIV prevention] products because people listen to their pastors. [F43, Female, Zimbabwe]

> It is necessary to go to the communities, religions and pastors so that they can explain … to their subordinates about … the ring and the pill so that many people can become well informed. [F85, Male Partner, Malawi]

Religious leaders in this study declared their own willingness to educate women about HIV prevention options to help them make informed choices and expressed a desire to provide accurate information to their congregants. They emphasised the need for education to protect women's spiritual health and morality. In the words of one religious leader:

> People need to take it [PrEP] but they need to be educated, to be taught that if you take it and then misbehave it is God to judge … Much as we want their lives to be healthy … we want also their morals to be protected and that is why we stick on teaching before giving them. [6045, Female, Religious Leader, Uganda]

The majority of religious leaders believed if they were educated about HIV prevention products they would have the ability to correct myths and misconceptions that could arise among community members. They expressed the need to strategise on the best ways to approach religious denominations that prohibited the use of these products. Two pastors observed:

> I would explain the advantages of each product to women and encourage them to choose what suits them best considering the type of the husbands they have. I will be doing this because giving women information and equipping them is very vital. [4028, Female, Religious leader, Zimbabwe]

> … In Malawi people respect the church so don't just [leave] it to the government alone or the hospital alone, the political parties, but when the church puts her voice, it carries its own weight on the issue being given. [8036, Male, Religious Leader, Malawi]

Despite a willingness to support the use of new HIV prevention products among their congregants, religious leaders expressed numerous concerns. While they saw benefits of using the products for both the mother and the child, they were concerned about potential side effects. They expressed the need to be consulted, engaged and educated further about these products before they were rolled out to ensure the safety of the women. In particular, religious leaders wanted to be educated on side effects so that they could give women all of the pertinent information when discussing their options with them. One pastor noted:

> … I would recommend the PrEP for them, but my concern would be what if it affects the foetus, it affects the mother's system … It's a good thing to prevent, they say prevention is better than cure, but we need to consider a lot of things like is this 100% safe for the foetus and the mother … I can recommend it if I can be assured of [the safety] you know. [2043, Male, Religious Leader, South Africa]

Discussion

Findings from this study indicate that religious leaders saw themselves playing a supportive role in the health of pregnant and breastfeeding women and their infants. They viewed the health of the congregation to be a reflection of their leadership, and as such, felt that for new biomedical HIV prevention strategies to be accepted in these communities, they should be involved early because women seek their advice concurrently with medical care. A majority of participants in all stakeholder groups said that women turned to religious leaders for medical guidance, sometimes trusting their advice over that provided by medical professionals with whom they lacked an ongoing relationship. These findings underscore the importance of engaging religious leaders early on during product introduction, and ensuring they receive accurate information before new technologies rollout in order to avoid the proliferation of misinformation.

In this sample, traditional sexual norms were advanced by some religious leaders, specifically those who hesitated to promote condom use to congregants on the ground that condoms would increase promiscuity and infidelity. This is a common view among faith-based organisations and was echoed in a study in Malawi where the promotion of

condoms has been equated with the promotion of promiscuity or infidelity (Trinitapoli 2009). Given that religion is big part of people's life in sub-Saharan Africa, faith-based organisations should not be ignored, regardless of whether they have differing views from public health practitioners. Instead, differences in perspectives should motivate an open dialogue between these institutions. Innovative ways to involve and educate faith-based organisations about new prevention options when they become available should be explored, along with promoting women's need to protect themselves and exercise choice, and/or to involve male partners as allies. In this way, faith-based organisations could serve as gatekeepers in engaging men in women's sexual and reproductive health.

We also found that grandmothers advised women to seek health information from health care providers and faith-based organisations, and a few women expressed the desire to consult with religious leaders on recommendations provided to them by health care providers. Furthermore, when medical services were inaccessible, faith-based organisations became the only source of health information; they also provided financial support to congregants for medical assistance and medication. Faith-based organisations across Africa provide up to 50% of health and education services and are thus a crucial delivery point for HIV-related information and provision of services (Olivier et al. 2015). While health care providers focused on the physical and sometimes emotional aspects of health, participants in this study identified spiritual healing as a core component of overall health (c.f. Winiarski 1997). While most religious leaders in this sample had reservations about the use of ethnomedicine, some were supportive of it, seeing ethnomedicine as the creation of God and some health issues not treatable by biomedical medicine. Indeed, among the seven traditional health providers that took part in the study, six expressed the need for biomedical health providers and traditional health providers to work together in caring for community wellbeing.

When promoting biomedical approaches for HIV prevention, clinical researchers and programme implementors should evaluate the environment they are working in and assess whether religious leaders would be useful allies. In this analysis, participants agreed that researchers and religious leaders could work together to promote HIV prevention products. Religious leaders expressed the need to be provided with adequate education about new HIV prevention products before disseminating them to their communities. More research is needed however that focuses on the best way to engage religious leaders and gain their support. Furthermore, research on the distinction between religion and spirituality would be useful in elucidating the different pathways through which these constructs might operate, and the implications of distinctions between religion and spirituality for promoting or challenging biomedical HIV prevention. Lastly, our data also suggests that more research should be conducted among traditional leaders (e.g. healers, traditional birth attendants, village chiefs, etc.) to further assess their influence on people's health practices.

Limitations

Our findings are limited to issues discussed by religious leaders and participants in an exploratory sample and therefore cannot be generalised to the broader population in multi-country settings. Religion was not a primary level question and this topic was not discussed

equally across all the FGDs and IDIs. As such, we are limited in our understanding of the extent of which health care providers agree with religious leaders' views. The small number of religious leaders and the purposive sampling make it difficult to conclude that these views would be expressed by participants from other religious denominations. Study participants were recruited from within the study catchment area and likely familiar with clinical research and the team. Because they agreed to be interviewed, it is likely that religious leaders in this study viewed biomedicine more favourably than those who were not interviewed. Finally, all but one spiritual leader had a college degree, and one had a health background, so their responses may differ from religious leaders in rural settings or those with lower education and training. Traditional leaders and other participants who expressed favourability towards biomedical medicine also were from urban areas. People living in rural settings may hold different views.

Conclusion

Religious leaders in this study were receptive to biomedical interventions and new HIV prevention technologies and expressed the need to be educated about the products and consulted in relation to rollout. For women who are pregnant and breastfeeding, religious leaders appear to be a promising stakeholder group to engage as facilitators and amplifiers of new HIV prevention technologies in our study settings. Although the majority of religious leaders believed biomedicine and spirituality could work hand in hand, not all religious leaders or denominations were in agreement. Researchers should therefore tailor strategies to engage religious leaders of particular denominations to assist in the community acceptance of these products on the understanding that some religious leaders may never accept the use of biomedical interventions. Furthermore, researchers looking to work with religious leaders should involve and educate them in the early stages of the project implementation.

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Table 1.

Demographic information of MTN-041 participants sample ($N = 232$).

	Pregnant &Breastfeeding		Grandmothers		Male partners		Key Informants		Total	
Characteristics	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Total	65		68		63		36		232	
Age (mean)	27.1		50.5		30.6		49.7		38.4	
Secondary Education complete	33	(50.8)	19	(27.9)	35	(55.6)	28	(77.8)	115	(49.6)
Religion										
Christian	63	(96.9)	61	(89.7)	53	(84.4)	31	(86.1)	208	(89.7)
Muslim	2	(3.1)	5	(7.4)	7	(11.1)	5	(13.9)	19	(8.5)
Attends Religious services										
More than once a week	18	(27.7)	28	(42.4)	26	(43.3)	26	(72.2)	98	(43.2)
Once a week	43	(66.2)	29	(43.9)	29	(48.3)	9	(25)	110	(48.5)
Occasionally	4	(6.2)	9	(13.6)	5	(8.3)	0	(0.0)	18	(7.9)
Marital status										
Single, never married	15	(23.1)	14	(20.6)	15	(24.2)	4	(11.4)	48	(20.9)
Married	47	(72.3)	28	(41.20)	46	(74.2)	27	(77.1)	148	(64.3)
Separated	2	(3.1)	10	(14.7)	0	(0.0)	0	(0.0)	12	(5.2)
Divorced	1	(1.5)	4	(5.9)	0	(0.0)	1	(2.9)	6	(2.6)
Widowed	0	(0.0)	12	(17.6)	0	(0.0)	3	(8.6)	15	(6.5)
Household Composition/Live with										
Partner/spouse	47	(72.3)	26	(38.2)	49	(77.8)	25	(69.4)	147	(63.4)
Other Adult family member	20	(30.8)	24	(35.3)	24	(38.1)	11	(30.6)	79	(34.1)

Table 2.

Demographic information of religious leaders.

Characteristics	(*N* = 7) N
Age (Mean)	47.4
Gender	
Female	2
Male	5
Nationality	
Malawi	1
South Africa	1
Uganda	3
Zimbabwe	2
Religious Affiliation	
Christianity	6
Islam	1
Marital Status	
Single, never married	1
Married	6
Awareness of HIV Prevention Methods	
Male Condom	7
Female Condom	6
Vaginal gel	4
Vaginal ring	2
Tablets/Oral PrEP	4
Other (Abstinence and VMMC*)	2

*Voluntary Male Medical Circumcision.