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Full Length Research Paper

Community beliefs and practices during pregnancy and their potential effect on HIV prevention product use in Sub-Saharan Africa

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Abstract

Pregnant and breastfeeding (P/BF) women face a heightened risk of HIV acquisition and need effective HIV prevention methods. The MTN-041 study explored the potential acceptability of the dapivirine vaginal ring, and oral pre-exposure prophylaxis pills use during pregnancy and breastfeeding in Malawi, South Africa, Uganda, and Zimbabwe. We explored pregnancy-related practices and beliefs and their potential impact on the use of the ring and pills. Focus group discussions were conducted with P/BF women, grandmothers, male partners, as well as in-depth interviews with key informants. Results revealed that P/BF women engaged in birth preparation practices and consulted traditional/spiritual healers, traditional birth attendants and religious leaders, to promote their health, the health of the unborn baby, to ease the birthing process, and sought spiritual guidance. Participants believed these cultural beliefs and practices could have a potential effect on uptake of the ring and pills during the pregnancy and breastfeeding periods. Therefore, when implementing community roll-out strategies, it is imperative to take these practices into consideration to foster increased uptake. These insights can help tailor interventions and public health strategies to better meet the unique needs of P/BF women in the fight against HIV.

Keywords: Pregnancy, Culture Beliefs and Practices, oral PrEP, Dapivirine Vaginal Ring, HIV/AIDS.

INTRODUCTION

Women in Sub-Saharan Africa (SSA) spend a significant portion of their reproductive lives either pregnant or breastfeeding. In South Africa, women spend approximately four years of their lives in this phase, while in Zimbabwe the duration extends to seven years [Drake et al.2014, Moodley et al. (2011), Dinh et al. 2015, Machekano et al. (2018)]. Pregnant and breastfeeding (P/BF) women, particularly in SSA, face a substantial risk of acquiring HIV due to biological, social, and cultural factors [Gray et al. (2005), Munjoma

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et al. (2010), Thomson et al. (2018)]. Studies have shown that, women are four times more likely to acquire HIV and transmit HIV during pregnancy [Dunlap et al. (2014), Aluisio et al. (2011), Johnson et al. (2012)]. One contributing factor is women's inability to negotiate condom use with their partner during pregnancy. This is more difficult for women to do during pregnancy, when contraception is not a motivating factor for condom use and male partners may be more resistant to use them during sex [Swan and Connell (2012), Kanacek (2013), Pool et al. (2000)]. Therefore, women need HIV prevention options they can control since condoms is the only HIV prevention option available for pregnant women. Previous research has shown that newer HIV prevention methods such as oral pre-exposure prophylaxis (PrEP) pills and the dapivirine vaginal ring (DVR) are highly effective and acceptable in preventing HIV among non-pregnant and non-breastfeeding women [van Der Straten et al. (2020), Nair et al. (2021)]. For these HIV prevention options to be effective, it is essential that they be used correctly and consistently, and that they be acceptable to the user. Higher adherence to products can translate into higher effectiveness of the products [Musara et al. (2018), Donnell et al. (2014), Montegomery et al. (2018)]. Uptake of HIV prevention options may, however, be impacted by traditional beliefs and practices during pregnancy.

Previous research has shown cultural practices and beliefs affecting family planning methods and condom use. Research elsewhere has shown that persistence of socio-cultural beliefs and practices promoting births and continued reliance on traditional family planning practices is central in hindering the uptake of modern contraceptives [Kabagenyi et al. (2016)]. According to other studies, cultural barriers, in particular traditional preferences and desires for more children and lineage, have been highlighted as affecting the uptake of family planning [Brunson 2010, Ntozi and Odwee (1995)]. Other studies have also shown that cultural practices fundamental to the construction of female identity like eroticism, experience of pleasure, elongating the labia minora, the practice of 'dry sex' that entails insertion of natural products into the vagina or the ingestion of these products orally influence preferences for sex without a condom [Bagnol and Mariano (2008)]. Yet, it remains unclear whether these cultural practices and traditional beliefs can also potentially affect the uptake of the ring and pills. During MTN-041/MAMMA (Microbicide/PrEP Acceptability among Mothers and Male Partners in Africa), a qualitative study that explored perceptions of dapivirine vaginal ring (DVR), and oral pre-exposure prophylaxis (PrEP) use during pregnancy and breastfeeding, we investigated how cultural and community practices and beliefs may potentially influence the uptake of these HIV prevention products.

METHODS

MTN-041 was a qualitative acceptability study conducted in Malawi, Uganda, South Africa, and Zimbabwe. Twenty-three focus group discussions (FGDs) were conducted with separate groups of P/BF women, independently recruited male partners of P/BF women, and grandmothers. Participants included: 1) HIV-negative women by self-report, aged 18-40 who were currently or recently (in the past two years) pregnant or breastfeeding by self-report; 2) men aged 18+ with female partners who were currently or recently pregnant or breastfeeding (MPs); 3) grandmothers (mothers or mothers-in-law of currently or recently P/BF women) aged 18+. In-depth interviews (IDIs) were conducted with key informants (traditional/local leaders, religious leaders, traditional birth attendants, mid wives, family planning service providers and social service providers). Participants were recruited from various community settings, through street, marketplaces, and shopping centers outreach, community advisory board members, word of mouth, construction sites, antenatal and postnatal clinics. Further details of the study and study design have been published elsewhere [van Der Straten et al. (2020), Young et al (2022].

Procedures

MPs and P/BF women responded to an individual interviewer-administered demographic and behavioral survey. During the focus group discussion, participants were asked to view an educational video about the DVR and PrEP pills and handled the placebo products. Topics covered in the FGD interview guide included HIV risk perceptions during pregnancy/breastfeeding, practices encouraged and discouraged during pregnancy/breastfeeding, birth preparation practices and how culture might interfere with study product use. Topics covered in the IDI guide included key informant's role in the community with P/BF women, pregnancy cultural practices, and key informant's opinion of the role of traditional care providers and use of traditional medicines by pregnant women. All interviews were conducted in local languages, audio recorded, transcribed, and translated into English.

Data Analysis

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)]. Transcripts were coded in Dedoose software (v7.0.23) and an acceptable level of intercoder reliability was set at ~80% agreement for a set of 10 codes that were deemed representative of the key topics

of interest. Interesting findings, emerging themes and discrepancies between coders were addressed during weekly analytical meetings. Coded data reports were further summarized into analytical memos.

Research Ethics

The study protocol was reviewed and approved by the Western Institutional Review Board (WIRB) and by local IRBs at each of the study sites (College of Medicine Research and Ethics Committee /P.01/18/2333 and Johns Hopkins Bloomberg School of Public Health/00008506 in Malawi, University of Witwatersrand Johannesburg/180104 in South Africa, Joint Clinical Research Centre/JC 0318, John Hopkins Medicine/IRB 00171831 and Uganda National Council for Science and Technology/HS 2399 in Uganda, Joint Research Ethics Committee for the University of Zimbabwe College of Health Sciences and Parirenyatwa Group of Hospitals/JREC 7/18 and the Medical Research Council of Zimbabwe/MRCZ/A/2280 in Zimbabwe) and was overseen by the regulatory infrastructure of the U.S. National Institutes of Health and the Microbicide Trials Network. Written and verbal informed consent was obtained from all the participants enrolled in the study.

RESULTS

Demographic and behavioral data on age, marital status, level of education, household composition, religion, and religious service attendance is presented descriptively by participant group in table 1. A total of 196 participants (65 P/BF women, 63 male partners of P/BF women and 68 grandmothers) took part in single sex FGDs. Thirty-six key informants participated in IDIs. Among the key informants, the mean age was 49.7% and more than 77% had completed their secondary school. Fifty percent of the P/BF women completed secondary education, 72.3% lived with their spouse/partner, and 37% agreed their partner might be having sex with someone else. On attendance of religious services, 62.2% of P/BF women, 43.9% of grandmothers, 48.3% of male partners and 72.2% of key informants attended religious services once a week. More details on participants' characteristics are included in table 1 below.

Results overview

The results below are sectioned into pregnancy beliefs and practices that were voiced by the participants. Then moves into how the beliefs and practices might affect pill and DVR use and the role of traditional healers and providers during pregnancy. We ended with a section on the role of religious leaders during pregnancy and their potential influence on uptake of these products and healthcare provider views.

Pregnancy Beliefs and Practices

Participants across all groups agreed pregnant women engage in different pregnancy cultural practices for varied reasons. To open the birth canal, pregnant women drink and insert mixed herbs in the vagina. In Uganda, pregnant women drink '*Kabamba maliba'* (an herbal plant that is pound and mixed with water) and are encouraged to eat '*mumbwa*' (a mixture of clay and local herbs) to maintain the healthy state of the pregnancy because the herbs used in the '*mumbwa'* concoction are believed to provide good nutrition for the mother and baby and to cure them of any diseases like syphilis. Some pregnant women also drink '*Kimenyamagumba'* (an herbal plant used as tea leaves to make tea) as a birth preparation method. A pregnant woman said:

"I use Kabamba maliba. You mix it with water [in a basin] and you sit in it. This time I never applied it and my vagina got a cut during delivery but the first time I gave birth I used it and I delivered well." (FGD, Woman, Uganda)

In Zimbabwe, participants spoke of pregnant women drinking water soaked in the elephant dung, and in South Africa, they drink '*Isihlambezo'* (an herbal decoction) during pregnancy as a preventative health tonic. Furthermore, to lubricate the birth canal to speed up the delivery process, most women frequently expressed that they drink cooking oil and okra (a type of vegetable common in the tropical and subtropical regions). A grandmother in Malawi shared that:

"…when I was pregnant for the first time, elderly women from our community came and advised me that for me not to find it difficult, in the 8th month I should start eating 'chewe' [a type of okra] without Nsima (flour pulp). I followed the advice and labor progressed quickly, when my mother in-law came she found the baby in my hands." (FGD, Grandmother, Malawi)

Additionally, to enlarge the vaginal opening, participants agreed that pregnant women insert fists lubricated with soap into the vagina, starting with fingers until the whole fist fits in well. One grandmother said:

"…they [pregnant women] will then insert their hands in the vagina to prepare the way... So that the hand can slide in, if the hand tries to fit in bare like that, she will have to force it in." (FGD, Grandmother, Zimbabwe).

Consequently, participants highlighted that it is common knowledge that these cultural practices and traditional beliefs do exist, and pregnant women practice them either openly or privately.

"It is true that, these days there is a lot more pressure forcing people to go to the hospital, however, people are doing their things in secrecy, because the belief is that the traditional birth attendants have their own things

Table 1. Demographic information of participants sample (N=232).

Variable	Pregnant & Breastfeeding N=65	Grandmothers N=68	Male Partners N= 63	Key Informants N=36	Total N=232
Age (Mean)	27.1	50.5	30.6	49.7	38.4
Secondary Education completed	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%)
Live with other adult family member.	20 (30.0%)	24 (35.3%)	24 (38.1%)	11 (30.6)	79 (34.1%)
Agreed partner might be having sex with someone else.	24 (37%)	- -	3 (5%)	- -	27 (11.6%)

that cannot be dealt with at the hospital… and we have seen some traditional birth attendants in the communities, they are still available but they do their things in so much secrecy that they can be hardly known…" (FGD, Woman, Malawi)

"… traditional practices have always been there and will always be there...if I have elders in the community who know about herbs and traditional medicines for treatment, I can go and consult them, and they can give me the traditional medicines for my wife to drink. I do not think that medication can affect the baby… …we were just following what we were told by our elders. So those are the ways that we mostly use to assist our wives deliver the babies that they have." (FGD, Male Partner, Zimbabwe)

Potential Effects of Pregnancy Practices and Beliefs on Product Use

Some women believed that engaging in birth canal open-

ing practices [vaginal insertion of fists and fingers] can cause ring expulsions once the vagina is enlarged. Therefore, some participants felt this would potentially discourage women from using the ring during birth preparation practices because they think the ring will just fall since the vagina would be enlarged. One grandmother said:

"Birth preparation practices opens the birth canal, is it not that it will be open there [vagina]. So that ring will fall because there will be nothing to hold it back since the ring has no clips." (FGD, Grandmother, Zimbabwe)

Other participants expressed the attitude that ring insertions might be considered a taboo during pregnancy. They indicated that some people may believe the ring to cause vaginal overload in addition to keeping the woman busy with insertions and removals amid pregnancy pressures:

"It is not allowed for a pregnant woman to be inserting the ring in the vagina…I should say that she cannot be busy having time to take care of the ring." (FGD, Male Partner, Malawi)

Another woman also echoed the same sentiments saying:

*"You are uncomfortable already about everything, your body changes more often, the baby is moving and so on, so your thoughts are filled with what if I am going to labor and maybe I push this thing [the ring] hard and it disturbs the baby, you have got all those things in your head so yeah you won't be comfortable throughout." (*FGD, Woman, South Africa)

Regarding the pills, participant had varying beliefs. Some believed women might deter away from using the pills because bitter medicine is considered bad during pregnancy as it is sometimes believed to lead to miscarriages or even death:

"People believe that when a woman is pregnant taking bitter things can result in the death of the unborn baby and these bitter things can be prohibited in the community." (FGD, Woman, Malawi)

However, others believed that the bitterness of the medicine could encourage pill uptake because bitterness is sometimes linked to efficacy. A woman from South Africa, shared:

"I think if it's bitter …people perceive a bitter medicine as effective and working…" (FGD, Woman, South Africa)

Furthermore, participants believed that the fear that the medication in the ring and pills could potentially have a negative interaction with the traditional medicine (e.g., herbals) and thus harm the mother and child, would prevent some women from using the new HIV prevention methods. A male partner shared his feelings about the use of the new HIV prevention methods in combination with traditional medicine during pregnancy:

"I think there can be some interference…two drugs working in one womb, affecting mother and baby. So, I think that can affect HIV prevention products' use." (FGD, Male partner, Uganda)

The Role of TBA's and Traditional Healers during Pregnancy

Participants also spoke of pregnant women who might not use the ring or pills if they are not approved by TBAs. Some participants shared that some women might be concerned that the use of these products would lead to having a non-vaginal delivery as there is a belief in some communities that caesarian sections are a result of adoption of western medicines. A Healthcare provider expressed this view when he stated that:

"TBAs and even traditional healers believe most people get caesarean sections because of the practice that they adopted, the Western ways."(Key informant IDI: Service provider, Zimbabwe)

In addition, participants discussed that use of the HIV prevention methods might be discouraged while seeking care from traditional healers since some traditional healers are against the use of western medicines. Participants spoke of the potential for these healers to discourage the use of these HIV prevention methods by telling their clients that use of western medicine is not important and must prioritize birth preparation practices to avoid pregnancy complications. One key informant said.

"If P/BF women go to health centers and are taught against the traditional healers' beliefs, they will go back to the traditional healer who will say, "Ah, that does not matter, that is clinical stuff, it is the English way... remove it [The ring] so that we concentrate on this (birth preparation practices)." (Key informant IDI: Service provider, Zimbabwe)

Seeking advice from religious leaders

Furthermore, participants voiced that the practice of seeking help from some religious leaders has the potential to affect use of HIV prevention products because some religious groups do not allow use of any medicines. Members of such religious sects need to get approval first from their leaders before they commence using the products:

"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." (FGD, Male Partner, Zimbabwe)

Nonetheless, some participants believed that religious leaders may also have the capacity to endorse a variety of sexual health strategies in their communities. One religious leader clearly described how influential they are when it comes to decision making in terms of accepting new health technologies.

"I think they (medical experts) should work hand in hand with pastors so that even if they have new information (on HIV prevention technologies) that they want to disseminate to people, if they involve pastors, their messages will be quickly accepted because not everyone goes to the clinic, but pastors capture a lot of people more than they do...So, if you speak as a pastor, they accept it better and say the pastor told me to do this, let me do it. Especially in the rural community, they accept it more." (Key informant IDI: Religious leader, Zimbabwe).

In addition, we also found that religious leaders may have an influence on the acceptability of new HIV prevention products. They acknowledged that their followers need to protect themselves from HIV and they have no problems accepting information about new HIV prevention methods. They indicated all they need is adequate education so that they can pass correct information to their followers as well as make informed recommendations when needed.

"…It used to appear like it is 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 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." (Key informant IDI: Religious Leader, Zimbabwe)

Health Care Providers views on cultural beliefs and practices

Health care providers (HCPs) acknowledged the strong influence of cultural practices and traditional beliefs on pregnant women's choices. They emphasized the persistence of these practices despite attempts to discourage them. HCPs pointed out that cultural practices, beliefs, and use of traditional medicines by women during pregnancy is inevitable because people have strong ties with their culture, and it is seen as a tradition that is handed down to them by their elders that cannot be forsaken. They felt cultural beliefs and values area part and parcel of their lives that they cannot do without. A medical doctor had this to say:

"Our people here, however educated they are, they still believe much in what the elders say...It is so much entrenched in the culture that even if someone is so much educated, they cannot leave that...Because educated women still take 'Mumbwa', [a clay soil mixed with herbs]." (Key informant IDI: Clinical doctor, Uganda)

Another HCP echoed the same sentiments when he said:

"…even if you stop or discourage pregnant women from engaging in cultural practices during pregnancy, they will still do it even behind your back. Even if you stop her, when she is interested… that does not mean she will stop using it because you never know she might get home and tie it but when she is coming to the clinic, she removes it and puts it back when she gets back home. …I discourage them." (Key informant IDI: Nurse, Uganda)

HCPs agreed that cultural/community practices and traditional beliefs during pregnancy have the potential to impact decision making around HIV prevention product use. They believed that the Western-based HIV education and prevention programs may only succeed if traditional African beliefs and customs are considered. One HCP had this to say:

"But if you go rural, if somebody gets ill or if somebody gets… whether pregnant or what note, the first point of call is a traditional healer or traditional birth attendant...That is our tradition, and it is known that this specific grandmother is responsible for deliveries... So, whatever the birth attendant believes in, she will put it on and will use it. And if they now have this information about these products, they are likely to also teach their clients so that they use them and then it will work" (Key informant IDI: Family Planning Nurse, Zimbabwe)

DISCUSSION

The study findings revealed complex cultural traditions and beliefs that pregnant women across the different four African countries engage with during their pregnancies. These practices, including the use of herbal remedies and birth canal preparation rituals, are deeply rooted in local customs, and are believed to contribute to maternal and fetal well-being. Some participants were concerned about the use of modern HIV prevention methods, such as vaginal rings and pills, during pregnancy, with some even considering them taboo. Some women feared the expulsion of rings due to birth canal preparation practices, while others held varying beliefs about the safety and efficacy of bitter medicines. Additionally, the influence of traditional birth attendants, traditional healers, and religious leaders in promoting or discouraging the use of modern prevention methods was prevalent among the participants. Healthcare providers recognize the persistence of these cultural practices and beliefs, even in the face of medical advice. Thus, the study highlights the need for culturally sensitive approaches to promote the adoption of HIV prevention products while respecting and understanding the deeply rooted traditions of pregnant women in these communities.

Some participants believed that cultural and traditional birth preparation practices of opening and enlarging the birth canal to facilitate speedy labor, such as the insertion or drinking of herbs medications, may prohibit the use of ring during pregnancy due to fear of negative

interactions between the biomedical and traditional medications and thus lead to adverse effects to the mother and baby. This finding resembles results from a study on family planning, culture and religious perspective that showed that higher levels of fertility were associated with traditional or religious prohibitions on some forms of birth controls as traditional values stressed the importance of bearing children [Schenker and Rabenou (1993)]. The finding is further supported by results from a study on masculinity, gender issues, and HIV prevention among men. In this study, condom use was perceived as undermining men's pride and masculinity due to a community belief among some individuals that men possess a supernatural invulnerability that shields them from diseases and illness—perceptions traditionally associated with women and children. Consequently, this belief strengthens the belief that men do not need to avoid risk behaviors, viewing themselves as impervious to health risks, such as HIV [Loosli 2004]. This perception contributes to the ineffectiveness of HIV prevention awareness messages, as engaging in condomless sex is seen as aligning with the sense of 'danger' encouraged by traditional notions of masculinity.

Our results also highlighted the significant impact of consulting traditional and spiritual healers on the uptake of HIV prevention products during pregnancy. Participants voiced that many pregnant women turned to these healers due a belief that they can address supernatural elements (e.g., witchcraft) that might cause pregnancy complications, including prolonged labor and undetectable caesarean sections, which are thought to be beyond the scope of the Western medicine or medical professionals. This influence on the DVR and pills can be further exacerbated when pregnant women are made to believe Western medicines cause pregnancy complications or when religious groups prohibit the use of any medicines, including new HIV prevention methods that are not approved by TBAs. Our findings align with those of a qualitative study conducted in a rural area of Zimbabwe, where traditional beliefs around pregnancy influenced women's antenatal care-seeking behaviors, particularly in the first trimester. During this early stage of pregnancy, secrecy is often maintained because it is believed that both the pregnant woman and the pregnancy itself are highly vulnerable to witchcraft. This often leads pregnant women to seek other options for healthcare, including traditional healers, traditional birth attendants and faith healers, who are believed to possess powers that can protect the woman and the pregnancy from those who may wish to harm them. Some of these alternative practitioners also discourage the use of biomedicine [Mathole et al. (2004)]. Similar patterns were observed elsewhere with reports of pregnant women often turning to indigenous healing practices to protect themselves and their babies against sorcery and prevent childhood illness like "*umoyaomdaka"* (dirty wind). They also seek treatment of symptoms that biomedical services have not been able to address effectively [Abrahams et al. (2002)]. As such, any advice or guidance provided to pregnant women is likely to influence their decisions regarding the use of HIV prevention products.

Furthermore, our results also indicated that religious leaders have significant influence over various sexual health strategies among their congregants. This influence stems from their pivotal role in decision-making processes regarding the adoption of new biomedical technologies. Religious leaders are often more accessible on both social and physical levels, as they reside within the community, and spend considerable time interacting with community members. Additionally, they are perceived as having strong counseling skills, making their guidance highly acceptable. This finding is consistent with previous investigations that have demonstrated the embedded role of religion in the culture of all societies. Religion exerts influence over matters of immorality, ideology and decision-making that concern individuals at various points in their lives [Pinter et al (2016)]. Moreover, our findings align with prior research highlighting the interconnectedness of biomedicine and spirituality. Women often seek healthcare services from medical experts while also turning to faith-based organizations for their religious or spiritual needs [Young et al. (2022)].

RECOMMENDATIONS

Given the complex cultural traditions and deeply rooted beliefs surrounding pregnancy and maternal health in these African settings, it is imperative that researchers and healthcare providers adopt culturally sensitive approaches when promoting the adoption of the DVR and pills. It is crucial to involve influential community figures such as religious leaders, traditional healers, and traditional birth attendants in the rollout efforts of the DVR. They can serve as effective conduits for information dissemination, education, and the dispelling of myths and misconceptions regarding the use of the DVR and pills. Therefore, they should be approached with information about HIV prevention products to help educate women and guide them in making informed decisions. This approach can also aid in addressing concerns related to the potential interaction between biomedical and traditional medications during pregnancy. Our recommendations align with the broader understanding that culture, tradition, and spirituality play significant roles in shaping healthcare decisions. Thus, fostering collaboration between modern biomedical approaches and traditional beliefs is key to successfully promoting the adoption of HIV prevention products among pregnant women in these

communities. This collaborative effort must respect and understand the deeply rooted traditions of pregnant women, ensuring a culturally sensitive approach to healthcare delivery. Furthermore, future research should aim to further explore the specific nuances and perceptions that influence the acceptance and utilization of new HIV prevention technologies, including the DVR and pills among P/BF women in African communities. This research can provide valuable insights for refining and tailoring culturally sensitive interventions and strategies to enhance the adoption of HIV prevention products in these settings.

LIMITATIONS

A major strength of this analysis is that it points towards potential interventions for the community roll out of new HIV prevention methods, with focus on product education that takes into account the cultural beliefs and practices discussed. However, it is important to exercise caution when interpreting the findings due to certain limitations. One limitation is that the study was conducted primarily with participants from urban and peri urban areas. As such the results could differ significantly among individuals in the rural areas, where cultural practices and beliefs may differ or may be more rigid. Additionally, the results are based on a relatively small population size and therefore, they should not be generalized to a larger population in these settings. Future research should broaden its scope to include rural areas and larger populations. Nevertheless, the insights gained from this study regarding how cultural practices and beliefs can influence the use of HIV prevention products during pregnancy are valuable. They underscore the need to address potential barriers that may hinder the uptake of pills and the DVR and to explore ways for their successful adoption.

CONCLUSIONS

In summary, this study emphasizes the potential impact of deeply ingrained cultural traditions and beliefs on the acceptance and utilization of modern HIV prevention methods during pregnancy in African communities. Traditional birth attendants, healers, and religious leaders play significant roles in shaping women's decisions regarding these methods. To enhance adoption, researchers and healthcare providers must employ culturally sensitive approaches that respect and involve community figures for effective information dissemination and education. This collaborative effort is crucial for bridging the gap between modern biomedical approaches and traditional beliefs. Future research should expand its focus to include rural areas and larger populations, enhancing the chances of successful uptake and reducing HIV transmission during pregnancy and breastfeeding.

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