



Using The Health Belief Model To Identify Communication Needs In The Male Circumcision Campaigns To Prevent Hiv/Aids In Siaya County Of Kenya

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ABSTRACT

Behaviour change communication experts consider individual beliefs vital to identifying communication needs in healthcare programmes. This study examined the use of four constructs of the health belief model, viz. the belief that a person is vulnerable to a disease, and that the disease is severe; and the belief that an intervention against the disease has benefits and that there are barriers to adopting that intervention, as the basis for developing communication strategies in the implementation of the voluntary medical male circumcision (VMMC) programme for prevention of HIV/AIDS in Siaya county of Kenya. A structured questionnaire was administered on 350 male residents of the county aged between 18 and 50 years selected using the snowball sampling techniques. Qualitative data were collected through two focus groups discussions involving five men and five women residents. The study found that the residents of Siaya, particularly those living along the shores of Lake Victoria, believe that, because of their occupation and lifestyle, they are susceptible to HIV, the same way they perceive the disease as severe. The best known benefit of VMMC among the residents is its ability to reduce a man's chances of contracting HIV. Other benefits, such as prevention of sex-related diseases among women are largely obscure. There are specific barriers to VMMC such as apprehension over

pain and disruption of economic engagements. The study concurs that the health belief model is crucial for the development of audience-focused health communication and recommends its use in VMMC programme to produce targeted messages for different audience segments.

Key Words: Perceptions, Disease, Interventions, "Significant Others", Communication. Male Circumcision

INTRODUCTION

The Human Immunodeficiency Virus (HIV) remains one of the most perturbing epidemics globally. At the close of 2018, up to 37.9 million people were living with HIV globally, and 32.0 million people had died from the Acquired Immune Deficiency Syndrome (AIDS)-related illnesses since the emergence of the epidemic in the 1980s [1]. The sub-Saharan Africa bears the heaviest burden of the scourge accounting for over 54 percent of the world HIV infections today. Kenya ranks among the world's highest HIV burden countries, with about 1.6 million people in the country living with HIV and about 46,000 new infections across all ages in 2018 [2]. The epidemic is geographically diverse, ranging from a high prevalence of 21 percent in Siaya, 20.7 percent in Homa Bay, 16.3 percent in Kisumu and 13.3% in Migori – all in the Lake Victoria region of western Kenya, to a low prevalence of 0.8 percent in Garissa, 0.2 percent percent in Mandera and 0.1 percent in Wajir respectively – all in Kenya's north eastern region [3]. Epidemiological trends show that the communities that eschew male circumcision have borne the heaviest HIV burden and vice versa [4].

Thus, in light of substantial evidence that male circumcision significantly reduces a man's risk of acquiring HIV during sex and developing penile cancer [5, 6], and further proof that male circumcision is capable of protecting women against a number of sex-related diseases, Kenya launched the voluntary medical male circumcision (VMMC) for HIV Prevention programme in 2008 [7]. Regions with the highest prevalence of uncircumcised adult males, which also had the highest HIV prevalence, became the priority regions for the implementation of VMMC [4], Siaya County was one of them. At 21.0 percent, the county leads in HIV/AIDS prevalence, far above the national prevalence at of 4.9 percent [3]. The county is found in the Lake Victoria region of western Kenya, and is predominantly inhabited by the traditionally non-circumcising Luo community. It is estimated that nearly half of all uncircumcised men are found in this region, where circumcision prevalence is only 48.2 percent against the national average of 85 percent [3].

However, while VMMC was embraced as a significant addition to the broader HIV/AIDS prevention and treatment continuum, scholars and policy analysts were quick to warn that the success of the programme would not be easy to achieve because of the strong beliefs and rituals attached to the practice particularly among the traditionally non-circumcising communities [8; 9]. Bailey, Moses and Plummer (8) warned then that studies are just beginning, with significant contradicting findings, to focus on the biological mechanisms by which the foreskin may increase HIV susceptibility. Moreover, being circumcised is not a shield from HIV infection, since in some communities, circumcision rituals subtly encourage new initiates to seek sexual encounters as proof of their manhood. In other communities, women are encouraged to secretly consider bearing at least one child from an extra-marital affair, to spread the genes for family survival. These complex cultural norms and values are not always in the public domain and therefore are hard to stamp out.

It is thus argued [8, 9] that if VMMC is to be promoted, it should be done in a culturally appropriate manner and people should be provided with sufficient and correct information on HIV and any intervention against it. These considerations and others in relation to the AIDS response, including the fact that male circumcision has the potential to be an expensive intervention, that more research is needed to address whether male circumcision reduces risk of transmitting HIV-particularly for female partners, and the different ethical and human rights issues raised by male circumcision, make a well thought out communication programmes with the potential to carry the intended audience along, an inevitable component of the VMMC. As observed by the UNAIDS in its guidance for decision-makers on human rights, ethical and legal considerations on safe, voluntary, informed male circumcision and comprehensive HIV prevention programming, male circumcision is a complicated issue which involves sometimes difficult discussion on issues of culture, tradition, religion, ethnicity, human rights and gender. To achieve this, a well thought out interpersonal dyadic engagement that engenders proper and unambiguous understanding of the target beneficiaries and other stakeholders by those engaged in developing communication strategies. Perception of a disease can determine the ways a targeted clients view an intended intervention [10]. Particularly, individual or community-wide beliefs about HIV as a chronic disease can influence the self-care strategies used in response to HIV-related symptoms, which are linked to patients' health outcomes [11]. One pathway to soaring up the uptake of the voluntary male circumcision among the non-circumcising Luo community living in Siaya may be through understanding the perceptions of their risk HIV and the extent to which they view HIV as a health priority. Previous research on VMMC in Kenya and in Siaya has dictated much attention to the effectiveness of communication and has not fully examined the extent to which the intended beneficiaries especially the men who are eligible for the cut and what Dutta-Bergman [12] calls their "significant others."

The Health Belief Model

The relationship between health beliefs and behaviours was conceptualised primarily in Lewin's [13] idea of 'valence', the degree that an individual, activity or object has as a behavioural goal; a one-dimensional value assigned to an object, situation, or state that can usually be positive or negative. Particular beliefs were thought to make behaviours more or less attractive. This resulted in an expectancy-value model of belief-behaviour relationships in which events were positively or negatively evaluated on the basis of their expected good or bad outcome. In particular, the likelihood of experiencing a health problem, the severity of the consequences of that problem, and the perceived benefits of a preventive behaviour, in combination with its potential costs, were seen as key beliefs that shaped health-related behaviour patterns. Early research found that these health beliefs were indeed correlated with differences in health-related behaviour patterns and so could be used to differentiate between those who did and did not undertake such behaviours. The model was initially applied to preventive behaviours but later extended to identify the correlates of health service usage and adherence to medical advice [14].

The health belief model is founded on six key components: severity, susceptibility, benefits, barriers, cues to action, and self-efficacy [12]. It suggests that one's behaviour can be predicted on the basis of how vulnerable one believes one is. The HBM vulnerability through risk (perceived susceptibility) and seriousness of the consequence (perceived severity). The two variables, according Corcoran [15], should be considered before a decision is taken. This means one has to weigh up the cost and benefit (pros and cons) of performing a behaviour [16], including how susceptible one feels one is to contracting an illness, such as HIV and how severe the consequences of having HIV are. While the

perceived severity refers to the individual's assessment of the outcomes associated with the preventive behaviour, perceived susceptibility focuses on one's assessment of the extent to which one is likely to succumb to negative outcome [12]. Both susceptibility and severity need to be high for an individual to consider altering his or her behaviour. For instance, when one accepts that one is not beyond the reach of HIV and that HIV/AIDS pandemic is devastating, one will be ready to change those behaviours that predispose one to the epidemic and adopt the available protective behaviours. Benefits are the individual's belief regarding the effectiveness of the proposed preventive behaviour in reducing the vulnerability [17]. Self-efficacy relates to the individual's amount of confidence in his or her ability to perform the health behaviour. It positively predicts the adoption of the preventive health behaviour. Finally, cues to action are the specific stimuli that are needed to trigger the appropriate health behaviour [18].

Applying the Model

The thrust of the HBM, as put forth by Rosenstock [19], is that in order for an individual to take action (either to prevent or to cure a given disease), this person would have to perceive the disease as having 'at least moderate severity' [20], perceive himself or herself personally susceptible, vulnerable or already affected by that disease; believe that there are specific benefits in taking the given action, i.e. the disease will be effectively prevented or cured; and the individual would have to perceive no major 'barriers'-e.g. cost, convenience, pain, embarrassment-impeding his taking that action [17]. Although the HBM has been applied to the analysis of different types of health-related behaviour, in this study, the HBM was used for the analysis of preventive health behaviour. In his application the HBM Rosenstock [17] followed the definition of preventive health behaviour originally suggested by Kasl and Cobb [21]. The latter indicate that preventive health behaviour is the activity undertaken by persons who believe themselves healthy, for the purpose of preventing or detecting disease in an asymptomatic stage. The same definition is followed in the present study.

The HBM has been tested empirically and corroborated in numerous instances, mainly in the developed world. Yet, its use is scanty in Kenya and in particular in the case of the Luo community of Siaya in relation to VMMC. Moreover, the emphasis of these studies has been laid on economic factors, what Rosenstock [17] calls 'culture of poverty', thus leaving out any other socio-structural variables, such as cultural settings and values. Considering the numerous cultural beliefs the Luo community has attached to HIV/AIDS, at least at the advent of the epidemic, their long held traditional beliefs about male circumcision, the test of the HBM in this study can contribute significantly to the VMMC implementing agencies' communication strategies to gain the community's buy-in. Thus, it would be important to consider the influence of ethnic or cultural beliefs as influencing factors of behaviour change or behaviour adoption in the analysis of preventive health behaviour among the members of different communities of Kenya, and put this into account when designing health campaign messages. As Quah [22] found in his study on preventive health behaviour in Singapore, the cultural differences among ethnic is crucial in the perception of seriousness and susceptibility to and severity of HIV/AIDS, as well as in the perception of benefits of adopting VMMC as an intervention and barriers to it. Earlier critics of HBM cited its weakness in addressing environmental conditions such as accessibility of services, transportation and other 'organizational arrangements', leaning more towards attitudinal aspects (Mechanic [23]. Yet, Quah [22], in her counter argument puts greater premium on attitude as decision determinant thus: "I consider attitudinal aspects, which usually have their roots in cultural and religious values, even more important than structural conditions, as potential explanatory factors of preventive

health behaviour.” This study, however, sought to understand both the structural and attitudinal perceptions of the target clients in the VMMC programme, holding the view that both are important to the quest to frame and come up with a well targets communication programme capable of enhancing the uptake of the VMMC. The testing of the HBM in that broad-spectrum manners will add information on its explanatory power, hence better focused messages.

Recent empirical research have corroborated the standpoints of earlier researchers, such as Haefner [24] and Becker [25] on the HBM propositions. In one such study on beliefs and perceptions about HIV/AIDS and sexual risk behaviour among Thai men who have sex with men, Khumsaen and Stephenson [26] confirmed the applicability of the key constructs of HBM like self-efficacy, perceived susceptibility, and perceived vulnerability, and advised incorporating the model in health education. Patterson, Bates, Chadwick, Nieto-Sanchez and Grijalval [27] reported that beliefs and perceptions as espoused by HMB can guide the development of communication strategies for the prevention of the Chaggas disease in Ecuador. Specific to HIV/AIDS, studies have shown that the constructs of the HBM have predicted sexual risk behaviors such as condom use, anal sex, and HIV education in schools [28, 29]. However, little evidence is available on how the model has been applied to understand perceptions on medical male circumcision in Kenya. The understanding of intended health beneficiaries’ perceptions on HIV as a health problem, and VMMC as a health intervention is crucial as it may go a long way in informing the framing of health messages to be used in the programme’s communication campaigns. Health communication scholars have argued that before coming up with communication strategies and designing health education messages, it is incumbent upon communication experts to understand the target beneficiaries’ perception of the health problem and the health intervention under consideration [30; 31]. The answer to the question by Noar, Benac & Harris [30] as to how we can create and deliver to the public messages that are relevant, interesting, informative, and ultimately have the greatest chance of being persuasive lies in understanding the target audience’s own appreciation of and attitudes towards the two key factors in health management, namely the health problem and health intervention.

This paper examines four constructs of the HBM as perceived by the target clients and other key players in the VMMC programme in Siaya County of Kenya: belief and perception on susceptibility to HIV, belief and perception on the severity of HIV; perception on benefits of VMMC and beliefs on barriers to adopting VMMC. Understanding how these four constructs are associated with sexual behaviour patterns and community wellbeing is essential for designing effective and appropriate interpersonal communication strategies.

Objective of the study

This study sought to establish how the health service providers’ understanding of the target clients’ perceptions can help in the development of effective health messages in the communication campaign in the implementation of the voluntary medical male circumcision for the prevention of HIV in Siaya County of Kenya.

METHODS AND MATERIALS

The study employed a mixed-methods approach comprising quantitative and qualitative data collection techniques. Purposive sampling was used to select the county of study, Siaya, and specific sub-counties of Bondo and Rarieda. A number of factors informed the choice of Siaya County as the general area of the study and the two as specific study location. Firstly, at 21 percent, Siaya has the

highest HIV prevalence nationally [3]. Secondly, Siaya is found in the Lake Victoria region of western Kenya, which is predominantly inhabited by the traditionally un-circumcising Luo community. It is estimated that nearly half of all uncircumcised men are found in this region, where circumcision prevalence is only 48 percent against the national average of 85percent [3]. Rarieda and Bondo, Siaya's only sub-counties that border the waters of Lake Victoria, lead the other sub-counties in HIV prevalence [32]. Studies [33] show significant variance in HIV prevalence between the fishing communities and their immediate neighbouring populations.

Within the selected sub-counties, proportionate sampling was employed to obtain the desired cases. We administered a structured questionnaire on men aged 18 to 50 years ($n = 370$), drawn chiefly from the members of the local community along the shores of Lake Victoria in Bondo and Rarieda sub-counties. Subsequently, we conducted two focus group discussions; one with men living around the fish landing beaches who worked as fishermen, traders, transporters or menial workers ($n = 5$); and, two, among women living along the lake as traders or spouses of residents ($n = 5$). Care was taken to strike a balance between homogeneity and heterogeneity of the participants. Common factors for the men was the occupation and area of operation, general uniform age bracket – four of them below 23 years with only one outlier, at 31. They were, however, a mixed bag when it came to marital status, level of education and circumcision status. The women belonged to more or less the same age group, but different marital status: two married, two widowed and one divorced. Prior to the commencement of the discussions we explained the purpose of our study and the requested discussion, and sought their verbal consent, which they granted. They also agreed to video recording of the conversation and taking of still photos. The chain-referral sampling was used in the two data collection methods.

Copies of the questionnaire returned from the field were coded and keyed into Statistical Package for the Social Sciences (SPSS) computer software for analysis, and data screened using the sort functions. Descriptive statistical analysis was applied to quantitative data. First, we developed a data code sheet and transferred data to IBM SPSS Statistics 22 computer software. Secondly, we undertook data cleaning to identify outliers and remove errors in the data feeding process prior to analysing. For qualitative data, a step-by-step data analysis was done, first transcribing the recordings verbatim then reading through transcriptions and field notes, using the immersion process to better understand the data, and note emerging patterns. We employed the inductive approach to code and organise data into categories of the HBM constructs under study. Through the induction process, data were interpreted thematically.

Ethical Approvals

Prior to visiting the field, we obtained ethical clearance from the National Commission for Science, Technology and Innovation, the body responsible for all research undertakings in Kenya. Further, we secured the approvals of the following government authorities to collect data in their areas of jurisdiction: County Commissioner; Siaya; County Director of Education, Siaya; and Deputy County Commissioner, Maranda. At the same time we ensured that all participants had full disclosure on the study through verbal explanation. In view of the sensitivity of some socio-cultural and health issues HIV/AIDS and circumcision the participants were assured of strict confidentiality during and after the data collection process.

RESULTS

The questionnaire was administered on men between the age of 18 and 50 year, who were eligible for the voluntary medical male circumcision. A total of 370 copies of the questionnaire were, thus, distributed to respondents aged 18 to 49. A total of 251 filled-in copies of the questionnaire were returned, representing a response rate of 67.47 percent. On their part, all the selected focus group discussion participants turned up.

Target client's perceptions on their susceptibility to HIVAIDS

The findings indicate that the majority of the respondents were aware of their susceptibility in to HIV as a result of their lifestyle, occupation or dwelling. Up to 49.3 percent and 39.1 percent of the respondents agreed "To a large extent" and "To a very large extent respectively that HIV was "very prevalent" in within their vanity. On whether their lifestyle predisposed them to the scourge, 48.5 per cent said it did "to a large extent" while 42.6 per cent said it did "to a very large extent." Similarly, 47.1 per cent of the respondents perceived the work they did predisposed them to HIV "to a very large extent" and 38.4 per cent thought "to a large extent" it put them at risk of acquiring HIV.

Table 1. VMMC programme clients' perceptions

Reflective Beliefs		Not at all	Limited extent	Some extent	Large extent	Very large extent
Susceptibility	I know HIV is very prevalent in my area	1.4	0.7	9.4	49.3	39.1
	My lifestyle predisposes me to HIV	0.0	0.7	8.1	48.5	42.6
	My work makes me vulnerable to HIV	0.0	5.8	8.7	38.4	47.1
Severity						
	HIV/AIDS is a most devastating disease	0.7	3.7	10.3	37.5	47.8
	The thought of HIV/AIDS scares me out of sex	2.2	6.7	6.7	29.6	54.8
	Getting HIV will ruin me and my family	3.6	4.0	6.2	38.4	47.8
	Being HIV+ leads to being shunned by others	1.4	3.8	5.6	42.8	46.4
Benefits						
	It is hygienic to be circumcised	0.0	0.0	13.0	48.6	38.4
	With VMMC, I can avoid contacting HIV	0.0	3.7	23.1	48.5	24.6
	Being circumcised is now trendy and smart	3.0	20.7	19.3	46.6	10.4
	Sex is more enjoyable if one's circumcised	4.4	28.8	33.1	30.0	3.5
Barriers						
	It is embarrassing to be circumcised	19	26.8	22.6	6.0	0.0
	Worried about forgoing sex during healing	5.7	6.6	17.8	29.9	40.0
	VMMC operation is painful	10.1	13.6	16.2	37.2	22.9
	VMMC operation can complicated and risky	10.3	15.2	19.6	25.9	29.0
	Partner may turn to others for sex during healing	7.2	10.9	10.9	40.6	30.4
	My family will starve as I heal after VMMC	9.6	16.8	8.8	40.8	24.0

The focus group discussions' largely corroborate quantitative findings. Life around the beaches, according most of them, made it easy to contract the disease. They gave several factors that lead to this perception. One participant said:

Many fishermen are people who have come from other areas and most of them do not come with their wives. Because they stay alone and because there are also a lot of women around, you find that there is a lot of movement of one woman to another in the same area. [FGD1-01].

Another threat revealed in the focus group discussions was the spiraling nature of the disease, with married or unmarried men and women acquiring and dropping sex partners at will. One participant captured the shifty scenario thus:

You will find that these women who are doing fish business, they love young men. So one who is married, when the husband has gone into the lake, she sneaks in a young man. And at times she has the disease. She will give the man, who also has his girlfriend. Then the boy will infect his girlfriend. Then these people also don't stay for long. When they part, they each get their new partner. And that way, the diseases spreads very fast.' [FGD1-02].

Another reason for the HIV being rampant, thereby making the residents vulnerable was the availability of disposable income among the fisher folks. As a result of this, the beaches have attracted commercial sex workers, who are ready to offer sex to the residents with money without much care about protection. One participant said:

There is a lot of money at the beaches... When you have money the women here will not hesitate to sleep with you even when they know they are sick... And they will not tell you! That is why there is a lot of prostitution around here. [FGD1-03]

Tied to this is the finding that there are batter trade-like arrangements between fishermen and female fish trader, where the women receive fish and "pay with their bodies."

Target client's perceptions on the severity of HIV/AIDS

The target clients demonstrated a clear understanding of the severity of the impact occasioned by contracting HIV/AIDS. Up to 85.3 per cent perceive HIH/AIDS as a most devastating disease, while 84.4 per cent of the respondents said that the thought of HIV/AIDS scared them to the point of not wanting to engage in sex. As to what the respondents thought of HIV/AIDS in relation to their families, 38.4 per cent and 47.8 per cent thought that getting the disease would "to a large extent" and "to a very large extent" respectively, ruin their families. The bulk of the respondents believed that acquiring HIV was a ticket to isolation as 42.8 per cent and 46.4 per cent thought "to a large extent" and "to a very large extent" respectively that being HIV positive led to being shunned by others.

One key participant capture the severity of HIV/AIDS in the following statement:

Aids is not a joke. Here, week after week we contribute money to take someone home to be buried. We've seen people come her very healthy. They get into the good life here and they fall victims. Within a short time, they are finished. This thing is not a child's play. [FGD1-05]

Target client's perceptions on the benefit of VMMC

A large percentage of the respondents (73.1%) believed that VMMC could help them avoid contracting HIV. Up to 48.6 per cent believed "to a large extent" and 46.4 per cent thought "to a very large extent" that it was hygienic to be circumcised; while up to 57.1 believed that being circumcised was "now trendy and smart." However, only 33.5 per cent of the respondents perceived VMMC as capable of enhancing sexual enjoyment. 33 per cent that it was capable only "to some extent" or only "to limited extent" (28.8%).

The findings of the FGD show that the residents of the fish landing beaches covered in this study were aware of the benefits of male circumcision as a preventive measure for HIV. One participant said:

If you sleep with you girlfriend... and she has AIDS. And let's say you use CD, isn't it? If the CD gets torn or burst. You still have a chance of not getting the e disease...that is if the girlfriend, say, by bad lack had the disease. It can prevent the disease not fully but up to 60%" [FGD1-04]

It is good for both the man and the woman. We have been told that when you come together in sex, it can prevent AIDS a little... not fully by it can.' [FGD2-01].

The findings also show that the participants believed that circumcised men are better in sex. This belief was particularly strong among female participants of the focus group discussion, where one confessed having experienced it herself while other confirmed having heard from their peers. Some of the participants said the following:

It is also true... I have the experience that it enhances sexual enjoyment... when a man is circumcised, that thing is much better...' [FGD2-01].

I have also heard that when a man is circumcised, his sweetness increases very much. [FGD2-02].

However, when asked whether they had discussed this "sweetness" or why they have not encouraged their men to go for VMMC on account of the added value, the women were categorical that they would not do that, lest their husbands demand to know where they have tasted the sweetness

How can I tell him? If he beats me... What if he asks me where I have got that information from? You see, his first reaction will be that I have slept with someone who is circumcised [FGD2-04]

Now that I have heard it here that there is a positive difference when you have sex with a man who is circumcised, I can gather courage and go and bring up that matter with him, but my problem is that I do not know how he will react. [FGD2-02].

The findings also show that the participant believed that male circumcision helped prevent wounds that arise from sexual intercourse especially on the man's penis. One participant who had engaged in sexual intercourse before being circumcised said that he had been prone to wounds and ulcerations on the tip of his penis, something that he was no longer experiencing now that he had been circumcised.

Before I was cut, whenever I did sex I would feel some pain around...that time before I was circumcised if I did I would feel like I had a small cut...When I bathed. So it was a source of bother to me. [FGD1-01]

At the same time, the findings identify sexual pleasure as another perceived benefit of VMMC say that sexual pleasure.

Another benefit could be the sanction that comes with not being circumcised. Furthermore the findings indicate that some men would now go for circumcision to avoid being rejected by prospective sex partners.

There are so many people around here who are not yet circumcised... People like ..., ...and ... [names withheld]. And when ask them: mister, which world are you living in? Some become a bit uncomfortable. [FGD1-02].

...Sometimes, I meet some men, like even when we are bathing, who will ask me: "Bwana, why have you not gone for this thing. And I tell them that there is no difference... I do it the same way just like them. But now it is becoming tricky. There are women like these ones coming from Manyala here who will tell you point blank that a man who has not been circumcised I cannot give...eh...my thing" [FGD1-04]

Target client's perceived barriers to VMMC

While the findings show positive views held by target client on VMMC there were opposing perceptions on the innovation. For instance, up to 64.8 percent of the respondents believed "to a large extent" and "to a very large extent", that VMMC would condemn them to economic uncertainty during the post-operation healing. Besides, up to 60.1 per cent were of the view that the operation was painful, something that would check the acceptance of the intervention. Up to 71 per cent of the respondents believed that their sexual partners could turn to other men for sex during the post-operation, while nearly the same number (69.9%) expressed worry about foregoing sex during the same period of healing. Moreover, when asked about what they thought about the safety of VMMC, up to 29 percent thought the operation could be complicated and risky "to a very large extent", 25.9 per cent thought it could be "to a large extent" and 19.6 per cent said it could be complicated and risky "to some extent."

In the focus group discussion the participants appeared to be quite clear about issues that were capable of slowing down or impeding the uptake of VMMC in their areas. One impediment was the recovery period which the participant considered to be too long in view of the fact some have families where they are the breadwinners while others have to fend for themselves. A number of them explained that the fact that full recovery took six weeks after taking the cut, it would be difficult to go for it when, at the same time, they had to worry about their own survival and that of their dependants.

Circumcision is good and I know its benefits, but like me I am a jua kali person (self-employed). If I do it, there is no way I'll manage during the six-week recovery period when I cannot do anything for my upkeep. [FGD1-05]

I have discussed this even with my wife... and while she supports it, I have always told her that "unlike you who is just sitting and waiting (for food), I have to get food for you

and the children... What happens during the six weeks when I am recovering and so not doing anything...economically?" You see it's complicated [FGD1-03]

It is not only the male participants that were concerned about economic incentives. The women who participated in the focus group discussion were also of the view that giving them something to start or boost their businesses would give them an impetus to campaign among the men, starting with their husbands, to convince them. One female participant said:

Don't these people have a way they can help me to help my man... Like after he has been cut, they boost my business so that I can get a way of feeding him well during the time he is recovering...That way I will be able to take care of him and the family for the period. If they can do that and other women see this they will be encouraged to convince their men to also take the cut [FGD2-03]

People that influence clients' decision to on VMMC

In the focus group discussion for this study, the participants agreed that their peers had some level of influence on them when its came to making decision on whether to accept circumcision or not go for it. One participant said:

Some of us especially those who are not circumcised, when they are laughed at because they are not circumcised, after some a few weeks or months, they come back to the group like at the beach where we bathe, they have been circumcised. When you ask them they say they did it because we were laughing at them. Yes peer pressure can make people go for the cut. [FGD1-01]

Asked whether they would go for the cut without telling their female partners, majority responded in the affirmative saying that it would be right thing to do since sex was involved. One participant said:

Although my wife cannot force me to a go for circumcision, I must discuss with her to explain to her. You know this thing take week to recover. Therefore, she must know so that we plan how we are going to stay even in terms of sources of livelihood. And during that time, as I hear, you know, we cannot do some things so we must agree in advance, to avoid misunderstanding [FGD1-05]

Generally, the women participants in the focus group discussion were of the view that although tradition does not allow them to question their spouses on "important decision like that," it would not be good if their spouses made such decisions.

That will leave me with a lot of questions. If circumcision, as we are told, is for preventing AIDS, is he telling me that he has been promiscuous so now he is going for it because he fears he will get it? Or is he suspecting me to be promiscuous so he wants to be safe because he fears I will give him AIDS? [FGD2-01]

The participants showed reluctance to confront their male partners with the demand that they undergo circumcision citing gender power relations on matters of sexuality. One female participant remarked thus:

DISCUSSIONS

Health communication scholars have argued that before coming up with communication strategies and designing health education messages, it is incumbent upon communication strategists to

understand the target beneficiaries' perception of the health problem and the health intervention under consideration [30; 31]. The successful creation and delivery of messages that are relevant, interesting, informative, and ultimately persuasive [30] lies largely in understanding the target audience's own appreciation of and attitude towards the two key factors in health management, namely the health problem and health intervention. Guided by the constructs of the Health Belief Model, which postulates that health events are positively or negatively evaluated on the basis of their expected good or bad outcome, we sought to establish the clients' beliefs about HIV/AIDS as a health problem, and the VMMC, which beliefs would influence behaviour [15]. The study reveals a high positive correlation between susceptibility and severity, at the correlation coefficient of .751, which shows that when susceptibility increases, severity increases by the same margin. The other notable correlation coefficient determined is between benefits and severity which is .390. This, therefore, indicates the need to consider the issues surrounding barriers and finds means of addressing them.

Targets Clients' Perceptions HIV/AIDS and VMMC Based on the HBM Constructs

The Findings indicate that the majority of the respondents are aware of their vulnerability to HIV as a result of their lifestyle and their occupation, which, they believe, predisposes them to the disease to HIV. This perception supports an earlier study in Uganda [33], which found that the HIV prevalence on fish landing beaches, at 22 percent, was three times higher than the estimated HIV prevalence of 7.3 percent for the general adult population in Uganda; thus showing the fishing communities as being at a higher risk of acquiring HIV. Another study by Omwega Abila and Lwenya [34] found that fishers around the Lake Victoria region were faced with high prevalence of the HIV/Aids due to adulteration of cultural practices such as "wife inheritance" with many succumbing to the scourge. The participants were in agreement that the lifestyle along the beach exposed them to HIV and that life around the beaches made it easy to contract the disease. They attributed their susceptibility to several factors, starting with the fact that the bulk of fishermen stay away from their spouses while a number of unmarried women abounded. Earlier studies have found high levels of participation in migration by both men and women [35; 36] and higher sexual risk behaviours among migrants than non-migrants. The findings further reveal the spiraling nature of the disease, with married or unmarried men and women acquiring and dropping sex partners at will. The finding on fish for sex as one of the catalysts for the spread of HIV corroborate the findings of earlier studies [37,36] which attribute the spread of HIV along the fishing areas to the practice, where women traders get fish to sell not by buying with money but paying through sex with the fishermen. Besides the high mobility of male fishermen, a key factor thought to contribute to the HIV epidemic among fisher folk is a phenomenon in the lakeside communities that has been alternatively termed "Fish-for-sex" and "Sex-for-fish", in which transactional sexual relationships are established between female fish traders and fishermen as a part of the local fish trade economy [38, 39]. Moreover, the positive correlation between alcohol and HIV susceptibility supports another also study in sub Saharan-Africa [40], which yielded "mostly positive significant associations between alcohol consumption and sexual risk behavior and/or HIV infection."

Besides, it has been demonstrated that the residents understood the severity of the HIV and its impact on them and their families. This corroborates a report on the attitude to and perception of HIV among the fishing communities on the Kenya side of Lake Victoria [41], where the participants held the view that HIV is a more serious health problem compared to other diseases in their

community and is still regarded as a death sentence, despite a significant decline in mortality from HIV/AIDS.

The study has also revealed the respondents' awareness of potential benefits that accompany the acceptance of VMMC. A large majority said that being circumcised would help them against acquiring HIV, thus save them from the devastating effects of the disease. Also scoring highly was the belief that circumcision was trendy and fashionable among the clients especially those in the lower age bracket of 18 to 30 years. Admittedly, the belief by the surveyed clients that being "circumcised is trendy and smart" is at variance with the commonly held perception among the Luo people, who are traditionally non-circumcising [42] and were known to deride the practice as alien. The probable explanation to this is that this study was carried out in generally peri-urban centres and among the youth, who, separated from the traditional home set up, are likely to be swayed more by the popular new information and communication order than the traditional orientation that abounds in purely rural settings.

There are mixed beliefs about sexual pleasure in relation to male circumcision, with the bulk of the respondents taking the middle ground ("to some extent). The division in opinion was also evident in the focus group discussions. The divergence of opinions of sexuality in relation to circumcision has been reported in another study among men in South Korea which found no significant differences in sexual drive, erection, ejaculation, and ejaculation latency time between circumcised and uncircumcised men [43]. An even more recent study by Morris and Krieker [44] corroborates these two findings, reporting that male circumcision has no adverse effect on parameters relevant to sexual function, sensation, sensitivity, satisfaction, or pleasure, especially when the circumcision is performed in infancy. Evens, Lanham, Hart, Loolpapit and Oguma [45] while denying awareness of any published data documenting men's attitudes on sexual functioning post-circumcision, say that anecdotal evidence indicates unchanged or improved sexual functioning after the procedure. Perhaps the assertion by the male FGD participant that "sex is a question of style. Style is what matters" could hold true as argued by Nordstrom, Westercamp, Jaoko, Okeyo and Bailey [46], who in their study on the association of medical male circumcision with improvement in pain during intercourse sexual satisfaction in Kenya, suggested that improvement in sexual satisfaction could be due to participants becoming older and more sexually experienced.

However, while the findings show clients' great awareness of the their susceptibility to HIV and severity of the disease as well as the benefits of VMMC, the findings equally reveal a raft barriers that, if not addressed through well designed and focuses messaging, have the potential of slowing down the uptake of the intervention. A majority of the target clients surveyed believed that VMMC would condemn them to economic uncertainty during the post-operation healing, while another consideration portion of them were apprehensive of the operation on account of pain. This study's finding on fear of losing income as a barrier to undergoing VMMC supports the study by Otteng, Kiptoo and Wenje [47] in the same county, which found that men between the ages of 25 and 35 years were particularly concerned about how they would take care of themselves and family during the recovery period after being circumcised. It is noteworthy that the majority of the respondents in our study fell within the same age bracket as identified by Evens, Lanham, Hart, Loolpapit and Oguma [45] as most worried about the financial effects of VMMC. In this study those between 28 and 37 years accounted for over half the number of respondents. Moreover, Even's and others' study is further in consonance with this study through their finding that concern about the financial

burden of VMMC was especially common among men who earned a daily wage such as fishermen and those in the transport sector. The loci of this study, the fish landing beaches, and their surroundings, with fisher folk being the key target. The apprehension over pain was at different stages of VMMC came up prominently during the focus group discussion particularly with male participants of the study. They expressed over pain during the VMMC procedure, during recovery, with some saying they had heard people recovering after the VMMC experienced a lot of pain during the erection. Another study [48] corroborates the findings about VMMC target clients' fear of pain as a barrier to uptake. The study carried out in Rachuonyo area, also along the Lake Victoria region, details the fear of pain as being experienced mainly during the VMMC procedure; but also during recovery due to potentially poor suturing or a surgical mishap resulting in a deformity. A wide majority of the respondents also expressed missing sex during the healing period, while another significant number reported that they would like to know what their peers would think of them if they took the cut. This concern supports Dutta-Bergman's [12] argument on the role of "important others" in behaviour change communication, where he says that often an individual's decision to adopt a health behaviour is located in the collective rather than the individualistic realms.

Target Clients Perceptions on the Influence of "Significant Others" on VMMC

Contrary to generally held view that community psyche may hold sway in deciding on matters that appear collectivistic such as circumcision [49], only a small minority of target clients said that they would seek consent of the community to be circumcised or not to be circumcised. Arguably, this is a surprising finding, considering that the Luo community, being traditionally non-circumcising [42; 12], would locate the decision to accept or reject VMMC in the collective. However, the finding can find explanation in the fact that most of the surveyed people in peri-urban centres, withdrawn from their families, a fact that gives them a sense of independence and individualism. However, the collective efficacy as proposed by Bandura (1995) [49] was quite manifest in the case of peer influence, where the VMMC target clients agreed that the views of their peers largely counted in their decision to accept or reject circumcision. This finding supports the study by Tome et al (2011) [50] that found that friends have a high probability of influencing negatively their peers to adopt a given behaviour in a positive or negative way depending on the side they take on the particular matter. On the influence of the clients' spouses or girlfriends, the study found that female partners had significant influence on the men decision to accept or not accept VMMC. In the focus group discussion both the male participants agreed that most men would seek the views of their female partners – wives or girlfriends – before making a firm decision on VMMC, a fact that puts the women on a significant pedestal in the campaign to soar up the intake of VMMC in Siaya.

Credibility and Trustworthiness of HIV/AIDS and VMMC Information Sources

With regard to credibility and trustworthiness of information source this study focused on interpersonal as opposed to mass media sources. Research shows that interactive information sourcing lead to stronger health beliefs than when people source health information passively as is the case with mass media like newspaper, television and radio [51]. Further, Pecchioni and Sparks (2007 [52] report that health clients have been found to be more satisfied with interpersonal sourcing of health information than mass media. The study established that health workers were the most trusted sources of information on HIV and VMMC among the residence of Siaya followed by peer educators. However, the least trusted health information sources were friends and religious leaders. The positive findings on healthcare workers resonate with the study by Pecchioni & Sparks [52], doctor and nurses are the most trusted sources of information on health matters. The low

rating of church leader, community leaders and friends as least trusted health information sources could be attributed to Umeogu's [53] assertions that the credibility of an information source is largely determined by an information seeker's perception of the information giver's expertise, which, arises from the perceived knowledge, skills and experience.

Using Clients' Perception as a Basis for Developing Communications Strategies

We found that only a small percentage of the respondents have discussed with the VMMC service providers their perceptions and other issues on HIV/AIDS and VMMC – a number of the target clients saying they had not seen them. Yet, the target clients' perceptions and knowledge could form a good starting point in pitching communication programmes and eventual messages in the VMMC campaign. One positive point was that the respondents were well aware that HIV is severe and that they are susceptible. This could make the target clients accept the VMMC intervention as a possible means to avert the threat [16, 15, 12]. These findings provide the first insight into what communication strategy – and with what message – the service providers need to lay emphasis on in order to improve the uptake of VMMC among their target clients. For instance, it has come out clearly that there is confusion about the projected time away from work and the anticipated time away from sexual activity post-circumcision. Whereas the target clients understand that a man needs to stay away from work and sex for six weeks from the day of circumcision, the documentation is clear that the six weeks period was application to sexual activity only. In fact, our enquiry revealed that, just under one week, one should resume his daily activities. This is important information, since it holds the key to improved VMMC uptake, considering that a large number of respondents cited loss of income during the recovery period as one of the main barriers to taking the cut. This misunderstanding has been captured in an earlier study [54], which found that some people confused the one- to three-day healing time with the prescribed six weeks of sexual abstinence post-VMMC. Thus, the communication teams both in the field and at the facilities should ensure they clear this mix-up by making clear distinction between the two issues.

Moreover, understanding the people's fears about possible loss of income, even if for a short time, could help open discussions of how to deal with structural factors such as livelihood enhancing projects. As pointed out by Evens, Lanham, Hart, Loolpapit and Oguma [45], suggestion, such as food or cash transfer to compensate men for time away from work and ensure men's families are provided for during the healing period, could be made to ameliorate the situation. This study holds the view that if the VMMC implementers were aware that the matter of losing income was a wide spread concern, they would work out a way of cushioning the target clients', as opposed to being belligerent, arguing that the VMMC is a voluntary not-for-pay programme which the people only go into if that want. This study proposes a shift in mindset, from the health service provider seeing themselves as helpers and service clients as victims in need of handouts, to a relationships that cultivates and upholds a sense of partnership. By redefining clients and health providers as partners willing to share knowledge, preferences and values throughout the decision-making process, the shared decision making strategy brings forth new opportunities to improve health outcomes and healthcare services [55].

With regard to pain, discrepancy between knowledge held by service providers and that held by target clients emerged further in the methods of executing VMMC. Most of the target clients were not aware that besides the tradition surgical method there were other non-surgical methods, such as the Shang Ring and PrePex devices. Yet this information is very important as it holds the key

dealing with pain as a significant barrier to VMMC uptake. Studies [56, 57] have shown that these new methods are minimally invasive, take less time to perform than standard surgical methods (6–7 vs. 20–40 minutes) and do not require suturing. In these studies, no severe adverse events were reported which were attributable to the devices and mild to moderate adverse events, including the reports of pain, were minimal.

Judging from the findings, the people know little more than that VMMC is capable of reducing by 60 percent the chances of a man getting infected with HIV during sexual intercourse. This has left out important information, such as its benefits to women like prevention of sex-related diseases, which could perhaps be the main selling point of the intervention. At some point during the FGD, the women expressed surprise when told about the other benefits especially to themselves and wondered why they had not been given “that side” of VMMC. Considering that women are key players in the VMMC campaign [59], messages regarding targeting them with their own health could more easily sell than those talking about pleasure. In their own admission, it is not easy for either a husband or a wife to bring up the matter of VMMC if prevention of HIV/AIDS or enhancement of sexual pleasure is the key point, because issues of suspicion of promiscuity or poor performance will arise.

Moreover, the revelation that the target clients, especially those in their youth would not be influenced by community or church leaders is a pointer to the communication strategist not to put too much premium on the support of this segment of stakeholder. Instead their communication programme should aim at getting the buy in of peers and women, a strategy that could focus attention on peer-education and counselling, as partner communication.

In sum, there is need for accurate and uniform messaging to target clients regarding often-occurring concerns such as pain, time away from work, post-circumcision sexual experiences. This information should be incorporated into demand creation activities undertaken by community mobilisers, dyadic peer-educators, counsellor and all other parties involved in pushing the programme’s communication agenda to soar up its uptake.

CONCLUSION

This study used the health belief model to examine people’s perceptions on HIV/AIDS and voluntary medical male circumcisions and assess how such perception could inform the development of communication strategies in the voluntary medical male circumcision in Siaya county of Kenya. Understanding perceptions target clients’ and other important players in the health programme implementation framework in terms of vulnerability to HIV, the severity of HIV and the benefits they assign to taking accepting VMMC as well as the barrier to the uptake have a clear benefit in the communication planning and execution with the effect of enhancing the uptake of the programme and improving the general health outcome. From the findings as presented and discussed, this study affirms that the implementers of the voluntary medical male circumcision should incorporate the health belief model as a means to facilitate the development of communication strategies.

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