



Influence Of Interpersonal Communication Partner On Uptake Of Voluntary Medical Male Circumcision Among Married Men In Kenya: An Evaluation Study Of Information Source Attributes

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ABSTRACT

Background: Studies have shown that male circumcision offers partial “vaccine” against heterosexually acquired HIV as a result WHO recommended it as one of the strategies to fight the AIDS scourge. Married and older men have registered low uptake of the “cut” in the targeted communities in Kenya. Considerable evidence suggests that communication inequality and choice of interpersonal information source are determinants in adoption of healthy behaviours such as adoption of male circumcision. This study aimed to examine how interpersonal communication source attributes (trust, similarity and expertise) may influence uptake of male circumcision among married men in Busia County, Kenya. **Methods:** Voluntary medical male circumcision (VMMC) programme targets males aged up to 49 years. This study targeted married men aged between 20 and 49 years. Measures included socio-demographic characteristics, sources of VMMC information, perception on interpersonal source attributes of trust, expertise, and similarity between source and recipient. Sources regarded as trusted and expert were also measured including similarity dimensions of ethnicity, gender, age and marital status. A total of 377 participants completed the self-administered questionnaires, giving a response rate of 100%. Descriptive statistics tables such as those showing frequencies, mean and standard deviation of constructs were used. Due to the nature of the data collected, the Pearson Product-Moment Correlation Coefficient was computed to measure the relationship between socio-demographic characteristics and interpersonal communication source attribute. **Results:** The Pearson Correlation computed revealed there existed a significant positive correlation between age and source trustworthiness and negative correlation with expertise. Marriage duration had a significant positive correlation with trustworthiness of source attribute. Trusted source was a friend. A health care provider was regarded as an expert source while similarity between source and recipient dimensions of age and ethnicity were given more weight. Health worker was the most popular source of VMMC information. **Conclusion:** This study has revealed fundamental insights and provided evidence that the quality of the message carrier and demographic characteristics are critical factors to

consider in implementing VMMC programme especially targeting married and older men who register low uptake. VMMC programmes using interpersonal channels must put more premium on the choice of the messenger as trust and expertise of source including similarity between communication partners is vital in the success of such communication interventions involving adoption of a sensitive cultural and sexual issue especially targeting married men.

Keywords: Interpersonal communication, health communication, health information source, voluntary medical male circumcision, HIV/AIDS, Kenya.

INTRODUCTION

HIV/AIDS is a global epidemic, unprecedented in its scope and impact, has mobilized outrageous outpouring action worldwide. It is now almost four decades since the first case of AIDS were diagnosed. According to a joint report by AVAC, National Empowerment Network of People Living with HIV/AIDS in Kenya, Sonke Gender Justice Network and Uganda Network of AIDS Service Organizations [1] there has been a growing array of proven strategies and promising research on HIV prevention. However, some of these interventions have not realized their goals since HIV prevalence rates have remained high. Voluntary medical male circumcision (VMMC) is one such adopted interventions.

Data from a range of observational epidemiological studies, conducted since the mid-1980s indicated that circumcised men have a lower prevalence of HIV infection than uncircumcised men. Research show that male circumcision has an HIV prevention impact [2]. Three randomized controlled trials have suggested that male circumcision reduces HIV acquisition from female partners by approximately 60 percent [3-5]. Informed by these findings, World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) recommended medical male circumcision as part of HIV prevention interventions. WHO and UNAIDS identified and prioritized fourteen countries in southern and Eastern Africa with low male circumcision and high HIV prevalence rates for scale-up of VMMC [6].

Male circumcision is one of those measures that can be taken to reduce the vulnerability of not only married men and also women to HIV infection. This is because as many men are circumcised, women are less likely to encounter sexual partners who are living with HIV [7, 8]. Hankins et al. [9] add their voice to this argument by stating that “early on, most HIV infections averted occurred among men, but the proportion among women would steadily increase over time until almost half of all HIV infections averted in year 2025 are those that would have occurred among women.” Mathematical modeling from Tanzania found out that in the absence of male circumcision, the annual number of new HIV infections was expected to rise from 84,000 in 2010 to 86,000 in 2025. However, with VMMC, a commendable decline of 64,000 HIV infections will be expected [10].

Despite the overwhelming scientific evidence and formal recommendation by WHO/UNAIDS, efforts to scale up medical male circumcision in the targeted priority countries in sub Saharan Africa have yielded mixed results [9] which can partially be attributed to inadequate supply of health care resources required for VMMC [11]. In view of this noted shortage, new male circumcision devices such as the Shang Ring and PrePex which need minimal or no surgery have been invented. With

these inventions however, the demand for circumcision by sexually active men in the priority countries has still been low, and it appears the devices alone will unlikely solve all demand creation challenges. A joint report of AVAC, National Empowerment Network of People Living with HIV/AIDS in Kenya, Sonke Gender Justice Network and Uganda Network of AIDS Service Organization on VMMC [1] recommends the need to investigate reasons why men do or do not access VMMC services, optimal messages and communication channels, and key message carriers to motivate VMMC services. Generally speaking, in order to optimize the potential impact of a given message, the selection of a communication source is crucial and a complex process involving knowledge of the audience and of the health behavior change message. Credible sources can increase the likelihood that a “weak” message will be accepted [12]. This study therefore evaluates the influence of interpersonal communication partner as male circumcision message carrier in the uptake of VMMC targeting married men.

The addition of male circumcision to the HIV prevention ‘toolbox’ is an important and relatively recent advance however, it is the oldest known surgical procedure and practiced across the world for various reasons. According to Keller (1956) as cited by Doyle [13] circumcision started around the 4th Millennium BC among the Sumerians and Semites who are the descendants of the Hebrews. For a very long time ritual circumcision has been practiced by the Australian Aborigines, South Sea Islanders, Sumatrans, Incas, Aztecs, Mayans and ancient Egyptians.

Variation in male circumcision prevalence in Africa is attributed to differences in ethnic groups, such as Nilotic or Sudanic speakers who are traditionally non-circumcising. Also, within the Bantu speakers there are ethnic groups who abandoned male circumcision centuries ago for various reasons. For example, in Botswana, southern Zimbabwe, Malawi and parts of South Africa circumcision was stopped by the European missionaries and colonial administrators. Swazi King Mswati II abandoned male circumcision arguing then that it incapacitated men during war times as noted by Marck (1997) as cited by WHO [14].

Kenya is one of the countries in sub-Saharan Africa prioritized by WHO and UNAIDS to implement VMMC. According to the Kenya Demographic Health Survey of 2008-09 [15], more than 80 percent of men were circumcised, with this figure unevenly distributed culturally and geographically across the country. Teso South and North sub counties in Busia County in western Kenya are predominantly occupied by the Iteso ethnic group that does not practice traditional male circumcision. The Kenyan government through the ministry of health in partnership with nongovernmental organizations have rolled out a national strategy that is aimed at circumcising 80 percent of uncircumcised HIV-negative men between ages 15 and 49 (approximately 860,000 men across the entire country) between 2008 and 2013 as noted in the Progress Report on Kenya’s VMMC Programme of 2011 [16].

According to the Kenya AIDS Indicator Survey (KAIS) of 2007, 85 percent of men reported that they were circumcised. But male circumcision rates vary by former provinces, ranging from 48 percent in Nyanza to 97 percent in Coast and North Eastern where Islam is the dominant religion that practices male circumcision [17]. However, it is important to note that in the years 2016 and 2017 the VMMC program surpassed its target by 110% and 126% respectively [18]. Like in most ethnic groups, male circumcision is an important part in the transition to manhood. It is believed to be associated with masculinity, social cohesion and social desirability, self-identity and spirituality

(WHO, 2007). However, Some Kenyan ethnic groups have no tradition of male circumcision, and some were strongly opposed to it. These communities such the Luo occupying the former Nyanza Province, the Turkana, and part of the Pokot of the former Rift Valley Province, and Iteso and some segments of the Luhya in the former Western Province [17] remain a target of VMMC programme.

It is through interpersonal communication that what was previously unknown becomes familiar while what was previously regarded as a taboo becomes a community norm. Communication can spread knowledge and social norms. Such knowledge includes the idea of VMMC in HIV prevention among other benefits. Interpersonal communication makes it possible to learn about the position of others – for example, which and how many of one's relatives; friends and neighbors have sought male circumcision. The perception of what everyone else is doing influences what people accept as normative, acceptable behavior. Communication is the crucial process underlying changes in knowledge of health and in openness of local cultures to new ideas and new health behavior. This communication can occur both spontaneously, within and between social groups of a society, and deliberately, by means of planned interventions. This planned communication can initiate change, accelerate changes already underway, or even reinforce change that has already taken place [19].

People are exposed to communication from different sources however more often they heavily rely on mass media channels when they are first learning about an idea, but use interpersonal channels as they move toward decision making [20]. Most likely an individual tends to accept communication from a person that they consider credible who is a good source of reliable information. The Institute of Medicine Committee on Communication for Behavior Change in the 21st Century [21] assert that source that delivers health communication campaign message can determine whether the message is perceived as meaningful, credible and/or relevant to the target audience. Studies have revealed that social relationships play an essential role in individual health behavior [22, 23]. Different populations relate to or are more or less influenced by different messengers. Health providers for decades have been identified as important sources of health communication messages relevant to behavior change [24, 25]. Rural residents, for example, have been found to place special importance on neighbors and family members as sources of health information and support more often than health care providers [26]. Others such as Cruz & Mackalide [27] have argued that promotion of healthy behaviors that are to a large extent mediated by social influences and norms may be communicated more effectively through peer groups or by family and community members, celebrity role models or religious leaders.

Interpersonal relationships, according to Katz & Lazarsfeld [28], are the anchored points for individual opinions, attitudes, habits and values. They aver that individuals turn to and depend on others when they have to form opinions or make decisions especially in unclear circumstances. However, Ignatius & Kokkonen [29] are quick to argue that they cannot learn from one another until they have established some measure of rapport, that is, some element of mutual trust, support and respect. Significant findings from nationally representative surveys of nearly 20,000 people ages 12 to 19 conducted in 2004 (5,950 in Burkina Faso; 4,252 in Ghana; 4,012 in Malawi and 5,065 in Uganda) showed that young people for example want information especially from trusted sources such as health care providers or teachers [30]. According to UNAIDS & WHO [31] involving parents and adults in community and school-based HIV awareness and prevention activities have revealed to be effective in addressing the HIV epidemic among young people.

Pornpitakpan [32] has argued that when a source is perceived to be highly credible, a message may more effectively change attitudes and behaviors. He argues that overall trustworthiness and expertise, though named differently across studies (eg, reputation and competence), remain the most frequently mentioned, tested, and theoretically agreed-upon dimension of source credibility. Communication research suggest that two source dimensions are of prime importance, the perceived expertise of the source and perceived trustworthiness of the source. Expertise means the knowledge, expertise status, and familiarity with the topic. Trustworthiness refers to sincerity, honesty and good intentions [33].

In some cases, the similarity of the source with the recipient is critical. Success of interpersonal communication is also dependent on social distance between the participants. Social distance refers to the socio-cultural-economic factors that make people feel they belong to different class tiers. Education, economic status, class, race or ethnicity, gender and age may all contribute to how close or distant two individuals feel about each other. For example, the more one can “identify” with the other (or “model”), the more one is likely to view the model’s attainments as diagnostic of one’s own capabilities [34]. A person from a similar background to the members of a given community is more likely to share the same language, ideas and motivations and thus be a more effective communicator. Interpersonal communication, therefore, is likely to be successful if there is a high overlap with characteristics in common between communication partners. While we know a great deal about the influence information source attribute in seeking healthy behavior little research has been done on seeking male circumcision as a medical intervention for HIV/AIDS. This therefore raises the question: does the attribute of interpersonal communication partner as carrier of the message matter in the uptake of VMMC?

According to WHO [14], male circumcision is a high involvement decision to which people give serious thought. To engage a potential client, he needs an opportunity to talk with someone who is knowledgeable and whom he trusts. This may facilitate the internal decision-making process and encourage the man to seek male circumcision. Again Bertrand et al [35] have argued that VMMC demand creation activities need to be designed with the specific contexts and demographic characteristics of the targeted population in mind.

Male friends who have undergone circumcision and female partners are the key influencers throughout the male circumcision process of pre-intention, intention and action. Sgaier et al [36] add that Women (wives, girlfriends, and mothers) can be change agents; the protective benefits of VMMC are important to them, too. According to Wouabe [37] the main stimuli for VMMC demand seem to be peer pressure and the influence of female intimate partners. Lissouba et al. [38] and Westercamp & Bailey [39] agree with the evidence that suggests that interpersonal communication, such as support from peers and intimate partners, is often central to a man’s decision to undergo VMMC.

The influence of social pressure was also found in another study conducted in the Iringa region of Tanzania. Peer pressure was mentioned by participants as a facilitator of male circumcision. However, respondents highlighted that this facilitator is more relevant in towns and in mixed cultural settings [40]. Another study in traditionally circumcising areas (Mbale and Kasese districts), and non-circumcising areas (Pallisa) in Uganda examined the influence of peer pressure on men’s decisions to undergo male circumcision. In the non-circumcising areas, peer pressure was

a key determinant of the uptake of male circumcision. For instance, in this area, individuals made a group decision to undergo male circumcision. Peer pressure also influences individuals in circumcising areas to seek VMMC. In these areas, young people are the most influenced by peer pressure [41]. However, in their study Limaye et al [42] found out that participants suggested that they did not talk to their friends about sexual issues regularly, as they were afraid to discuss sexual matters with peers, fearing the discussion would lead to rumour and gossip.

Women as intimate partners can influence their partners in the decision to seek circumcision. Male respondents in a study carried out from non-circumcising areas in two districts in Uganda said that their female partners may influence their decisions to undergo circumcision and/or get their sons circumcised. Also, some men reported that they would seek the consent of their wives or partners before undergoing circumcision. This study also reveals that most women are supportive of male circumcision and are capable of positively influencing their men to undergo circumcision [41]. Another study amongst the Luo ethnic group in Kenya found that women's beliefs may have a strong influence on men's acceptability of circumcision [43].

However, studies have shown that in as much as many women may be convinced that their husbands are placing their lives at risk by engaging for example in extra marital sexual relations without using protection but because of their secondary status in society, they are often not willing to initiate discussions about HIV/AIDS in the home [44]. However, despite their vulnerability some women in rural settings believe that they do, to a certain appreciable extent, have control over their own health and wellbeing. They can talk to their husbands to discourage sexual infidelity or even persuade their husbands to use condoms consistently during extra marital sexual encounters [45]. Zulu & Chepngeno [46] add array of hope by contradicting Ghosh and Kalipeni [44] by noting that women are more likely than men to indulge their spouses on dangers of HIV and AIDS especially whenever they suspect that they are engaging in extramarital sexual relations and hence VMMC campaign can bank on women.

VMMC efforts have been accused of often neglecting the gender dimension and focusing on men only. In a multi-country (Kenya, Namibia, Swaziland, South Africa and Uganda) research by AIDS Legal Network (ALN), 87% of the women said that they would support the introduction of VMMC in their communities, 74% would want to be personally involved in VMMC decision-making with their partners, and 72% were aware of the partial protection that VMMC offers in HIV prevention [47]. Additionally, that study indicated that women's involvement in VMMC programmes and policy development is low in the five countries. The majority of women surveyed did not talk to their partners about circumcision and felt it was ultimately a man's decision to undergo circumcision. The findings show that women's involvement in VMMC is shaped by the existing or underlying socio-cultural prescriptions on sexuality and health. In South Africa, findings were mixed in a VMMC programme running in one of the provinces (Gauteng), women indicated that even though they were engaged with their male partners, the extent to which they affected the actual decision for men to be circumcised remains questionable [48].

Chikutsa [49] is quick to support the women that they are most likely to play an important role in encouraging their sexual partners to under the male cut. However, in his study he found out that women displayed low levels of knowledge on male circumcision hence are unlikely to play a critical

role in promoting male circumcision. He therefore recommends for a need to educate women in particular on issues on male circumcision.

Many countries have found that engaging with traditional leaders can provide reassurance to VMMC candidates that being circumcised will not change their ethnic, religious, or cultural identity. In Malawi, early and ongoing engagement with leaders of traditionally non-circumcising communities has been instrumental in mobilizing community-level support for the VMMC program and in encouraging males to undergo circumcision [50]. Traditional and religious leaders often have an important effect on local demand for VMMC services. Surveys of community leaders have identified resistance to VMMC among traditionally circumcising tribes [14] although experience indicates that this need not function as a permanent obstacle to scale-up. In Kenya, for example, health officials, community activists and other stakeholders held repeated respectful discussions with Luo elders, emphasizing the medical purpose and voluntary nature of the intervention and eventually obtaining their support for program implementation [51] which have been attributed to the success of the VMMC programme in the country.

These observations compel the question: which interpersonal source attribute have the greatest influence in a married man's decision to seek (or not) circumcision in view that it is a private matter that is widely perceived as sexually, socially and culturally sensitive. Many studies have shown that women are great influencers in the decision to adopt male circumcision such as Muhangi [41] and Bailey [52] while some have argued that it is peer pressure none however has zeroed in on married men who record low uptake of VMMC as the theatre for analysis. It is therefore imperative to establish a greater understanding of the influence of the nature interpersonal communication partner or information source as message carrier in the uptake of VMMC that may contribute to the development of communication strategies that will create demand especially among older and married men hence reduce prevalence of HIV/AIDS.

METHODS

Data Source

This cross-sectional survey was carried out in the rural blocks Teso South sub County in Busia County for a period of 30 days in the months of June and July 2018. The choice of the sub County was based on the fact that it is predominantly occupied by people from the Iteso ethnic group who do not traditionally practice male circumcision as a rite a passage thus a target of VMMC programme. A systematic household based random sampling method was used to select 377 married men aged between 20 and 49 years proportionately distributed across the targeted 12 rural administrative locations in the sub county.

Respondents qualified for the study only if they fulfilled the following criteria: aged 20–49 years; married, being a member of the household for at least 12 months; available during the 30 days' period scheduled for administering the questionnaires (data collection). These measures that were employed ensured 100% response rate for this study. One man was selected to represent a household, and in cases with more than one eligible person in a household, a Kish Table was used to pick the participant.

Table 1: Distribution of Respondents per Location

No	Name of Location	Total Households	Sample Size
1	Asinge	2080	37
2	Akoreet	1494	26
3	Okame	1825	32
4	Aremet	1650	29
5	Apegei	1533	27
6	Kwang'amor	1667	29
7	Among'ura	2128	38
8	Amukura	1179	21
9	Kaliwa	2216	39
10	Kaujakito	2563	45
11	Kotur	933	17
12	Ochude	2078	37
Total		21346	377

Source: Kenya National Population Census Report (2009)

The sampling technique yielded a representative sample in addition to being a more conducive method of covering a wide study area. Using either a local chief's office or a road junction as the starting point in a given administrative location, counting of households started from the first homestead on the left side of the road. While walking, every household/homestead seen or identifiable (only on one side of the road) was counted. Every third household/homestead was selected as a potential respondent household. Whenever nobody was found in the selected household, the researcher moved on and chose the next household until somebody could be found in a household for administering the questionnaire. After this finally selected household the counting started again with "1" and the next household/homestead no. 3 was selected. Common rules were set up to guide the random walk and selection of households in all the locations.

Measures

Socio-demographic characteristics, VMMC information sources and qualities VMMC communication sources were measured. Socio-demographic variables included age, education, marriage duration, circumcision status, and when the surgery was carried out among the circumcised respondents. In the designed self-administered questionnaire, age was categorized as 20-24, 25-29, 30-34, 35-39, 40-44 or 45-49 years old. Education was assessed by the question "What is the highest level of education that you have attained?" followed by the following response options: (1) primary; (2) secondary; (3) Tertiary/College; (4) University. Circumcision status was assessed as a dichotomous (yes/no) variable though with an option of not answering the question "Have you undergone voluntary medical male circumcision?" Respondents who had answered affirmative to the circumcision status question were further asked to indicate when they underwent the cut with choices being before marriage, after marriage and no answer.

Exposure to voluntary medical male circumcision information sources was assessed as a dichotomous (yes/no) variable with the statement "Have you received information about voluntary medical male circumcision from the following sources in the past 6 months?" Three dimensions of health and voluntary medical male circumcision communication interpersonal source qualities

were assessed: (1) trustworthiness of VMMC information sources; (2) expertise of VMMC information sources; and (3) similarity between self and source of VMMC source. Trust, expertise, and similarity with self of VMMC information source attributes were assessed using a five point Likert scale (strongly agree, agree, no opinion, disagree and strongly disagree) using the statement "To what extent do you agree with the following as an important quality of VMMC information in seeking circumcision" (1) trustworthiness; (2) expertise; and similarity with self. The respondents were further asked to identify the source they regarded as (1) trustworthy; and (2) expert. On similarity, respondents were asked to select the most important variable they would consider from: (1) ethnicity; (2) age; (3) gender; and (4) marital status. VMMC sources included mass media, health care provider, wife and other sexual partner(s), neighbor, parent, other relatives, opinion/religious/cultural leader, and others.

Data Analysis

Descriptive statistics were used to analyze content of data obtained from the questionnaires administered. The data was tabulated and then appropriate statistical analysis, interpretation, and conclusion were made. Descriptive statistics tables such as those showing frequencies, mean and standard deviation of constructs were also used. Due to the nature of the data collected, the Pearson Product-Moment Correlation Coefficient was computed to measure the relationship between socio-demographic characteristics and interpersonal communication source attribute. Statistical Package of the Social Science (SPSS 16.0) was used for all statistical analyses.

Ethical considerations and Approval

This study was approved by the Board of Postgraduate Studies of Jomo Kenyatta University of agriculture and Technology and the National Council for Science, Technology and Innovations (NACOSTI) in Kenya. All respondents were given complete and detailed information about the study and a signed consent form before the study to show willingness to participate in the study.

Male circumcision being a private and sensitive matter in the context of this study, trained research assistants employed came from outside the sub county to administer the questionnaires. This move was to protect the privacy of the respondents by assuring them anonymity. No names were written on the questionnaires.

RESULTS AND DISCUSSION

Descriptive Data of Socio-Demographic Characteristics of Respondents

Participant characteristics are reported in *Table 2*. Respondents were between ages 20 and 49 years where a majority of respondents (26.5%) were aged between 25 and 29 years followed by those aged between 30 and 34 year (18.6%). Respondents aged between 40 and 44 years constituted 18% while those aged between 30 and 34 years were 17.5%. A total of 12% were aged between 45 and 49 while 20 to 24 years formed the smallest age group.

Table 2: Frequencies and Percentages of Demographic variables

		Sample Population	
Variable	Value	N	%
Age Group (Years)	20-24	27	7.2
	25-29	70	18.6
	30-34	66	17.5
	35-39	100	26.5
	40-44	68	18
	45-49	46	12
Education Level	Primary	156	41.4
	Secondary	151	40.1
	Tertiary/College	52	13.8
	University	18	4.8
Marriage Duration (Years)	0-5	71	18.8
	6-10	130	34.5
	11-15	89	23.6
	16-20	51	13.5
	>20	36	9.2
Circumcision Status	Circumcised	327	86.7
	Uncircumcised	48	12.7
	No Response	2	.6
When Circumcised	Before Marriage	208	63.6
	After Marriage	117	35.7
	No Response	2	.7

In respect to the highest educational level attained by the respondents 41.4% had only basic primary education while the rest (58.6%) had at least secondary education. This means that majority were adequately educated according to Kenya's levels of literacy. Kickbusch [53] says that a person who has attained at least secondary education is empowered to read and write, and has critical problem solving knowledge in addition to positive thinking, which is important in behavior change to promote healthy life. Kichbusch avers that there is a strong relationship between education levels and determinants of health such as health behaviors, beliefs and use of preventive services. She argues that highly educated people are healthier, readily consume health messages and generally live longer.

The focus of this study is on married men and therefore it sought to establish respondents duration in marriage where a majority of respondents indicated that they had been married for between 6 and 10 years (34.5%) followed by those married for between 11 and 15 years (23.6%). Respondents married for more than 20 years consisted of only 9.5% perhaps because this study targeted married men age less than 50 years. Those married for between 16 to 20 years were 13.5% while those married for less than 5 years were 18.8%.

When asked about their circumcision status, 86.7% said were circumcised while 12.7% were not and 0.6% did not answer. This uptake of circumcision was way above the WHO & UNAIDS target of

circumcising 80% of males from non-circumcising communities by 2011. It was therefore equally important to establish when the respondents were circumcised.

This study established that only 35.7% were circumcised while married and 63.6% circumcised before marriage. What can be deduced is that there were fewer people getting circumcised while already married. This buttressed the argument that marriage and mature age were barriers to seeking circumcision. In other words, there is low uptake of VMMC among married men and this gives impetus to this and other previous studies such as Sgaier et al [36], Westcamp et al [39] and Mwandi et al [51] who observed older males are largely not adopting VMMC and recommended need to create demand among this category of males.

VMMC Communication Sources

The focus of this study was to evaluate the influence of interpersonal communication source attribute on uptake of VMMC among married men. To start, it was important to find out the respondents' sources of VMMC information. The respondents were asked to identify their sources of VMMC information and results in Table 3 show that respondents were mainly exposed to VMMC information via health workers (90%), mass media (84.1%), male friend (81.4%), public meetings (79.8), wife (48.5%) and other relatives (18.3%). Female friend and other sexual partners were mentioned by only 2.9% and 3.4% respectively meaning that married men seldom talk about male circumcision with their female friends and other sexual partners. This finding in Teso sub region of Kenya replicates what was found out in Nyanza Province of Kenya where it was reported that word of mouth was the most important source of information about male circumcision followed by mass media [16]. Similarly, this finding is also a replica of Kaler [54, 55] studies that observed that in Malawi many Malawians obtain sexual health information, including information on HIV/AIDS, through interpersonal contacts with members of their communities.

Literature on health interventions state that mass media is important in creating awareness while interpersonal influence is critical in influencing an individual adopt a healthy practice. In order to optimize the potential impact of a given message therefore, the selection of a communication source is crucial and a complex process involving knowledge of the audience and of the health behavior change message as credible sources can increase the likelihood that a "weak" message will be accepted [12] such as in the case of male circumcision that offers partial prevention against HIV.

Table 3: Sources of VMMC Information

Source	Frequency (n=377)	Percent
Mass Media	317	84.1
Public Meetings	301	79.8
Health Worker	339	90.0
Wife	183	48.5
Male Friend	307	81.4
Female Friend	11	2.9
Parent	34	9.0
Other Relatives	69	18.3
Other Sexual Partner(s)	13	3.4
Religious/Cultural/Political Leaders	31	8.2
Others	2	.5

Influence of Interpersonal Source Attribute on uptake of VMMC

Communication research suggests that three source dimensions are of prime importance, the perceived expertise, trustworthiness and similarity of the source with recipient [33, 34]. Perceptions of source credibility significantly determine how an individual process health and risk messages, and may also influence relevant behaviors.

Table 4: Preferred Source Characteristics

Opinion Statement	SA/A (%)	N/S (%)	SD/D (%)	Mean	Std. Deviation
Trustworthiness of Source	78.2	2.1	19.7	2.1034	1.2016
Expertise of the Source	82	.3	17.8	2.1061	1.0338
Similarity between self and Source	83.8	4.5	11.7	2.1071	.932

Note: "Strongly agree" and "agree" are combined as SA/A while "Strongly Disagree" and "Disagree" as D/SD Ranked on Scale: Strongly Agree (SA) = 1; Agree (A) = 2; Not Sure (N/S) =3; Disagree (D) = 4; and Strongly Disagree (SD) = 5. N=377

Table 5: Trusted and Expert Sources

Source	Trustworthy		Expert	
	Circumcised (n=327) (%)	Uncircumcised (n=48) (%)	Circumcised (n=327) (%)	Uncircumcised (n=48) (%)
Mass Media	5.8	.4	5.8	.4
Health Care Worker	34.6	39.6	62.4	64.6
Friend	50.8	43.8	30.9	18.6
Neighbour	.9	.4	.9	2.1
Wife/Sexual Partner	5.8	6.3	6.4	8.3
Parent/other Relatives	1.2	0	.9	0
Opinion Leader	.6	2.1	4.9	2.1
Others	.3	0	.3	0

Source Trustworthiness and Uptake of VMMC

People are exposed to communication from different sources, but are most likely to accept communication from a person that they trust because they consider it to be a good source of reliable information. The Institute of Medicine Committee on Communication for Behavior Change in the 21st Century [21] assert that source that delivers health communication campaign message can determine whether the message is perceived as meaningful, credible and/or relevant to the target audience. Different populations relate to or are more or less influenced by different messengers. One of the criteria to determine credibility of health communication sources is trustworthiness of the source which can be as a person's natural position in the family or community or through their own qualities or actions.

In this study, the researcher wanted to establish how respondents rated perceived trustworthiness as the most credible and influential source attribute in them seeking VMMC. The results Table 5 indicates that majority of respondents (78.2%) agreed that trustworthiness is an important communication source attribute in influencing uptake of VMMC while 19.70% disagreed and 2.1% registered no opinion. It was therefore worthwhile to establish how respondents rated sources based on trustworthiness.

When respondents were further asked to identify the source they regarded as trustworthy in seeking VMMC and the results (*Table 5*) suggested that a friend was perceived as the most trusted source by 50.8% and 43.8% of circumcised and uncircumcised respondents respectively followed by a health provider (34.6% and 39.6%) among circumcised and uncircumcised respondents respectively. Among the uncircumcised, 6.3% identified their wives/sexual partners as the most trusted male circumcision information source and 5.8% of the circumcised respondents consented. It is imperative to note that in a health provider is more trusted among uncircumcised respondents than among the circumcised ones.

This finding, however, challenges a similar study by Weinert & Burman [26] who stated that rural residents (the focus of this study) place special importance on neighbors and family members as sources of health information and support more often than health care providers.

Source Expertise and Uptake of VMMC

In this study, male circumcision is carried out as a medical intervention and therefore the influence of expertise of information provider cannot be down played. According to Eagley & Chain [18] expertise means the knowledge, expertise status, and familiarity with the topic. Credibility of sources as a result of their expertise comes from respect for their qualifications or training. Respondents were asked to rate how they perceived expertise as the most influential messenger quality in the decision to seek VMMC. The responses illustrated in *Table 4* indicated that a majority of respondents (82%) generally agreed while 17.8% generally disagreed that source expertise is an important attribute in seeking VMMC and 0.3% had no opinion.

This finding on trustworthiness and expertise source attributes are supported by Pornpitakpan [32] analysis where he argues that trustworthiness and expertise, though named slightly different across studies (eg, reputation and competence), remain the most frequently mentioned, tested, and theoretically agreed-upon dimension of source credibility.

The respondents were then asked to identify sources they perceived as experts in providing VMMC information and the results showed that majority of respondents both circumcised and uncircumcised considered a health care worker as an expert they would wish to seek information from about circumcision. *Table 5* shows that a total of 62.4% and 64.6% circumcised uncircumcised respondents respectively agreed. This was followed by a friend who was mentioned by 30.9% and 18.6% of circumcised and uncircumcised respondents respectively. Only 5.2% of circumcised respondents perceived opinion leader as expert while 2.1% of uncircumcised respondents concurred. Parents and other family members were mentioned by only 0.9% of respondents who were all circumcised.

This result is supported by Snell & Buck [24] and Rimer [25] who argued that health providers for decades have been identified as important sources of health communication messages relevant to behavior change.

Similarity Attribute and Uptake of VMMC

On similarity between communication partners in uptake of VMMC, 83.8% generally agreed that similarity between them and information source is critical in seeking VMMC while 11.7% disagreed and 4.5% were not sure as illustrated in *Table 4*. The study went a step further to establish how the

respondents perceived similarity characteristics. Determining source credibility comes from the extent to which the communication source shares characteristics such as ethnicity, age, education or experiences with the receiver. A person from a similar background to the members of a given community is more likely to share the same language, ideas and motivations and thus be a more effective communicator. Respondents were therefore asked to rate these similarity variables and *Table 6* illustrates that respondents showed preference to seeking information about VMMC from people belonging to their own ethnic group (84.1%), 85.4% preferred similarity in age group, 36.3% vouched for similarity in gender while 12.5% supported marital status.

Table 6: Similarity with Self Dimensions

Similarity Qualities	SA/A (%)	N/S (%)	SD/D (%)	Mean	Std. Deviation
Age	85.4	1.9	12.5	1.9176	1.38799
Ethnicity	84.1	1.6	14.4	2.0822	1.38038
Gender	36.3	1.1	62.4	3.3501	1.61754
Marital Status	12.5	0.5	86.5	4.2387	3.44505

Note: "Strongly agree" and "agree" are combined as SA/A while "Strongly Disagree" and "Disagree" as D/SD

Ranked on Scale: Strongly Agree (SA) = 1; Agree (A) = 2; Not Sure (N/S) = 3; Disagree (D) = 4; and Strongly Disagree (SD) = 5. N=377

Studies show that communication is most effective when both the source and the receiver share basic meanings. Similar people, of course, already have a basic vocabulary in common. The same holds true of two people of the same age and sex. They readily understand each other. They share a common vocabulary. Bandura [34] aptly puts it by stating that the more one can "identify" with the model that is, seeing the model as similar to one's self, the more one is likely to view the model's attainments as diagnostic of one's own capabilities. The more a peer has in common with a person, with whom he or she interacts, the more likely that person is to receive messages and be influenced. A peer is a member of a group of people who share the same characteristics, for example, people of the same age group and background or those who do the same type of work or have the same or similar lifestyles, experiences or beliefs.

Knowing that you are not alone with your problems and having an understanding of shared vulnerability, of shared responsibility, and also of shared power and advocacy possibilities means that there is a greater likelihood that action will be taken by the individual or group [56].

Relationship between Demographic Factors and Interpersonal Communication Source Attribute

A Pearson Product-Moment Correlation Coefficient was computed to assess the relationship between demographic factors and interpersonal communication source attribute. The results illustrated in the *Table 7* indicates that there exists a significant positive correlation between age and source trustworthiness = .422, $p < 0.000$. However, there was a significant negative correlation with expertise = -.333, $p < 0.000$ and an insignificant negative correlation with similarity attribute = -.071, $p < 0.166$.

Education as a demographic factor had insignificant positive relationship with trustworthiness = .301, $p < 0.000$, expertise recorded a significant negative correlation = -.264, $p < 0.000$ and similarity had insignificant negative correlation = -.014, $p < 0.793$.

Marriage duration had a significant positive correlation with trustworthiness = -.096, $p < 0.064$, insignificant negative correlation with source expertise attribute = -.298, $p < 0.000$ and an insignificant negative correlation with similarity = .008, $p < 0.881$.

Table 7: Relationship between Socio-Demographic Factors and VMMC Information Source Attribute

Correlations								
		Age	Education Level	Uptake of VMMC	Marriage Duration	Similarity with Source	Trust	Expertise
Age	Pearson Correlation	1	.108*	.044	.612**	-.071	.422**	-.333**
	Sig. (2-tailed)		.035	.399	.000	.166	.000	.000
	N	377	377	377	377	377	377	377
Education Level	Pearson Correlation	.108*	1	.136**	-.138**	-.014	.037	.001
	Sig. (2-tailed)	.035		.008	.007	.793	.476	.990
	N	377	377	377	377	377	377	377
Uptake of VMMC	Pearson Correlation	.044	.136**	1	.063	.070	.060	-.053
	Sig. (2-tailed)	.399	.008		.226	.174	.246	.304
	N	377	377	377	377	377	377	377
Marriage Duration	Pearson Correlation	.612**	-.138**	.063	1	-.008	.301**	-.264**
	Sig. (2-tailed)	.000	.007	.226		.881	.000	.000
	N	377	377	377	377	377	377	377
Similarity with Source_weighted	Pearson Correlation	-.071	-.014	.070	-.008	1	.014	.070
	Sig. (2-tailed)	.166	.793	.174	.881		.790	.177
	N	377	377	377	377	377	377	377
Trustworthiness	Pearson Correlation	.422**	.037	.060	.301**	.014	1	-.454**
	Sig. (2-tailed)	.000	.476	.246	.000	.790		.000
	N	377	377	377	377	377	377	377
Expertise	Pearson Correlation	-.333**	.001	-.053	-.264**	.070	-.454**	1
	Sig. (2-tailed)	.000	.990	.304	.000	.177	.000	
	N	377	377	377	377	377	377	377
*. Correlation is significant at the 0.05 level (2-tailed).								
**. Correlation is significant at the 0.01 level (2-tailed).								

CONCLUSION

Not only has this work added to the scope of available research in health communication generally, its specific focus on Africa and Kenya being the theatre of study is of monumental value since health communication related research about the continent is relatively limited. Furthermore, the investigation on uptake of male circumcision in HIV/AIDS prevention in a continent with the highest prevalence of the disease has shown the immense potential of interpersonal communication in influencing married and older men to seek circumcision.

Results and discussions above address the billion dollar question: does the choice of interpersonal communication source influence uptake of VMMC. So far, this study has revealed fundamental insights and provided evidence that the quality of the message carrier and demographic characteristics are critical factors to consider in implementing VMMC programme especially targeting married and older men who register low uptake. VMMC programmes using interpersonal channels must put more premium on the choice of the messenger as evidence adduced in this study show expertise, trust and similarity between communication partners is vital in the success of such communication interventions involving sensitive cultural and sexual issue especially targeting married men.

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