Aggrey S. Semeere
Denis S. Bbaale
Barbara Castelnuovo
Agnes N. Kiragga
Joanita Kigozi
Alex Muganzi
Andrew Kambugu
Alex G. Coutinho

Assessing the impact of delivering messages through intimate partners to create demand for voluntary medical male circumcision in Uganda

October 2016

Impact Evaluation Report 48

HIV and AIDS

3ie International Initiative for Impact Evaluation

About 3ie

The International Initiative for Impact Evaluation (3ie) is an international grant-making NGO promoting evidence-informed development policies and programmes. We are the global leader in funding, producing and synthesising high-quality evidence of what works, how, why and at what cost. We believe that better and policy-relevant evidence will make development more effective and improve people's lives.

3ie impact evaluations

3ie-supported impact evaluations assess the difference a development intervention has made to social and economic outcomes. 3ie is committed to funding rigorous evaluations that include a theory-based design, use the most appropriate mix of methods to capture outcomes and are useful in complex development contexts.

About this report

3ie accepted the final version of this report, *Assessing the impact of delivering messages through intimate partners to create demand for voluntary medical male circumcision in Uganda,* in November 2015 as partial fulfilment of requirements under grant TW3.06, issued under Thematic Window 3. The content has been copy-edited and formatted for publication by 3ie. All of the content is the sole responsibility of the authors and does not represent the opinions of 3ie, its donors or its Board of Commissioners. Any errors and omissions are also the sole responsibility of the authors. All author affiliations listed in the title page are those that were in effect at the time the report was accepted. Any comments or queries should be directed to corresponding author Andrew Kambugu at akambugu@idi.co.ug.

Funding for this thematic window was provided by the Bill & Melinda Gates Foundation.

Suggested citation: Semeere, AS, Bbaale, DS, Castelnuovo, B Kiragga, A, Kigozi, J, Muganzi, A, Kambugu, A and Coutinho, AG, 2016. *Assessing the impact of delivering messages through intimate partners to create demand for voluntary medical male circumcision in Uganda.* 3ie Impact Evaluation Report 48. New Delhi: International Initiative for Impact Evaluation (3ie)

3ie Impact Evaluation Report Series executive editors: Jyotsna Puri and Beryl Leach
Managing editor: Eric W Djimeu
Production manager: Brigid Monaghan
Copy editor: Jaime L Jarvis
Proof reader: Yvette Charboneau
Cover design: John F McGill and Akarsh Gupta
Printer: VIA Interactive
Cover photo: Arne Hoel / World Bank

Assessing the impact of delivering messages through intimate partners to create demand for voluntary medical male circumcision in Uganda

Aggrey S Semeere
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

Denis S Bbaale
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

Barbara Castelnuovo
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

Agnes N Kiragga
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

Joanita Kigozi
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

Alex Muganzi
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

Andrew Kambugu
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

Alex G Coutinho
Infectious Diseases Institute, Makerere University College of Health Sciences, Kampala, Uganda

3ie Impact Evaluation Report 48

October 2016

Acknowledgements

The authors are grateful to all the participants who provided information for this evaluation, to the Kampala City Council Authority health centre sites for hosting us and allowing us to carry out this evaluation at their facilities and to the research assistants who collected the evaluation data. We also thank the Infectious Diseases Institute's Outreach Department management and staff, especially the team from the Adult Male Medical Circumcision in Kampala project, who provided the programme platform for this evaluation, carried out the circumcisions and provided the process data. Finally, we thank the Datafax team at the Infectious Diseases Institute for timely data management.

Summary

Background

Key clinical trials have clearly demonstrated circumcision to be an effective and safe method of HIV prevention among men in sub-Saharan Africa. In Uganda, however, only 27 per cent of men between the ages of 15 and 49 years are circumcised, despite the region's high HIV sero-prevalence. Uptake of circumcision is low, especially among older Ugandan males, despite varied attempts to provide free circumcision and increase the proportion of males who undergo voluntary medical male circumcision (VMMC).

We conducted a pilot study targeting a potentially high-impact population consisting of the male partners of pregnant women in the third trimester at three health centres in Kampala. With the pregnant women as potential change agents, we evaluated whether an information-based, partner-mediated intervention would significantly increase demand for VMMC among the male partners.

Methods

Among a population of pregnant women in their third trimester attending antenatal care at three high-volume clinics in Kisugu, Kisenyi and Kawaala, we sampled 600 women using a natural experiment design to evaluate the impact of a three-phased behaviour change intervention between May 2014 and January 2015. During a three-month control phase, we initially observed circumcision rates among male partners of a sample of 300 women who, while attending antenatal care, received VMMC information as part of standards of care. We then allowed for a two-month 'washout' period to prevent contamination. Finally, during the three-month intervention period we introduced an enhanced behavioural change communication package based on the Information-Motivation-Behavioural Styles model to another 300 pregnant women.

We conducted in-depth interviews with key informants (health workers), a sample of women whose male partners did not return for VMMC, all women whose male partners returned for VMMC and a sample of the male partners. We used logistic regression to compare the odds of men's returning for VMMC in the control and intervention phases. Qualitatively, we used a thematic approach to evaluate the causal chain that informed our programme theory.

Results

We evaluated 601 women and 11 men, with most of the women recruited from the clinics in Kisenyi (52 per cent) and Kawaala (39 per cent). The women's median age was 24 years (interquartile range [IQR] 21–29) and the median weeks of amenorrhea was 34 (IQR 32–37). Almost 90 per cent of the women understood the HIV prevention benefits of circumcision. The intervention did not increase the women's knowledge scores, and 99 per cent expressed interest in their male partners' being circumcised in both phases.

Eleven men were circumcised in the follow-up period after interacting with a pregnant spouse, four in the control phase and seven in the intervention phase. Hence, the intervention was associated with higher odds of circumcision (1.5 times, with 95 per cent confidence interval [CI]: 0.4, 5.2, p=0.56), although there was a high probability that this result was due to chance.

With study site, age, weeks of amenorrhea, education level, occupation and household income held constant, the intervention was associated with a 1.5 times higher rate of circumcision (95 per cent CI: 0.3, 6.0, p=0.65). Being at more than 36 weeks of amenorrhea was associated with higher odds (3.3, with 95 per cent CI; 0.8, 13.4, p=0.09). Factors such as household income, occupation, marital status, study site, partner type, knowledge score and religion were not associated with higher odds of circumcision.

A number of important themes emerged from our interviews with 116 participants, including 21 key informants, 32 women and 14 men in the control phase and 34 women and 15 men in the intervention phase. First, we noted a high level of knowledge regarding the health benefits of VMMC among all participants. There were no differences in reasons for opting to undergo VMMC between the phases. The main enablers for VMMC were noted in both phases as free VMMC service, transport reimbursement vouchers and the health benefits of VMMC. The main deterrents to seeking VMMC were age, religious and cultural misconceptions about VMMC, specific religions (Muslims) and specific tribes. Respondents mentioned anticipated financial losses due to time away from work and fear of pain and perceived procedure-related complications as other deterrents for not seeking VMMC. Almost all men interviewed reported that they were interested in having the procedure but were still contemplating how to do so.

Conclusions

This intervention was delivered with fidelity but had no significant impact on increasing demand for VMMC. Most women, however, were willing to engage their intimate partners and wanted them to seek VMMC. The intervention increased the female partners' level of comfort in engaging their male partners in conversation on VMMC. Men seemed to understand the benefits of VMMC, but the majority needed help navigating religious, cultural, financial and work-related barriers.

Contents

List of figures and tables

Appendix figures and tables

Abbreviations and acronyms

3ie	International Initiative for Impact Evaluation
ANC	antenatal care
BCC	behavioural change communication
CI	confidence interval
IDI	Infectious Diseases Institute
IQR	interquartile range
SD	standard deviation
SMC	safe male circumcision
VMMC	voluntary medical male circumcision

1. Introduction

1.1 Background and rationale

Landmark clinical trials (Auvert *et al.* 2005; Bailey *et al.* 2007; Gray *et al.* 2007) and several observational studies (Siegfried *et al.* 2005, 2009; Weiss *et al.* 2000) have clearly demonstrated that circumcision can significantly reduce the risk of HIV infection and is hence a potentially high-impact prevention method among men in sub-Saharan Africa. In Uganda, however – a setting where national HIV prevalence rose from 6.4 per cent to 7.3 per cent between 2006 and 2011 (Uganda AIDS Commission 2011) – only 27 per cent of men between the ages of 15 and 49 years are circumcised.

The cost-effectiveness of voluntary medical male circumcision (VMMC) as an intervention for HIV prevention is well-documented, but there is lack of clarity on how best to increase uptake. In one study, the country-specific epidemiologic impact and the cost and net savings associated with scaling up VMMC services showed that 3.36 million new HIV infections could be averted through 2025 if the scale-up of adult VMMC were to reach 80 per cent coverage in the 13 priority countries by 2015. This required 20.34 million circumcisions between 2011 and 2015 and an additional 8.42 million circumcisions between 2016 and 2025 to maintain the appropriate coverage (Njeuhmeli *et al.* 2011).

There have been numerous attempts to provide access to circumcision and increase the proportion of circumcised males in the Ugandan population (Ministry of Health & Family Health International 2008). One attempt is an initiative, begun in April 2011 and led by the Infectious Diseases Institute (IDI), which offers VMMC services at no cost in the capital city, Kampala (IDI 2011). Through this programme, funded by the Centers for Disease Control and Prevention and the U.S. President's Plan for Emergency AIDS Relief, 32,439 men had been circumcised as of December 2013 (IDI 2011). Despite initial success, monthly circumcision numbers were far below the target of 4,500 men, reaching only between 2,800 and 3,500 men per month (Bbaale 2013).

To augment the reduction of risk of HIV transmission during exposure to high-risk sex, the Uganda National HIV/AIDS prevention strategy has set its main targets as increased consistent condom use and increased coverage of male circumcision to at least 80 per cent by 2015 (Uganda AIDS Commission 2011). Increasing coverage from the current estimate of 27 per cent means circumcising more than 50 per cent of Uganda's adult male population in a context of diminishing uptake of circumcision – a challenging undertaking that requires innovation to accelerate and enhance uptake.

Addressing the challenges that keep men from accessing circumcision services comprises a considerable portion of the approaches to increasing demand for VMMC. A survey in the communities served by the IDI-led programme after the introduction of community VMMC outreach services, which had realised few gains, revealed that the programme's demand-creation activities were ineffective because they were too general to address the individual barriers the targeted men faced (Bbaale 2013). The most frequently mentioned barriers were fear (of pain, adverse outcomes and lost

wages), misinformation, transport challenges to access the services and standalone, un-integrated services (Bbaale 2013).

From an implementation science perspective, given the abundant evidence of the health and economic benefits of widespread VMMC, there is a need to explore possible strategies to escalate demand. Implementation science offers the perfect bridge for translating this evidence and integrating it into current practice, combining behavioural theories to enhance adoption and adaption (French *et al.* 2012).

A VMMC demand-generation scoping report commissioned by the Bill & Melinda Gates Foundation included a section on the potential role of female partners in influencing their partners to seek circumcision (Djimeu & Brown, 2013). Pregnant women offer a unique opportunity, particularly during the puerperium period (the six to eight weeks following birth), when sexual intercourse is largely discouraged. If this period were aligned with the healing period after circumcision, there is a possibility of mutual support and complete healing. To date, however, although engaging intimate female partners has been proposed, the role of women in general has not been explored well as an option for increasing VMMC uptake, let alone the role of pregnant women.

Therefore, using the implementation science paradigm, this study explores an approach that would integrate VMMC in the context of an active antenatal care (ANC) setting to potentially increase uptake of circumcision. We used behavioural theory in the design and evaluated the intervention using mixed methods.

We piloted the intervention at three urban health centres in Kampala, targeting a potentially high-impact male population, consisting of the male partners of women in the third trimester of pregnancy, as a means to increase uptake of VMMC. The men's pregnant female partners were the potential change agents.

1.2 Objectives

The overarching goal of the pilot was to determine whether an intervention targeting intimate partners of pregnant women in the third trimester would increase uptake of VMMC. We had two objectives. First, we sought to compare rates of VMMC demand among uncircumcised intimate male partners of pregnant women in their third trimester before and after the intervention, to learn whether there was a change in VMMC demand in the targeted male population. In determining whether there was a change in demand due to the intervention, we compared the proportion of men seeking VMMC in the control phase to the proportion observed during the intervention phase, one month after interacting with the women.

Second, we sought to evaluate the reasons for the observed responses to the intervention – why the intervention led to the observed impact. Whether or not the intervention improved VMMC demand, it was vital for us to know which components were responsible for the observed responses. In this, we anticipated answering the following questions:

- How many women comprehended the information and skills provided and what were the reasons for their understanding or not understanding the messages?
- How many women were able to deliver VMMC messages to their partners and what were the reasons for success or failure?
- How many men received the messages from their partners and appeared for VMMC as a result and what were the reasons some showed up and not others?

1.3 Impact design summary

We undertook this evaluation through an existing project platform providing free VMMC services at municipal clinics in Kampala, Uganda, using a before-and-after design over an eight-month period. For the first three months, pregnant women who had reached at least 32 weeks of gestation were recruited at antenatal clinics into a control phase. They received no intervention (information or skills) but were informed of availability of free VMMC services. Those who were interested received transport refund vouchers to enable their male partners to access the free circumcision services.

The control phase was followed by a two-month 'washout' period, in which no intervention was made, to allow all the women contacted in the control phase to deliver. Following the washout period was a three-month intervention phase, in which additional pregnant women were recruited for the study. During the intervention period, an enhanced behavioural change communication (BCC) campaign equipped the women with information and skills to pass to their male partners. They also received transport refund vouchers. We then compared the rates of circumcision that occurred within one month of the women's visits to evaluate the impact of the intervention.

This study sought to evaluate whether the enhanced BCC campaign was effective in increasing VMMC among the women's male partners. By engaging with pregnant women in the third trimester, the intervention took advantage of the puerperium period to encourage the women's male partners to get circumcised. This timing was intended to relieve the female partner from pressure to have sexual intercourse during the postpartum period while addressing male partners' fear of losing their female partners to other males during the post-circumcision healing period.

2. Intervention, theory of change and research hypothesis

2.1 Intervention

We hypothesised that if a pregnant woman were well-informed about VMMC, motivated to deliver the information to her intimate male partner and equipped with the communication skills and confidence to take action, then she would deliver the message to her partner, thereby generating demand for VMMC in some proportion of the men. Pregnant women who attended any of the three targeted antenatal clinics on weekday mornings (Monday to Friday, between 7 a.m. and 1 p.m.) were screened for eligibility. Those found eligible were then given enough information to obtain informed

consent. Those who consented were taken to a different room to receive health education information and engage in discussions to expose them to the comprehensive BCC message guided by a standard flipchart (see appendix E). The sessions also addressed any concerns the women raised and, where applicable, provided customised skills-building the women needed to pass the message to their male partners. Based on the number of eligible women at a given time, some sessions were individualised and some involved groups, but the content was always the same. At the end of each session, each woman received a standard information leaflet that she was to use when encouraging her male partner to seek circumcision.

2.2 Theory of change and research hypothesis

Our theory of change for the study was informed by two theoretical models, the Health Belief Model and the the Information-Motivation-Behavioural Skills Model. To ensure appropriate attribution of outcomes to the intervention, we used the Social-Ecological Model to envisage potential influences on key study outcomes that were not related to the intervention. The following paragraphs summarise each model and its constructs and briefly describe how we applied each model in constructing the theory of change.

2.2.1. The Health Belief Model

The Health Belief Model is a behavioural change model developed in the 1950s to explain and predict health-related behaviours, especially in relation to uptake of health services. The model, which focuses on the individual, suggests that (1) a person has specific beliefs about health issues, (2) a person has perceived benefits of and barriers to action and (3) the view that the person is able to act on those beliefs and perceptions (self-efficacy) explains the likelihood of engagement in health-promoting behaviour. A hallmark of the model is that it articulates the need for a stimulus, called a ‘cue to action’, to trigger the individual to engage in the health-promoting behaviour. These four constructs – perceived susceptibility, perceived benefits, self-efficacy and a cue to action – typify the model.

In this case, susceptibility refers to the risk of acquiring HIV infection through sexual intercourse. In designing interventions based on the Health Belief Model, the intervention seeks to increase the individual’s perception of susceptibility and highlight the benefits that accrue to the individual from engaging in a health-promoting behaviour. The model also guides us to identify barriers to the desired behaviour and a specific trigger (cue to action) to facilitate the behaviour.

In constructing the intervention, we applied the Health Belief Model in the following ways:

- The model focusses on the individual; therefore, even though we designed a generic template for VMMC information, the intention in delivering the information, especially in individual sessions, was to bring out the male partner’s individual perceived susceptibility and benefits related to VMMC.

- In line with the perceived susceptibility/benefits constructs, we included standard information on the risks of having an uncircumcised partner and the benefits of VMMC, which extend to other sexually transmitted infections such as the herpes simplex virus.

- In group and individual sessions, we included the female partner's passing of the VMMC informational brochure to the male partner as a cue to action for the male partner to visit the health centre for VMMC.

2.2.2. The Information-Motivation-Behavioural Skills Model

According to this model, information (relevant data and facts) is the key determinant of health-seeking behaviour related to a particular health issue. However, the model also posits that information, though necessary, is not sufficient to lead to health-promoting behaviour. It recognises that individuals need to be motivated towards a desired goal by working on favourable attitudes, using existing psycho-socio support mechanisms and identifying the possible barriers and working out solutions to overcome them. The model allows for and assumes that information and motivation are independent constructs, which means that well-informed individuals are not necessarily motived to engage in health-promoting behaviours and that well-motivated individuals likewise are not necessarily well-informed about health-promoting practices. Additionally, the model recognises the need to enhance skills that bring out the actions that lead to the health-promoting behaviour.

The model informed our intervention in the following ways:

- The information construct posits the need to provide comprehensive information to the female partner in this intervention and enable her to elicit the perceived susceptibility of the individual male partner (according to the Health Belief Model). We packaged this information in the VMMC leaflets and flipcharts used during the intervention.

- The motivation construct was used to enhance female partners' attitudes about talking to their spouses about health-related issues in general and VMMC in particular. As they delivered information on VMMC in group and individual sessions, healthcare workers sought to build the female partners' confidence in initiating health-focused conversations with their male partners.

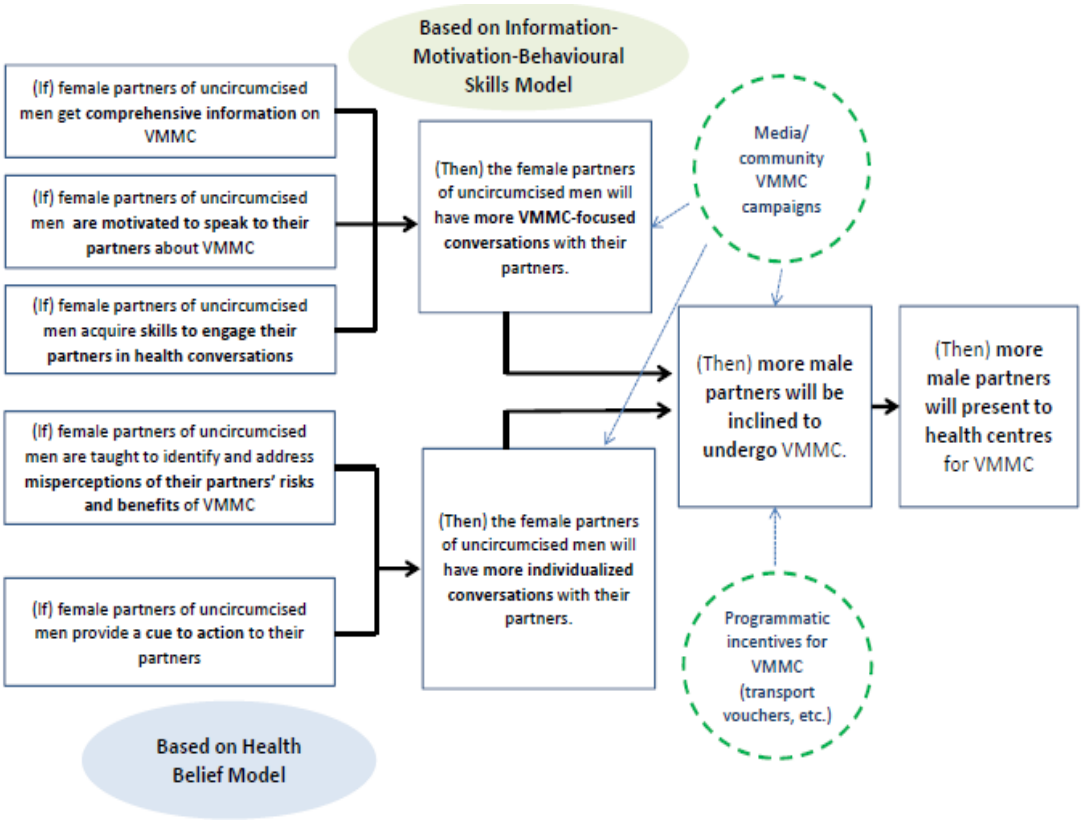
- The behavioural skills component led us to include a communication skills-building component in the intervention. Using role playing, we sought to enhance the female partners' ability to communicate with their male partners.

2.2.3. The Social-Ecological Model

The Social-Ecological Model is a dynamic framework for representing the factors that influence an individual's actions, including health-seeking behaviour. It recognises that many interrelated factors affect behaviour in a complex manner; in particular, an individual's family and societal contexts contribute to supportive or unsupportive

conditions. The model comprises four distinct but interactive components which affect each other: the individual level, the relationship level (family), the community level and the societal components (McLeroy *et al.* 1988). The model is used to understand health-promoting behaviours in a particular context and facilitates the identification of factors influencing health decision making in specific sub-populations, such as women belonging to different religious affiliations, monogamous versus polygamous relationships and different tribal (cultural) contexts. Although we did not use this model explicitly in constructing the intervention, it provided a broader context for the theory of change.

Figure 1: Theory of change



In summary, we postulated that:

- If men are affected by personal beliefs, personal relationships, community influences and social norms, then an intimate female partner is well-positioned to identify the factors.
- If female partners of uncircumcised men are provided with comprehensive information on VMMC, motivated to initiate conversations with their spouses on health-related issues and given communication skills, then this will lead to more instances of VMMC-focused conversations between the partners.
- If female partners of uncircumcised men are empowered to identify and address their partners' specific misperceptions and given an information leaflet

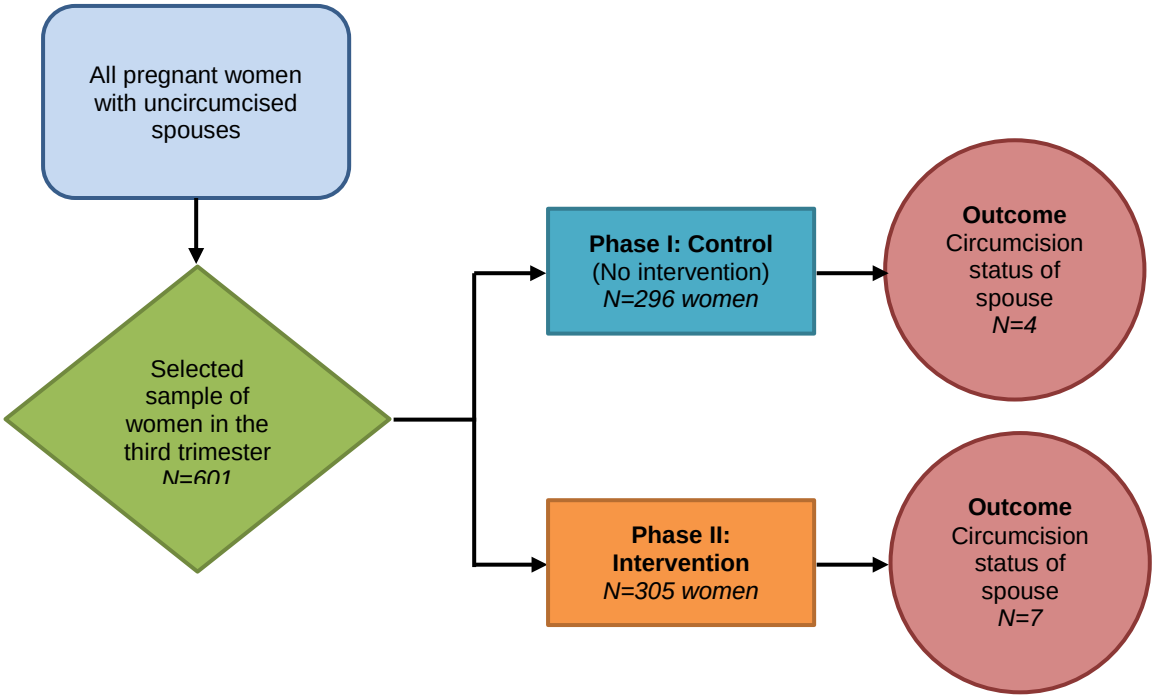
to deliver to their partners to act as a cue to action, then this will lead to more instances of individualised VMMC-focused conversations.

- If more individualised conversations that identify misconceptions and provide answers and solutions to potential barriers related to VMMC occur between these couples, then this will lead to more male partners becoming more inclined to undertake VMMC, provide a cue to action for the men and result in more male partners presenting for VMMC.

3. Evaluation design and methodology

Using a natural experiment design (figure 2), we evaluated the intervention among pregnant women receiving ANC services at three high-volume Kampala City Council Authority clinics in Kiswa, Kisenyi and Kawaala. We used a before-and-after design that would allow us to understand the scaling-up challenges if the intervention worked. In addition, we worked through an established circumcision programme in the district where the antenatal clinics were situated. However, natural experiments are prone to confounding, which can be dealt with using matching, restriction and regression. We used restriction and regression to try and preclude these potential threats to the validity of our estimates.

Figure 2: Before-and-after design



3.1 Site and context

IDI has been supporting the three health centres where this intervention was introduced through a variety of programmes since 2008. The sites were chosen for this longstanding relationship with IDI:

- Kisugu Health Centre: Kisugu Ward, Makindye Division in southern Kampala
- Kisenyi Health Centre: Mengo Ward, Central Division
- Kawaala Health Centre: Kasubi Ward, Rubaga Division in northwestern Kampala

IDI provides comprehensive HIV services, including health education for HIV prevention, as well as counselling, care and treatment for tuberculosis and HIV and, at Kisenyi Health Centre, safe male circumcision (SMC). In addition, IDI has provided health systems strengthening activities such as logistics management, laboratory strengthening (including transportation of laboratory samples), improved documentation and reporting, strategic information strengthening and human resource capacity building through training, mentorship and supportive supervision.

Managed centrally by Kampala Capital City Authority under the Directorate of Public Health and Environment, the three health centres primarily offer outpatient services, including dental care, general medical and surgical care, comprehensive treatment for HIV and AIDS and tuberculosis, health education, laboratory services, family planning, antenatal and postnatal care and immunisation. Maternity and *non-emergency* delivery services are available at all three sites. Each facility is headed by a nurse in-charge supported by a doctor and heads of ANC, maternity, outpatient, nutrition and other units. Circumcision is primarily carried out at Kisenyi Health Centre.

Importantly, the sites were chosen because all have well-attended free antenatal clinics and are within reach of the SMC service point at Kisenyi Health Centre. The women who attend these clinics reflect the typical target population of women (and therefore men) in Kampala.

3.2 Inclusion criteria for women

Inclusion criteria for participation were as follows:

- Adult females (older than 18 years)
- Pregnant women beyond 32 completed weeks of gestation

3.3 Inclusion criteria for men:

- Adult (older than 18 years) uncircumcised males

The following were exclusion criteria:

- Women in active labour
- Women with history of domestic violence with their current partners (because this would preclude their ability to communicate with their partners)
- Women with circumcised intimate partners
- Women not living with their intimate partners

4. The evaluation process

This evaluation was performed over eight consecutive months (May through December 2014) in a phased process: a three-month control phase, a two-month washout phase and a three-month intervention phase.

4.1 Control phase

No intervention was tested at the study sites during this initial phase, which started in May 2014 and ended in August 2014, but information was collected from pregnant women and from men seeking VMMC at the clinics.

4.1.1. Women's recruitment

After providing verbal consent to provide information, consecutive eligible pregnant women provided informed consent and were enrolled in the evaluation over a six-week period until the sample was obtained. We administered a questionnaire to the women that collected demographic data and other particulars, including type and length of their relationships, whether they were married, parity of the women, HIV sero-status of the women and circumstances surrounding pregnancies. We also evaluated their knowledge related to circumcision based on their responses to seven questions. The women also received transport reimbursement vouchers, each worth US$8.50, to enable their male partners to travel to Kisenyi, the circumcision site. Each voucher had a unique identifying number to enable linking of the pregnant woman and the male partner.

The women did not receive comprehensive information or training in communication skills during this phase. Circumcision information was provided under the existing standards of care to all the pregnant women attending antenatal services at the three sites; however, this was limited to information about the availability of free VMMC services at the Kisenyi clinic and was delivered by untrained healthcare workers or volunteers.

We did collect qualitative data during the control phase to inform the design of the intervention as a comprehensive package informed by theory and facts on the ground. We conducted six focus groups across the three sites with women at different stages of pregnancy (see section 5).

After recruitment, we allowed one month from the time we interacted with the woman for the male partner to return for circumcision. Thereafter, we took a 20 per cent random sample of the enrolled women whose male partners had not turned up for circumcision and conducted in-depth phone interviews to understand why their male partners had not returned. We also conducted key informant interviews with clinic in-charges, antenatal clinic staff and circumcision programme staff.

4.1.2. Men's recruitment

All men who presented the transport reimbursement voucher to seek circumcision services at the Kisenyi site were approached for written consent and interviewed to understand the role their female partners had played in their decision.

The study team re-contacted all participating women whose partner did not present for circumcision and asked them to seek consent from their male partners to provide a phone number for a phone interview. We conducted the phone interviews after documented verbal consent, collecting information on message delivery, any circumcision performed at another site and reasons for not seeking circumcision services.

4.2 Washout phase

No study-related activities were carried out at the sites during the two-month 'washout' period, which we used to prevent potential contamination in case women visited the selected health centres more than once during the last trimester of pregnancy with unused transportation vouchers from the control phase.

The study team hired a BCC consultant to provide technical support and guidance for development of the comprehensive BCC package on VMMC. The consultant supported the team to implement a situational/baseline survey employing quantitative and qualitative methods. As an initial step, the implementation team reviewed existing literature to generate a comprehensive body of knowledge on VMMC. The team then designed qualitative and quantitative data collection tools to determine key knowledge gaps and opportunities for attitude changes and to assess the required skills to enable communication between male and female partners.

The team carried out six focus group discussions, two at each study site, identifying participants through random sampling from mothers visiting the antenatal clinic that day. The team used stratified random sampling at each site to select the 69 respondents who were interviewed for quantitative data collection. Quantitative data analysis was completed using SPSS software. A thematic approach was used to analyse the qualitative data. Overall findings are as follows, with full details in appendixes A and B (available online):

- Many pregnant women (almost 40 per cent) lacked comprehensive information on VMMC and almost none of the women had accessed VMMC information during the ANC sessions they had attended thus far. Crucial information gaps included whether VMMC reduced the likelihood of HIV acquisition and how soon after VMMC one could resume sexual activities with reduced risk of HIV transmission. These findings informed the team's development of the flipchart and leaflet containing comprehensive information on VMMC.

- Of the eight women who said they wanted to speak to their male partners about VMMC, only one said she had the confidence and skills to do so. We based our decision to enhance communication skills through role playing on this finding.

We also thought that delivering the information would be easier if we also gave the women a leaflet to enhance the discussion with their partners.

- The women had some cultural and religious beliefs that could preclude interest in communicating VMMC to their male partners, such as the belief that VMMC is for only certain religious groups or tribes. In addition, some had a misconception that circumcision might lead to promiscuity among the men, because it could reduce the risk of HIV acquisition. These findings led us to make the individual and group sessions interactive, with question and answer components, to dispel misconceptions and focus on the benefits of VMMC.

We then developed training materials for health workers who would deliver the BCC messages to pregnant mothers. The complete package of training materials was ready by the third week of July 2014.

The implementation team also designed a transport voucher for the study and began distributing them on 6 June 2014 to all pregnant women willing and interested in escorting or referring their men to Kisenyi for circumcision. The team gave out 1,733 vouchers: 790 in the control phase, 409 in the washout phase and 534 in the intervention phase (by 5 December 2014).

In May 2014 we piloted the intervention tools at Kasangati Health Centre, which is similar to the impact evaluation sites, to prevent contamination.

4.3 Intervention phase

Following the pilot at Kasangati, a four-week period at the beginning of the intervention phase provided participating women with a comprehensive package of VMMC information and communication skills based on information from the in-depth interviews and focus group discussions conducted during the control phase.

In delivering the intervention, healthcare personnel used simple questions to assess the women's knowledge base before providing them with information on VMMC. They repeated the questions after the session to evaluate whether the women understood the information they had received, offering additional information or clarification based on the women's answers. Participants also received training in communication, negotiation and behavioural skills through role playing to help them engage effectively with their partners. They also received take-home leaflets with the BCC messages in words and pictures to enable them to communicate with their partners about VMMC and encourage them to go for circumcision.

4.4 Qualitative assessment

The study team conducted semi-structured interviews with women to explore their experiences communicating about VMMC with their spouses. Key informant interviews were also conducted with health centre personnel at the health centres where the intervention took place. The qualitative interviews were conducted using a standardised data collection tool.

We collected quantitative data at recruitment and qualitative data during follow-up phone interviews in the control and intervention phases on a sample of the women and their male partners. The interviews were conducted after the four-week post-enrolment period. We attempted to interview every couple from which the male partner had returned for circumcision, given the small number who were circumcised in both phases. For couples from which the man did not return, we drew a 10 per cent sample of the women recruited for each phase and conducted phone interviews with both partners, with consent. We had about 60 per cent success in obtaining phone interviews, after three attempts on three days at different times of the day. We then resampled until we had about 10 per cent of the women recruited to be interviewed.

From the interviews, we sought to understand whether the women were adequately informed and whether they were comfortable delivering the VMMC message and whether they had actually discussed VMMC with their male partners. We also sought to confirm whether the men talked to their spouses, including the content of the discussion and how this affected the action they took. Finally, we sought the views of the health workers who had interacted with the women regularly regarding women's role and potential impact on demand generation.

A non-IDI implementing team researcher with expertise in anthropological techniques supervised data collection. All qualitative data was transcribed using Microsoft Word and entered into Microsoft Excel. Table 1 summarises and provides timelines for the impact evaluation.

Table 1: Summary and timelines of implementation and evaluation processes

Key implementation activities		**Evaluation activities**		**Comments**
Dates	**Activity**	**Dates**	**Activity**	
September–November 2014	Study proposal writing	September–November 2014	Study proposal writing	Joint activity
3 December 2014	Funding approval and release	3 December 2014	Funding approval and release	Joint activity
–	–	19 February 2014	Approval by institutional review board and Uganda National Council of Science and Technology	Joint activity
23 April 2014	Approval for use of study sites	4 April 2014	Confirmation of evaluation registration	–
April 2014–July 2014	Recruitment of study staff	April–May 2014	Recruitment of evaluation staff	Hiring took place in April and July 2014
Control phase: May–August 2014				
May–July 2014	Development and pretesting of study BCC message package and IEC material for use in Intervention phase	26 May–17 June 2014	Orientation protocol training and preparation of materials for research assistants Preparation of the database system-Datafax and the tele-form development and testing	Also involved review of materials and database development and training on Datafax

Key implementation activities		Evaluation activities		Comments
Dates	**Activity**	**Dates**	**Activity**	
6 May– 7 August 2014	Distribution of vouchers to women and monitoring for the control phase	17 June– 7 August 2014	Enrolment of pregnant women for control Phase	Quantitative data collection Lost 1 week due to a strike at the facilities
25–29 August 2014	Orientation and training of implementation staff in BCC package	17 June– 4 September 2014	Enrolment for men seeking VMMC Qualitative interviews	Qualitative data collection
Washout phase: 7 August–7 October 2014				
7 August– 7 October 2014	Distribution of vouchers to women	4–19 September 2014	Follow-up phone interviews	No recruitment only follow-up.
6–7 October 2014	Piloting of BCC message package and IEC material			
Intervention phase: 8 October 2014–8 January 2015				
October 2014– January 2015	Delivery of intervention to women, with simultaneous distribution of vouchers to women	15 October– 5 December 2014	Enrolment of pregnant women for the intervention phase	
		15 October– 5 January 2015	Enrolment of men seeking VMMC and qualitative interviews	No follow-up during the holiday week (24 December to 1 January); clinics were closed
		1 December 2014–30 January 2015	Data cleaning and checking	
		5–15 January 2015	Follow-up interviews for the women	
Reporting: 24 November 2014–5 February 2015				
–	Analysis Report writing	24 November 2014–February 2015	Analysis, final report writing, manuscript writing	

5. Statistical considerations and analysis

5.1 Sample size

For this study we assumed that only 2 per cent of the men would take up VMMC through encouragement from their female partners during the control phase. Using a power of 80 per cent, detecting an increase in VMMC uptake of 6 percentage points due to intervention would require a sample of 478 women. To compensate for those lost to follow-up, a total of 600 eligible women were enrolled in the impact assessment study.

5.2 Statistical analysis

We compared demographic characteristics using the chi-square test to compare proportions for categorical variables and Wilcoxon rank-sum test to compare medians. To analyse for the main end points, we used a mixed methods approach. First,

analysis of the intervention's impact on circumcision rates was solely a quantitative analysis, using logistic regression to compare the odds of being circumcised between the intervention and control groups. Since there is possible confounding with the natural experiment assignment that was not completely random, we considered the site of recruitment, women's age, weeks of amenorrhea, level of education, occupation and measures of socioeconomic status, such as rent and household income, to have been potential confounders based on our understanding of the underlying mechanisms and the literature on circumcision. Since we used logistic regression, we evaluated for heterogeneous effects using multiplicative interaction. Possible heterogeneity could have occurred from gestational age, household income, occupation, marital status, study site, partner type, knowledge score and religion. We evaluated the above factors for heterogeneous effects on circumcision and used a p-value cut-off of less than 0.1 for statistical significance of heterogeneity.

5.3 Qualitative analysis

We undertook qualitative analysis to interrogate aspects of the causal chain in the theory of change. Data analysis relied on a manifest approach to developing themes. We used an analysis plan based on the study objectives to generate a coding scheme after reading the transcripts. Responses from the transcripts that seemed to speak to a specific trend were grouped to help us understand patterns in the data. This generated overarching themes that provided an insight on participants' perceptions of the benefits of VMMC and how information on VMMC may have affected the decision to seek VMMC from a health facility. We did not use a software package to analyse the data.

6. Regulatory approval and registration

Our protocol was reviewed by the scientific research committee at IDI and received ethical approval from the Joint Clinical Research Centre institutional review board and regulatory approval from the Uganda National Council of Science and Technology (approval number SS-3418). This evaluation was also registered with the Registry of International Development Impact Evaluations.

7. Impact analysis and results

7.1 Descriptive results

We evaluated 601 women and 11 men as part of this impact assessment, with most of the women recruited from the Kisenyi (52 per cent) and Kawaala (39 per cent) clinics. The median age of the women was 24 (IQR 21–29) years, with a median of 34 weeks of amenorrhea (IQR 32–37). The women had had a median number of two pregnancies (IQR 1–4) and made two antenatal visits (IQR 2–3). They had a median of one child (IQR; 0–2).

The majority of the women (84 per cent) reported being in monogamous relationships and all women were living with their intimate partners. With regard to socioeconomic status, the majority of the women who reported an income stated that household

monthly income was less than 500,000 shillings (US$190) and that they lived in rented homes. Median monthly rental expenditure was 70,000 shillings (US$29; IQR 50,000–100,000). Almost 90 per cent of the women had at least a primary or secondary education, but 50 per cent were unemployed. A comparison of the demographic characteristics of the pregnant women enrolled in the control phase showed that the population did not differ significantly from the intervention group (table 2).

Eleven men sought circumcisions, four in the control phase and seven in the intervention phase. Three of the men indicated that their female partners were enrolled at Kisugu, five at Kisenyi and two at Kawaala. The men's median age was 29.5 years (IQR 28–34). 90 per cent self-identified as being in monogamous relationships and living with their female partners and reported a median of one sexual partner in the past six months. The mean time between interacting with the women to the male partners' returning for VMMC was 30.2 days (SD 2.75).

Table 2: Characteristics of female participants (control and intervention populations)

Characteristic	Control (n=296)	Intervention (n=305)	P-value
Age of pregnant woman, years	24 (21–29)*	25 (21–28)	0.94
Weeks of amenorrhea	34 (32–36)*	35 (32–37)	0.15
Number of live births	1 (0–2)*	1 (0–2)	0.76
Number of pregnancies	2 (1–4)*	2 (1–3)	0.41
Number of ANC visits in current pregnancy	2 (2–3)*	2 (2–3)	0.41
Number of children alive	1 (0–3)*	1 (0–2)	0.12
Type of relationship			
Monogamous	83%	86%	0.42
Polygamous	16%	13%	
Not sure	0.7%	1%	
Marital status			
Married/cohabiting	100%	100%	
Type of partner			
Spouse	58%	58%	0.62
Cohabiting partner	41%	42%	
Non-cohabiting partner	1%	0.4%	
Household monthly rent (UGX)	75,000 (50,000–100,000)*	70,000 (50,000–100,000)	0.23
Household income per month (UGX)			
<50,000	1%	0.3%	0.27
50,000–200,000	22%	20%	
200,000–500,000	28%	25%	
500,000–1,000,000	11%	7.5%	
>1,000,000	2.7%	1.7%	
Declined to answer	37%	45%	
Own a house	22%	20%	0.53
Education level			
Primary	34%	37%	0.08
Secondary	53%	55%	
Tertiary	6.8%	4.4%	
University	2.4%	3.4%	
None	3.7%	0.7%	
Religion			
Catholic	41%	39%	0.9
Anglican	27%	28%	
Muslim	9.1%	8.1%	
Pentecostal	10%	13%	
Adventist	3.7%	3.1%	

Characteristic	Control (n=296)	Intervention (n=305)	P-value
Other	8.4%	8.9%	
Occupation			
Student	0.7%	0.3%	<0.001
Casual labourer	1.0%	7.2%	
Unemployed	51%	53%	
Self-employed	36%	31%	
NGO/private organisation	7.4%	7.8%	
Government organisation	0%	0.7%	
Other	3.4%	0%	
Circumcision knowledge			
Overall score†	57 (43–71)*	57 (43–71)	0.56
HIV infection prevention	89%	88%	0.61
Does affect fertility	80%	86%	0.06
Hygiene of the man	91%	79%	<0.001
Intercourse after circumcision	2.0%	3.6%	0.24
Condom use after circumcision	66%	55%	0.003
Sexual pleasure	23%	28%	0.20
Other benefits	41%	47%	0.14
Circumcision communication			
Interest in partner being circumcised	99%	99%	0.58
Spoken to partner about circumcision	65%	57%	0.12
Number of times talked to spouse in last 3 months	2 (1–3)*	2 (1–3)	0.54
Level of comfort with communication			
Not comfortable	100%	65%	0.02
Somewhat comfortable	0%	6%	
Comfortable	0%	18%	
Very comfortable	0%	12%	
Most useful sources of information on circumcision			
Campaigns	14%	13%	0.14
Friends	4.7%	4.9%	
Newspapers	2.0%	0.7%	
Radio	18%	26%	
Television	6%	6%	
Posters	0.3%	0%	
Fliers/leaflets/hand-outs	0%	0%	
Text messages	0%	0.3%	
Health worker	37%	39%	
Circumcised individual	9.5%	5.6%	
Intimate partner	1.3%	0%	
Other	1%	0%	
Cannot recall	7%	5%	
Study site			
Kisenyi	49%	54%	0.23
Kawaala	42%	35%	
Kisugu	8.8%	10%	

Note: An asterisk (*) indicates the median (IQR); † indicates that the score was generated as the percentage of correct responses (from each individual) to the seven questions evaluating knowledge about circumcision.

7.2 Knowledge regarding circumcision

Before the intervention, almost 90 per cent of the women understood the benefits of circumcision for HIV infection prevention. Importantly, however, they were not clear as to when to resume sexual intercourse after circumcision or about other benefits, such as HPV infection prevention. The intervention did not increase these knowledge

scores, and knowledge decreased about some topics, such as whether or not to use a condom after circumcision and the impact of circumcision on the man's hygiene.

There were slight increases in knowledge of circumcision's impact on fertility, when to resume intercourse, sexual pleasure and condom use after circumcision. Concerning sources of information, almost 90 per cent of the women reported their most important source of information as being a village campaign, health worker, media (radio, television) a friend or a circumcised individual.

Compared with women in Kisugu, with a mean score of 35 per cent (SD 28), women in Kisenyi and Kawaala had higher mean knowledge scores of 57 per cent (SD 21) and 55 per cent (SD 19). This pattern was seen in the control and intervention phases. The highest difference between Kisugu and the two other sites was seen in the intervention phase; on average, women in Kisenyi had 22 percentage points higher scores and those in Kawaala had 20 percentage points higher scores. This was statistically significant ($p<0.001$).

7.3 Women's communication with male partners

Almost all of the women were interested in communicating with their partners about circumcision. However, only 61 per cent overall had ever done so, and this proportion was lower in the intervention phase than in the control phase. Those who had ever communicated with the male partner had talked to him a median of two times (IQR 1–3) in the past month, with no difference between the control and intervention groups. In the control phase, all women reportedly communicating with their male partners did so but were not comfortable communicating.

7.4 Impact of the intervention on circumcision

Overall, 11 men were circumcised within a median period of eight days (IQR 3-14) of interacting with the pregnant female partner. Four men were circumcised in the control phase and seven in the intervention phase. This suggests that the intervention was associated with 1.5 times higher odds of circumcision (95 per cent CI: 0.4, 5.2, $p=0.56$), unadjusted for confounders, although there was a high probability that chance contributed to this result, given the p-value of 0.56. Holding site, age, weeks of amenorrhea, education level, occupation and household income constant, the intervention was still associated with 1.4 times higher odds of circumcision (95 per cent CI: 0.3, 6.0, $p=0.65$), but this was not statistically significant, with a high likelihood of chance ($p=0.65$) explaining this result.

Looking at heterogeneity of effect, being at more than 36 weeks of amenorrhea was the only factor associated with 3.4 times higher odds of circumcision (95 per cent CI; 0.8, 14, $p=0.09$). Other factors (including household income, occupation, marital status, study site, partner type, knowledge score and religion) were not associated with higher circumcision rates.

7.5 Qualitative results

We interviewed 117 participants: 21 key informants, 32 women and 14 men in the control phase and 34 women and 16 men the intervention phase.

Table 3: Participants interviewed for qualitative data collection, including circumcision status during follow-up

	Control phase	Intervention phase
Couples		
Women with uncircumcised male partner	28	27
Women with circumcised male partner	4	7
Uncircumcised men	10	10
Circumcised men	4	6*
Key informants interviewed		
Nurses	8	
Midwives	7	
Counsellors	6	

Note: The asterisk (*) indicates that one of the circumcised men declined to give an interview.

7.5.1. Causal chain analysis

Empowerment of women with information and communication skills: Most of the women interviewed agreed that the BCC intervention had imparted specific knowledge and emboldened them to have a conversation with their partners. Whereas they had considerable knowledge about VMMC before the intervention, the intervention provided comprehensive knowledge on the subject and made them more aware of the barriers to VMMC and how they can be overcome. The finding that indicates an increased level of comfort with communication on VMMC (see table 2) among participants receiving the intervention is in agreement with insights from the qualitative findings.

Women delivering messages to spouses: Almost all the women in the intervention phase indicated that they had delivered the BCC message to their partners; this is in concurrence with the observation that most of the interviewed male partners confirmed that their partners had talked to them about circumcision. The respondents shared mixed experiences (positive and negative) about how their discussions unfolded. The majority of the women interviewed stated that their male partners had expressed willingness to attend VMMC centres following their encouragement, as illustrated by the following quote:

> ‘He was most interested in the advantage of circumcision reducing chances of getting HIV and other diseases’.

For those whose partners did not turn up for circumcision, women attributed this to barriers such as fear of pain, lack of time to go to the health centre for VMMC, perceptions about being old/aged and resource constraints (poverty).

> ‘He also still has the thought from his culture that he shouldn’t do things that his parents/elders didn’t do’.

> ‘I do not know why he does not want to get circumcised, except for the fact that he said that Catholics are not allowed to get circumcised’.
>
> ‘He is always on safaris so he cannot go because he is always busy and not around’.

Women suggested engaging men by involving them during the BCC training, which had targeted women only, such as during their antenatal visits. Women perceived that such early involvement of their male partners could help increase VMMC uptake.

The delivery of a circumcision message was difficult to evaluate among participants (and their male partners) in the control phase, since they did not receive the specific intervention; they received only the general health information at the study sites.

In one instance, a male partner indicated that the BCC message had not been delivered, saying:

> ‘I don’t know why my partner did not tell me about circumcision’.

Men accepting the message and deciding to seek VMMC services: Among those who accepted and turned up for VMMC during the control phase, enabling factors included desire for good hygiene and fear of HIV and AIDS. A key observation from these men was the validation of the BCC messages with information from mass media and from fellow (circumcised) men. Analysis of this group indicates that these men already had some interest and that the partner simply triggered the decision by bringing up the discussion, as illustrated in the quotes below:

> ‘I was already interested so it was just the right time for her to bring it up. When she talked about it, it brought more emphasis for me to go for the circumcision’.
>
> ‘I was already interested in getting circumcised because it's good and has a number of advantages to men’.
>
> ‘… even before, he had wanted it so the discussion just strengthened it’.

However, there is a suggestion that the female partner’s bringing up the discussion or insisting on talking about VMMC contributed to the man’s decision to undergo VMMC:

> ‘This made me become interested in the circumcision and eventually go for it’.
>
> ‘My partner talked to me and she was so insistent on the issue’.

For male partners who did not accept and therefore not did not present for VMMC, especially during the control phase, emerging barriers were related to the stigma associated with being seen in a skirt and fear of being perceived as promiscuous. Participants also revealed that inadequate information and resources were inhibitors to uptake of VMMC. Misperceptions such as a perceived long healing process and religious and cultural beliefs also contributed to the low uptake of VMMC. For example, some participants perceived circumcision as a practice exclusive to Muslims, while others perceived that some religious affiliations did not require it. Similarly, some men

expressed that circumcision was not part of their culture. The following quotes illustrate these perceptions:

> ‘Men from western Uganda don’t circumcise’.
>
> ‘I’m always busy moving … so I’ve not yet gotten time to go for it’.
>
> ‘Didn’t have time though willing to do it’.
>
> ‘Circumcision is something meant for children and youths since they are the ones carelessly engaging into sex, unlike me who is already old and I have two wives’.

Men presenting for VMMC services at study site: We established that none of the male partners whom we interviewed presented to another VMMC site. The interviews also indicated that the transport voucher greatly facilitated VMMC uptake, as indicated by the following quotes:

> ‘I can go for free circumcision services at Kisenyi Health Centre and be given a transport refund’.
>
> ‘The transport refund he was given also [enabled him to return]’.

7.5.2. Key informant interviews

Key informant interviews with health workers were mostly with midwives, registered nurses and counsellors at the ANC clinics. The views were mostly around knowledge related to VMMC and limited integration of VMMC services with other health services.

Knowledge regarding VMMC: Importantly, we learnt that health workers had appreciable knowledge of the health benefits of circumcision, especially in relation to HIV prevention, but key informants also cited cultural/religious barriers to men’s seeking VMMC.

Key informants also revealed that women had a role in encouraging their spouses to seek VMMC. Specifically, health workers largely thought that women should be sources of information, alternative sources of financial support and supporters of decision making. Some health workers mentioned that women should be supportive, especially in communicating about the availability of VMMC and encouraging their husbands to seek VMMC. Health workers also thought women could prepare for reduced finances when their husbands sought VMMC. Additionally, they suggested that the intervention should target the couple, as opposed to the woman alone.

Talking to women about VMMC: Despite the busy clinics, the health workers thought that with adequate training and sensitisation they would be able to engage women to encourage spouses come for VMMC. One registered nurse said the following:

> ‘Women can easily be accessed as they come for ANC and immunisation to provide them with VMMC information’.

7.6 Cost-effectiveness analysis

7.6.1. Costs

We used the societal perspective for the cost-effectiveness analysis. From this perspective, the cost of providing and benefitting from the intervention amounted to US$45,757.30.[1]

The intervention was rolled out over a nine-month period. On this basis, the total annual cost of implementing the intervention would be US$61,009.70.

7.6.2. Effectiveness measure

We observed that seven men presented for circumcision during the three-month intervention period. All factors remaining constant, 28 would have undergone circumcision under a one-year rollout of the intervention. In the same period for the control phase, 16 men would have presented for VMMC (4 presented in the control phase). The additional circumcisions attributable to the intervention is therefore 12.

7.6.3. Cost-effectiveness measure

Despite the non-significant impact of our intervention, we calculated that for every US$5,084.10 we spent, one additional circumcision was achieved, on the basis of the annualised intervention cost (US$61,009.70) and the 12 projected circumcisions.

8. Discussion

In this pilot study, we sought to demonstrate the impact of an information-based, partner-mediated intervention on demand for VMMC. The intervention did not lead to a statistically significant increase in demand over the project period. Although the intervention led to a 1.5-fold increase in the odds of a male partner presenting for VMMC, this was not statistically significant.

A number of studies across sub-Saharan Africa suggest that the influence of women (including intimate female partners) on the acceptability and uptake of VMMC by their male counterparts is likely to vary in different communities and cultures in the region. Some studies indicate a strong influence of women, while others show very little, if any

[1] This figure includes incremental costs associated with designing and implementing the intervention (US$44,407.20) and programme costs for the clinical platform (US$1,350). Incremental costs included implementing agency costs (US$44,344.80 covering staffing costs, consultant fees and other recurrent programme and management costs) and estimated loss of income incurred by men who presented for VMMC after the intervention (US$62.50). We exclude costs associated with the impact assessment, including institutional review board fees, evaluation personnel costs and costs associated with quantitative and qualitative studies. We did not assign monetary value to the time participants spent at the clinic, since the intervention occurred on the day of an ANC visit. Based on average household income data from the quantitative study, we estimate average lost wages for the day each male partner presented for VMMC at US$8.90 – US$62.50 for the seven men circumcised during the intervention.

(Westercamp & Bailey 2007). We therefore sought to contribute to the body of evidence on the potential role of women on increasing demand for VMMC – specifically, to further understand the role of empowering women, through an information-based intervention, to engage their male counterparts in a discussion on VMMC to the extent that their partners would seek VMMC.

8.1 Qualitative findings

Through the qualitative studies we undertook we were able to explore why the intervention did not yield the anticipated impact on demand for VMMC. First, we established that the male partners were not presenting to other (non-study) VMMC sites. None of the male partners interviewed (those who did not present for VMMC at the study circumcision centre) indicated that they had visited an alternative circumcision centre. The number of men presenting to the study centre therefore accurately represented the primary outcome measure of the impact assessment.

Although the intervention did not significantly impact VMMC uptake, it increased the female partners' level of comfort in communicating about VMMC (using a BCC package) to their male partners (0 per cent in the control population vs. 35 per cent in the intervention population). Despite the observation that up to two-thirds of the participants were not comfortable undertaking such a conversation, they nevertheless delivered the message to their male counterpart to consider VMMC. We triangulated this with the findings from the interviews with the men, which confirmed that their partners had specifically brought up VMMC for discussion.

The high proportion of discomfort may have hampered effective delivery of the message; this may provide a context for understanding why the intervention did not have the desired impact. Our findings suggest that the interaction between the partners did not result in VMMC uptake. We did not, however, find any key differences in the aspects of the delivery of VMMC messages between the women whose partners presented for VMMC and those whose partners did not.

To gain some insights about why the intervention did not lead to significant VMMC uptake, we compared the male partners who presented for VMMC compared with those who did not. One consistent finding was the observation that the men who presented for VMMC had, to a large extent, already contemplated undergoing VMMC; the conversation with their female partners was a tipping point for action. Most of these partners indicated that the transport voucher was a catalyst to actually going to the VMMC site. On the other hand, interviews with those who did not present for VMMC indicated key barriers. Potential lost wages, pain during surgery and in the recovery period and religious/cultural issues were the main impediments to undergoing VMMC.

While covering information across the key barriers of VMMC uptake, the intervention did not directly address the issue of wages lost on the day of the VMMC procedure. This is a real issue for the male partners, most of whom are in the subsistence-level 'hand to mouth' income bracket. Emerging literature and programme experience do indicate that incentive-based interventions to overcome loss of income associated with

VMMC lead to significant impact on VMMC uptake (Agot *et al*. forthcoming; Wilson *et al.* forthcoming).

This intervention was fashioned to empower female partners to discuss pain, but it is possible that this barrier is better addressed by a male peer who has undergone VMMC. This view seems to be supported by an emerging framework on understanding the male partners' experiential journey to a decision to undergo VMMC (Kretschmer 2015). The journey includes a phase of cognitive dissonance in which the male partner struggles with the emotions of undergoing a potentially painful experience for the apparent benefit of the female partner. One such emotion describe by male partners is resentment of the female partner. It may be that men did not present for VMMC after our intervention owing to a substantial proportion being in this phase of the experiential journey. Unfortunately, we did not test for this specific explanation in our interviews, because the framework become apparent after impact data collection was complete.

Finally, the intervention did not specifically address information gaps with respect to the cultural/religious barriers to VMMC that were uncovered by the qualitative interviews with male partners. These types of barriers did not feature strongly in the surveys that informed the design of the intervention. They may be better addressed through the influence of peers who have undergone VMMC and by highly influential community members, including religious and community leaders.

8.2 Study limitations

The control and intervention periods were each limited to three months, with an additional month to allow participants to present at the study site for VMMC. There is a real possibility that some participants presented outside this window of observation, but due to time constraints we could not include such participants in this analysis. However, since the intervention was embedded in an existing VMMC programme, it will be possible to repeat the analysis with a wider window for presentation to examine whether there is a significant change in the impact of the intervention.

Furthermore, the study team had only a single interaction with each female partner and had no way of influencing the occurrence of any ongoing engagement of the male partner. This intervention was designed as a pilot study, with time and resource constraints that limited the possibility of a multiple interface design. The effect of such a modification to the intervention should be explored in further evaluations.

8.3 Recommendations

Overall, our findings suggest that the information-based, partner-mediated intervention increased the female partners' level of comfort engaging their male counterparts in VMMC discussions, but did not significantly increase VMMC uptake. The proportion of women who were uncomfortable with such a discussion remained high following the intervention. The intervention, while providing general information on circumcision and its benefits, did not directly provide incentives or a mechanism to alleviate the discomfort, and this may have contributed to the lack of impact. Additional studies are needed to explore a modified intervention.

Appendix A: Sample size and power calculations

The table below shows the power estimations with different assumptions for the effect sizes and the required sample size for each of the phases, with 80 per cent power.

Appendix table 1: Power estimation, sample sizes and effect sizes

Proportion of men who will receive VMMC through partner encouragement during control phase	Effect size (percentage points)	Proportion of men who will receive VMMC during the intervention phase	Sample size for each phase	Total sample size for study
1%	10	11%	66	132
1%	6	7%	198	398
1%	5	6%	250	500
1%	4	5%	333	666
2%	10	12%	121	242
2%	**6**	**8%**	**239**	**478**
2%	5	7%	308	616
2%	4	6%	425	850
5%	10	15%	160	320
5%	6	11%	353	706
5%	5	10%	474	948
5%	4	9%	687	1,374

Current: VMMC proportion among spouses of women in the third trimester of pregnancy in the control phase

Effect size: Anticipated increase in demand for VMMC attributed to intervention)

Increase: VMMC proportion among spouses of women after intervention

As highlighted (grey) in the table above, the study will assume that only 2 per cent of the men will take up VMMC through encouragement from their female partner during the control phase (baseline). Using a power of 80 per cent, an increase in VMMC uptake of 6 per cent will increase the proportion of men who receive VMMC due to intervention to 8 per cent and this will require a sample size of 478 eligible women.

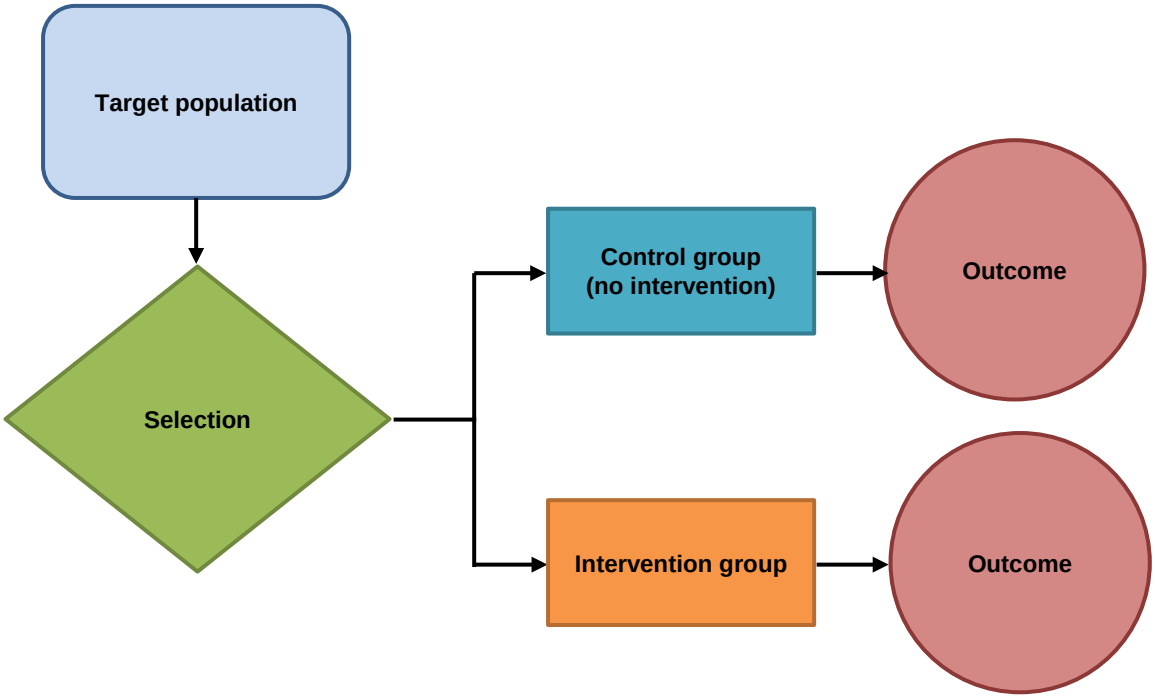
To compensate for those lost to follow up, a total of 600 eligible women will be enrolled in the impact assessment study. Information collected from the women who receive the intervention will be triangulated with that from their male partners who come for circumcision.

Appendix B: Pre-analysis plan

To increase uptake of VMMC, we piloted an intervention at three urban health centres in Kampala, targeting a potentially high-impact population consisting of the male partners of women in the third trimester of pregnancy. Using the pregnant women as change agents, we aimed to evaluate whether the intervention increased men's demand for VMMC. This pre-analysis plan lays out the proposed data analysis and results presentation process for each study objective.

Summary of the study design

Appendix figure 1: The natural experiment approach



Data and analysis based on the objectives

Objective 1

We aim to compare demand for VMMC before and after the intervention among uncircumcised male intimate partners to pregnant women in their third trimester.

Study population: Pregnant women in the third trimester who fit the inclusion criteria and consent to be included in the study and men presenting to the clinics for VMMC with a voucher and consent to be included in the study.

Appendix table 2: Type of data required

Variable	Variable type	Current format	Necessary format	Modified variable
Id	Continuous	Serial no.		
Date of birth	Continuous	D.O.B		Age group
Sex	Categorical		1) Male 2) Female	
LNMP				
WOA				
Intimate partner	Binary	Yes/No	1) Yes 2) No	
Living with partner	Binary	Yes/No	1) Yes 2) No	
Current partner circumcised	Binary	Yes/No	1) Yes 2) No	
History of partner violence	Binary	Yes/No	1) Yes 2) No	
Anticipate violence due to study	Binary	Yes/No	1) Yes 2) No	
Recruitment status	Binary	Recruited/ excluded		
Reason for exclusion	Categorical	3 level	1) Refused consent 2) Don't meet other 3) Other reason	
Voucher number	Continuous			
Religion	Categorical		1) Catholic 2) Anglican 3) Muslim 4) Pentecostal 5) Adventist 6) Greek Orthodox 7) Traditional 8) Other	
Education	Ordinal categorical	Income ranges	1) Primary 2) Secondary 3) Tertiary 4) University 5) None	
Number of sexual partners	Continuous/ discrete			Could be grouped
Occupation	Categorical		1) Student 2) Casual labourer 3) Unemployed 4) Self employed 5) Private/NGO employed 6) Government employed 7) Other	
Marital status	Categorical		1) Single 2) Widow 3) Divorced/separated 4) Married/cohabiting 5) Other	
Number of children <18			1) 0–4 2) 5–9 3) 10–14 4) 15–18	

Variable	Variable type	Current format	Necessary format	Modified variable
Household income	Ordinal Categorical		1) <50,000 2) 50,000-200,000 3) 200,001-500,000 4) 501,000-1M 5) >1M 6) No answer	
Own a house	Binary	Yes/No	1) Yes 2) No	
Rent	Continuous		1) Shs 2) Don't know	
Type of roof	Categorical		1) Thatched 2) Wood planks 3) Cement/concrete 4) Iron sheets 5) Tiles 6) Other	
Wall material	Categorical		1) Thatch 2) Mud/poles 3) Cement blocks 4) Un-burnt bricks 5) Burnt bricks 6) Stone 7) Timber 8) Other	
Number of pregnancies	Continuous		1) No of pregnancies	
Number of live births	Continuous		1) No of live births	
Number of antenatal care visits	Continuous		1) No of ANC visits	
Character of relationship	Categorical		1) Monogamous 2) Polygamous 3) Not sure	
Number of intimate partners in last 6 months	Continuous			
How does VMMC affect chance of getting HIV?	Categorical		1) Increase 2) Decrease 3) No effect 4) Not sure	
Can VMMC affect ability to have children?	Categorical		1) Yes 2) No 3) Not sure	
Time of sexual resumption	Categorical		1) Immediate 2) 0–2 weeks 3) 3–4 weeks 4) 5 weeks 5) 6 weeks 6) Not sure 7) Other	
Need other prevention methods after VMMC?	Categorical		1) Yes 2) No 3) Not sure	
How does VMMC affect sexual pleasure?			1) Increase 2) Decrease 3) No effect 4) Not sure	
How does VMMC affect hygiene?	Categorical		1) Increase 2) Decrease 3) No effect 4) Not sure	
Does VMMC have other benefits?			1) Yes 2) No 3) Not sure	

Variable	Variable type	Current format	Necessary format	Modified variable
Do you want partner circumcised?	Binary	Yes/No	1) Yes 2) No	
Have you spoken to partner about VMMC?	Binary	Yes/No	1) Yes 2) No	
Times discussed VMMC in 3 months	Continuous			
Comfort level in talking about VMMC?	Categorical		1) Not at all 2) Somewhat 3) Moderate 4) Comfortable 5) Very comfortable	
What eased speaking to partner on VMMC?			1) Had enough info 2) Not afraid of resp. 3) Confident on how 4) Other	
What's the most important reason?				
Why don't you want your partner circumcised?	Continuous		1) Fear of infidelity 2) Long healing time 3) Complications 4) His Decision 5) Other	
Would you talk to partner about VMMC?	Binary	Yes/No	1) Yes 2) No	
If not, why?	Categorical		1) Not enough info 2) Not sure how 3) Don't believe VMMC works 4) Fear of response 5) Other	
What's the most important reason?				
Main source of info on VMMC	Continuous		1) Campaigns 2) Friends 3) Newspapers 4) Radio 5) TV 6) Posters 7) Fliers 8) SMS 9) Health workers 10) Circumcised clients 11) Intimate partner 12) Other 13) Can't recall	
Which was most useful?				
Where was partner circumcised?	Continuous		1)	
When was partner circumcised?	Continuous	DD/MM/YY	1) Months since circ	
Have you spoken about VMMC to partner?	Binary	Yes/No	1) Yes 2) No	
What was partner's response?	Categorical		1) Contemplating 2) Sought service 3) Differed 4) Refused 5) Other	
What issues on VMMC did you discuss?	Categorical		1) Benefits 2) Risks 3) Barriers 4) Misconceptions 5) Other	

Variable	Variable type	Current format	Necessary format	Modified variable
What made it hard to talk about VMMC?				
How do you gauge importance of VMMC for HIV prevention?	Categorical		1) Not important 2) Somehow important 3) Important 4) Very important	
Decision to respond to info received on VMMC	Categorical		1) Nothing 2) Not sure 3) Talked to spouse 4) Other	
Reason for decision	Categorical		1) Not my responsibility 2) Need more time 3) Its difficult 4) Not enough info 5) Other	
Were you given a voucher?	Binary	Yes/No	1) Yes 2) No	
Voucher number	Continuous		1) Number	
Did you get it from your partner?	Binary	Yes/No	1) Yes 2) No	
If not, please tell source?				
Did you talk about VMMC with your partner?	Categorical		1) Yes 2) No	
What in discussion was turning point?	Categorical		1) Health benefits 2) Hygiene benefits 3) Voucher 4) Other	
Which of the following influenced you most?	Categorical		1) Campaigns 2) Friends 3) Newspapers 4) Radio 5) TV 6) Posters 7) Fliers 8) Voucher 9) Health worker 10) Circumcised clients	

Appendix table 3: Naïve variables needed

Variable	Limits	Action
Age	<18, >50 years	Check the dates of birth, check CRF for errors
WOA	<30	Check LNMP, check CRF
Sex	Female but pregnant	Check CRF

Descriptive analysis

Appendix table 4: Socio-demographic characteristics of study participants

Characteristic	Control (n=296)		Intervention
Age	*Median* 25.44	*IQR* 8	*SD* 5.40
Income	*Mean*	*Min.*	*Max.*
Weeks of amenorrhea	*Median* 34	*IQR* 5	*SD* 2.95
Number of sexual partners	*Median* 01	*IQR* 0.5	*SD* 0.46
Knowledge of VMMC			
Current partner circumcised	*Yes* 1 (0.34%)	*No* 289 (97.6%)	*Unsure* 6 (2.03%)
Desirous of partner VMMC	*Median*	*IQR*	*SD*
Religion (n=4)	*Catholic* 2 (50%)	*Anglican* 2 (50%)	*Other*
Staying with partner	*Yes* 296 (100%)	*No* 0 (0%)	
Partner attitude towards VMMC			
Education (n=4)	*Primary* 1 (25%)	*Secondary* 2 (50%)	*Tertiary* 1 (25%)
Nature of employment	*Self-employed* 2 (50%)	*Private/NGO* 1 (25%)	*Other* 1 (25%)
History of GBV			
Delivered message to partner			
Number of partners in past 6 months (n=4)	*Median* 1	*IQR* 0.5	*SD* 0.5
Nature of relationship	*Monogamous* 4 (100%)	*Polygamous* 0 (0%)	

Outcome measures:

- Change in proportions of men who undergo VMMC as a result of influence by intimate female partner during the control and intervention phases.
- Proportion of women who deliver the intervention to their husbands.

Analytical elements: We will look at how the following population variables affect the outcome (change in proportion of men seeking VMMC as result of the intimate partner's influence):

- Regression analysis using survival analysis
- Confounding issues
- Variables to control for

Objective 2

We aim to evaluate the reasons for the observed response to the intervention.

Analysis of this second objective will be largely qualitative, based on themes derived from the key informant interviews with women and men.

We will use a thematic approach until saturation of emergent themes. First, we will verify whether communication took place between the spouses, for those who circumcised and those who did not. We will then compare the reasons for the observed outcome, based on reasons offered by the women whose spouses were circumcised and those whose spouses did not. Similarly, we will also evaluate the reasons men offered for getting circumcised or not.

Appendix C: Analysis of focus group findings

Study participants engaging in a vibrant focus group discussion at Kawaala Health Centre III, Kampala, Uganda. Photo credit: Sylvia Ninsiima (2014)

This analysis was developed by the study implementation team and compiled by Sylvia Ninsiima in May 2014.

Background

The goal of the pilot project is to innovatively increase demand for VMMC services in the potentially high-impact male population consisting of the male partners of pregnant women in the third trimester or early stages of labour. The intervention will seek to empower the intimate female partners to deliver a comprehensive package of circumcision information to their male partners and thereby contribute to the generation of demand for VMMC in this specific male population.

In this project, we seek to demonstrate an increase in the demand for VMMC of 10 per cent among a potentially high-impact male population (partners of pregnant women in the third trimester or early stages of labour) by empowering their intimate female partners to deliver a circumcision BCC message to their male partners. The project will be carried out in Kampala, the capital city of Uganda.

This report summarises focus group findings conducted as part of collecting baseline information to support the development of a BCC message for the pilot project.

Methodology

The focus groups were conducted at three health facilities – Kisugu Health Centre III, Kisenyi Health Centre IV and Kawaala Health Centre III – because they are considered to be high-volume facilities.

Focus group discussions were used to generate the baseline data, targeted at informing the BCC messages. The target population was pregnant women at least 18 years old who presented at the selected facilities for ANC. Pregnant women of any gestation trimester were approached at ANC and consented to participate in the focus groups. The groups consisted of 8 to 12 participants.

Data collection

Focus group discussions were held in the safe environment of the facility in a place where there would be minimal interruption, such as the compound or tents within the compound. Self-introduction of participants was done as an icebreaker. The discussions were guided by a moderator, who would spend about 1.5 hours conducting the focus group as two transcribers wrote responses from participants in notebooks, per the focus group discussion guide. The moderator also recapped participant responses during the discussion.

Data analysis

Qualitative data was analysed across all transcripts based on pre-determined primary themes outlined in the focus group discussion guide.

Results

Six focus group discussions were conducted across three sites providing ANC. Pregnant women in different trimesters were selected, resulting in a total attendance of 54 participants. One 16-year-old participant was found to be ineligible and asked to leave the discussion. All focus group discussions had meaningful involvement that revealed the participants' thoughts and opinions about SMC in four overarching themes across the six focus groups. Themes address knowledge about SMC, attitudes and perceptions about SMC, beliefs, misconceptions and rumours about SMC and advocacy. Twenty-eight of the 54 participants had circumcised male partners.

Theme 1: knowledge and understanding of SMC

Understanding of SMC: In all the focus groups, respondents highlighted that they:

- Understood circumcision to prevent the transmission of HIV and other sexually transmitted infections. They further emphasised that cleanliness is a direct result of SMC because the prepuse has been removed. ('A man will be clean and will not get diseases easily'.)
- Had never heard about SMC at the antenatal clinic; they had heard about it on the radio and at other facilities, but not at the three facilities where the focus group discussions were held. ('I heard a health worker talk about SMC once at this facility, however, I have never heard about it again.')

Benefits of SMC: Participants discussed number of benefits of SMC, including the following:

- Enhancing cleanliness of the male genitalia ('A circumcised man gets clean when he bathes as compared to the man who is not circumcised'.)
- Preventing transmission of HIV and other sexually transmitted infections
- Good appearance (how the penis looks after circumcision); this seemed to be a generally agreeable idea among some participants, who nodded their heads in agreement.
- Circumcision may reduce the likelihood of the occurrence of abduction of children with intent of the child sacrifice.
- *Relationship between SMC and HIV prevention:* This question received silence from the group. One participant said, 'I [do] not agree with the prevention transmission since HIV spreads through sexual intercourse. If one sleeps around with women, they still get infected'.

Sources of information on SMC: The majority of participants at all focus groups emphasised that they had never had any training on SMC at ANC. (The team observed that at Kisenyi they receive a health talk every day, but Kisugu did not have a health talk before review by the clinician.)

At Kawaala, one participant noted that she had been taught about SMC, but not by a health worker; it was 'a gentleman' who simply advised them to send their men for circumcision.

Two participants stated that they had seen posters at facilities other than the targeted ones on the road. A participant quoted the words on the poster as 'Am happy because I have a circumcised man'.

Among those who noted that they had heard about SMC elsewhere, one participant said, 'I have heard about SMC from those cars loaded with loudspeakers that go through the community making announcements and advertisements'.

Channels through which SMC information is received: In all of the focus group discussions, the women highlighted that they were not given any other informational materials apart from the mother's passports, which have information inscribed on the inside. ('No materials are given. We are only asked about our pregnancy and asked why we didn't come with our partners for ANC'.) They also mentioned that they were only told to test for HIV and given mosquito nets.

Approval of SMC: Half of the participants (28 of 54) at the focus group discussions were with circumcised men. Ten of those 28 participants mentioned that their male partners were circumcised, citing religion (Islam) as the main reason for men's being circumcised was religion. Two participants mentioned that their partners had gotten

circumcised after they were together. They had this to say about the role they had played:

> ‘I one time heard about SMC, when I went home I asked him about SMC and HIV, I told him how SMC prevents infection, he went and got circumcised’.

> ‘I persuaded him to get circumcised and promised him to take care of the wound’.

One participant mentioned that after she had recommended SMC to her husband, he had tested positive for a sexually transmitted infection and thereafter resented the procedure, refusing to go back to the facility.

Recommending SMC to partner: Based on observation, a number of participants did not think it was beneficial for their partners to get circumcised during their last days of the pregnancy. Their facial expressions showed doubt and discomfort about lacking support after the delivery, since their partners would be unwell and unfit to take care of them.

Other participants were uncomfortable with the idea because they felt one partner has to remain working after the birth. Their thought was that the arrangement would render them penniless, because both partners would be home recovering and not working.

> ‘When a woman has given birth, they need a lot of support so to circumcise a man at that time is not beneficial’.

Others thought it was a good idea since it would give the woman enough time to heal after delivery because the man would not be interested in sex.

> ‘If a woman has delivered badly, it helps a woman heal since the man will have been circumcised’.

Healthcare workers help: Participants gave a number of ideas about their expectations from the healthcare workers. Generally, they expected the health workers to treat them kindly and be as welcoming as they are to any other individual seeking care at the facility. They had the following to say:

> ‘Give the men medicine (antibiotics) for the wounds to heal fast so that they can go back to work fast’.

> ‘Educate and give them information about the benefits of SMC, e.g. requesting them to abstain from sex before healing’.

> ‘Some men are particular about female health workers, so have male workers handling the men instead of women. Men are choosy with female docs’.

> ‘Health workers should be strict on follow up of doctor’s appointment of their men in order to avoid infections’.

> ‘Follow them up at their homes in order to avoid any issues that might arise’.

> ‘Specify the time frame required for healing’.

One participant had this to say:

> ‘If I was given materials at ANC to take to them at home, might convince them to come for the service’.

Theme 2: attitudes and perceptions on SMC

This topic raised a lot of discussion in all groups. The women with uncircumcised partners did not think there was a difference between circumcised and uncircumcised men in terms of well-being and the ability to please their partners sexually.

The women who had circumcised partners expressed their thoughts that circumcised men’s penises looked better and were less prone to infections.

> ‘A circumcised man is like a free person and one who is not is like a person locked in a room. Un-circumcised men often fear or get embarrassed to approach women whereas the circumcised do not fear. They think the sheath on the penis will put women off because they bad’.

Recommending partners for SMC: Some participants expressed reservations that circumcision would lead to the partner’s contracting HIV, because they would think they could not get HIV after SMC and begin having sexual intercourse with other women.

Other participants highlighted that they would not recommend circumcision to their male partners because they did not think it was beneficial to someone who was already HIV positive.

One participant who agreed to recommend circumcision to her partner said, ‘Yes, I would recommend my partner because a circumcised man enjoy sex more’.

Another participant cited her reason for not recommending SMC to her partner. (‘Would not recommend because their ancestors were not circumcised’.)

Theme 3: beliefs, misconceptions/misinformation and rumours about SMC

The team observed that most responses to this question in all focus groups were from individuals who had said their partners were circumcised. Circumcision is believed to be only for Muslim communities (i.e. people from other religions do not seek it).

One participant expressed doubt about SMC reducing the spread of HIV and AIDS, noting that that statement was misleading to men and thus leading them to be promiscuous. Other statements from the participants were as follows:

> ‘Men who are circumcised feel pain during sex so it’s better to remain uncircumcised’.

> ‘SMC leads to loss of jobs since one has to stay home until they heal’.

‘Some men are embarrassed to wear lesus [cloth wrappers around their waists] and so do not go for SMC’.

‘Men who are not circumcised are not clean enough’.

‘Men are shy and do not like being touched so they do not go for SMC’.

During one discussion, a participant expressed that they did not believe in SMC because their ancestors did not believe in it. (‘Why circumcision is all of a sudden pomp when their ancestors never believed circumcised?’)

Other participants stated that some men who were already HIV positive did not find any reason for getting circumcised, especially that circumcision was meant for preventing HIV and AIDS.

Theme 4: advocacy for SMC

In all focus group discussions, all women agreed to deliver SMC materials to their partners if they were given the materials. They suggested that they would carry the materials for their partners to read and understand SMC and to enable an informed choice.

Facilitation for men to embrace SMC: Participants emphasised the following as requirements for men to embrace SMC:

- Have a satisfied client who had already received SMC talk to the men about the benefits. This was stressed by one participant, who said, ‘Some men do not know the importance of SMC and so if they were all educated, I would deliver the message’.
- One participant noted that the circumcision teams should identify people to visit communities/homes to deliver the SMC information.

Overall, participants stated their support; this scored as partner support for the men especially in regard to delivering SMC information, visiting the facility with their male partners and supporting them to care for the surgical wound.

What women should do to persuade their partners to go for SMC: Participants mentioned a number of suggestions they would to persuade their partners. Some requested a complete health package to deliver to their partners. They noted that this would rule out any suspicion, since the information would be coming from the facility.

One participant stated that women should nag their men until they get circumcised. Some noted that talking to their partners in them men’s calmest moments, e.g. after sex or when they were relaxed, would ease delivery of the message and persuasion. One participant suggested that women should promise good care to their partners to reassure the men that they would not get an infection. For self-employed men, the women should promise to support them in some activities, if possible (so work does not stall) to reassure the men to go for circumcision and have ample time to heal.

Appendix D: Report from data collected to inform BCC message design

This May 2014 report from IDI analyses data collected to inform the design of a BCC message for a study aiming to increase demand for VMMC through pregnant women. Data was collected by the project implementation team. The report was compiled by Sylvia Ninsiima of the Expand Adult Male Medical Circumcision in Kampala project.

Background

An analysis of the quantitative data collected from 71 respondents (pregnant women at various stages of pregnancy). This data collection effort aimed to inform the design of the BCC message for the VMMC study on increasing demand for SMC services through pregnant female partners, funded by 3ie, under Thematic Window 3. The quantitative data was analysed using SPSS to derive the frequencies and further cross-tabulated to understand the relationship between variables.

Appendix table 5: Demographic characteristics of the respondents

	Frequency	Per cent
Religion of respondent		
Catholic	25	35.2
Anglican	17	23.9
Muslim	16	22.5
Pentecostal	6	8.5
Other	7	9.9
Total	71	100
Occupation of respondent		
Student	2	2.8
Unemployed	40	56.3
Self employed	13	18.3
Private employer	4	5.6
Employed by org./govt.	1	1.4
Other	11	15.5
Total	71	100
Education of the respondents		
None	10	14.1
Primary	17	23.9
Secondary	40	56.3
Tertiary	2	2.8
University	2	2.8
Total	71	100
Marital status of the respondents		
Single	1	1.4
Married/cohabiting	67	94.4
Divorced/separated	1	1.4
Widow	2	2.8
Total	71	100

Interpretation

Study findings indicate that 35.2 per cent were Catholic, 23.9 per cent were Anglican, 22.5 per cent were Muslim and 8.5 per cent were Pentecostal, while 9.9 per cent of the women interviewed belonged to other religions. The majority (56.3 per cent) were unemployed and 56.3 per cent sampled had a secondary school education. Most (94.4 per cent) were married/cohabiting. Of those, 73.1 per cent reported that their partners were circumcised.

Appendix table 6: Circumcision status of partner by religion of respondents

Is your partner circumcised?	Religion of Respondent					
	Catholic	**Anglican**	**Muslim**	**Pentecostal**	**Other**	**Total**
Yes	17	12	12	5	5	51
	68.0%	75.0%	80.0%	83.3%	71.4%	73.9%
No	8	5	4	1	2	20
	32.0%	29.4%	25%	16.7%	28.6%	28.2%

The highest proportion of circumcised partners was in polygamous relationships. The highest proportion of uncircumcised partners was in monogamous relationships.

Appendix table 7: Respondents' relationship characteristics vs. partner SMC status

Is your partner circumcised?	SMC by relationship characteristic			Total
	Monogamous	**Polygamous**	**Not sure**	
Yes	29	9	13	51
	64.4%	90.0%	81.3%	71.8%
No	16	1	3	18
	35.6%	10.0%	18.7%	28.2%
	100.0%	*100.0%*	*100.0%*	*100.0%*

Appendix table 8: Respondents' knowledge about SMC

	Frequency	Per cent
How does circumcision affect men's chances of getting HIV?		
Increases	9	12.7
Decreases	55	77.5
Not sure	7	9.9
Total	71	100
Can circumcision affect your ability to have children?		
No	64	90.1
Not sure	7	9.9
Total	71	100
How does SMC affect the hygiene of the man?		
Increases	65	91.5
Decreases	3	4.2
Not sure	3	4.3
Total	71	100
When can sex be resumed after SMC		
1 week	2	2.8
3 weeks	7	9.9
6 weeks	42	59.2
Not sure	20	28.2
Total	71	100
Do you still need to use a condom and other methods of HIV prevention after SMC?		
Yes	59	83.1
No	8	11.3
Not sure	4	5.6
Total	71	100
How does SMC affect sexual pleasure?		
Increases	23	32.4
No effect	17	23.9
Not sure	31	43.7
Total	71	100
Does SMC have other benefits		
Yes	57	80.3
No	14	19.7
Total	71	100

Most (77.5 per cent) of the women indicated that circumcision reduces men's chances of getting HIV. The largest proportion of respondents (90.1 per cent) said circumcision does not affect their ability to have children. More than 90 per cent noted that circumcision increases men's hygiene, 59.2 per cent said that sex could be resumed six weeks after SMC, 83.1 per cent indicated that they used condoms and other methods of HIV prevention after SMC and 43.7 per cent were unsure whether circumcision would affect their sexual pleasure (whereas 32.4 per cent confirmed that circumcision affects their sexual pleasure).

The largest percentage of respondents (80.3 per cent) believed that SMC has benefits apart from prevention of HIV, such as increasing men's hygiene and sexual pleasure.

Appendix table 9: Communication with male partners about circumcision

	Frequency	Per cent
Is your partner circumcised?		
Yes	51	71.8
No	20	28.2
Total	71	100
If not, would you like your partner to circumcise?		
Yes	17	85
No	3	15
Total	20	100
Have you ever spoken to your spouse about SMC?		
Yes	15	75
No	5	25
Total	20	100
How comfortable were you while talking to your partner about SMC?		
Not comfortable	1	6.7
Somehow comfortable	1	6.7
Very comfortable	13	86.4
Total	15	100.0
What was his response when you spoke about SMC?		
Positive	11	73.3
Negative	4	26.7
Total	15	100
What made it easy for you to speak to your partner about SMC?		
Had enough information	6	40.0
Confident on how to do it	2	13.3
Not afraid of response	3	20.0
Others	4	26.7
Total	15	100

The majority of respondents (71.8 per cent) had circumcised partners. Of the 20 whose partners were not circumcised, 85 per cent would like their partners circumcised and 75 per cent had already spoken to their partners about SMC. When talking to their partners about SMC, 86.4 per cent were very comfortable, and, interestingly, the majority of them (73.3 per cent) had received positive responses from their partners. The reasons it was easy to speak to their partners about SMC were having enough information about SMC (40 per cent), being unafraid to talk to their partners (20 per cent) and other reasons (26.7 per cent).

Appendix table 10: Source of information about SMC

		Frequency	Per cent
What was your source of information about SMC?	Community campaigns	12	16.9
	Friend/peers	3	4.2
	News papers	1	1.4
	Radio adverts	12	16.9
	TV	7	9.9
	Health workers	13	18.3
	Circumcised clients	5	7.0
	Intimate partner	1	1.4
	Other	17	23.9
	Total	71	100.0

Other sources of information (23.9 per cent), such as community campaigns (16.9 per cent), health workers (18.3 per cent) and radio adverts (16.9 per cent) were mentioned as the leading sources of SMC information.

Appendix table 11: Importance of SMC as a means of HIV risk reduction

	Frequency	Per cent
Not important	3	4.2
Somehow important	19	26.8
Important	18	25.4
Very important	31	43.7
Total	71	100.0

Appendix E: BCC materials

Appendix figure 2: VMMC information leaflet

Introduction

This leaflet has been designed to provide basic information about safe male circumcision for pregnant women during their third trimester of pregnancy so that they can use it to initiate discussions with their male partners. This will facilitate decision making to seek circumcision services at the nearest SMC site. The leaflet spells out what safe male circumcision is, its benefits to men and their spouses, its relationship with HIV prevention and what women should do to support their male partners after circumcision.

1. What Is Safe Male Circumcision (SMC)?

SMC is the surgical removal of the foreskin covering the head of the penis so that the gland (knob) is permanently exposed. It is done by trained medical workers who follow safe medical procedures. This hardens the skin around the penis making it difficult for HIV to enter the body. SMC also improves a man's personal hygiene.

2. How safe Is safe male circumcision?

Studies proved that SMC can reduce the risk of HIV transmission among men by 60%. In Uganda, men who have undergone safe male circumcision have recovered and resumed their normal activities.

3. Can SMC protect me and my partner against HIV infection?

SMC has been proven to reduce the risk of an HIV- negative man from getting infected with HIV. If your male partner is protected against HIV infection and both of you practise mutual faithfulness, it means that you are indirectly protected against HIV infection.

4. What are the benefits of SMC to me and my partner?

Both men and women can benefit from SMC. For men, SMC:

- Reduces the risk of HIV infection
- Lowers the risk of STIs, especially ulcerative diseases like chancroids and syphilis
- Reduces urinary tract infections, especially among young boys
- Lowers the risk of penile cancer
- Makes it easy to maintain penile hygiene
- Can be used for the treatment of naturally retracted skin that causes obstruction of urine flow or partial obstruction of urine, and also treatment of genital warts
- Helps to target men for HIV counselling and testing

For women, SMC has the following indirect benefits:

- It protects a woman indirectly against HIV infection. This means that if SMC directly protects a man against HIV infection, there are reduced risks of HIV infections among men which could result in fewer women getting infected from their circumcised partners.
- SMC protects women from cervical cancer.

5. How does SMC protect a man against HIV infection?

- The inner layer of the foreskin is soft and can easily be injured during sex. The injured area provides quick entry of the virus into the body.
- When the foreskin is removed, the number of these cells on the penis is reduced. The area where the foreskin has been removed creates a tough layer around the penis and makes it harder for a man to get injuries during sex, and the risk of HIV infection is also reduced.

6. Does SMC alone completely protect a man against HIV infection?

SMC alone does not fully protect a man against HIV infection. It only reduces the risk of HIV infection to negative men. A circumcised man is advised to use other prevention methods such as abstaining from sex, being faithful to one partner and using a condom to fully be protected against HIV infection.
SMC does not replace other prevention methods.

7. When can a woman have sex with her partner after circumcision?

Six weeks after circumcision, you and your partner can go back to your doctor to confirm his healing. This is the time when you will also have healed from the wounds sustained during delivery.

8. Why should men be circumcised towards child birth

The period towards child birth and the period after delivery should coincide with your male partner's circumcision so that both of you abstain from sex during the period of healing. This will address the fear of losing your male partner to other women during the healing period, relieve you from the pressure of having sexual intercourse during the healing period, and also ensure total abstinence during the 6 weeks of wound healing.

11. Will there be any difference between having sex with a circumcised man and an uncircumcised one?

There is no scientific evidence that SMC either increases or decreases sexual pleasure for either a man or woman. This situation varies from person to person, as sexual pleasure depends on many factors such as age, mood, fatigue, alcohol and the sexual feelings partners have towards each other.

12. What can women do to support their male partners to demand and undergo safe male circumcision?

- Initiate discussions with your male partner about SMC
- Advise your male partner to accept undergoing counselling and take an HIV test
- Give support and encourage your male partner to make a decision to get circumcised
- Attend meetings about SMC and encourage your partner to demand for circumcision
- Distribute IEC materials on SMC to your male partner
- Educate fellow women about the benefits of SMC and its link to HIV prevention

13. Key messages women should emphasise to their male partners

As you discuss SMC with your male partner, emphasise the following key messages:

- Tell your partner that he should not practise sexual intercourse until after 6 weeks of wound healing. Sex before wound healing increases the risk of HIV infection.
- Encourage your male partner to abstain from sex even with you until you have healed after delivery.
- SMC does not affect a man's ability to get an erection or sexual pleasure. Sexual pleasure depends on factors like mood, fatigue, and the sexual desire partners have for each other.
- Circumcision is an HIV prevention strategy recommended for HIV-negative men only. HIV-positive men don't need SMC since they are already infected.
- However, circumcision of an HIV-positive man can protect him from infections due to poor hygiene, but does not stop him from infecting or reinfecting his partner.

14. Where should my male partner go for SMC services in Kampala?

Your partner can go for circumcision in Kisenyi health center IV facility.

Women of Uganda, your participation in the SMC program will encourage your men to demand for SMC, thus increasing coverage in Kampala Capital City's area of jurisdiction.

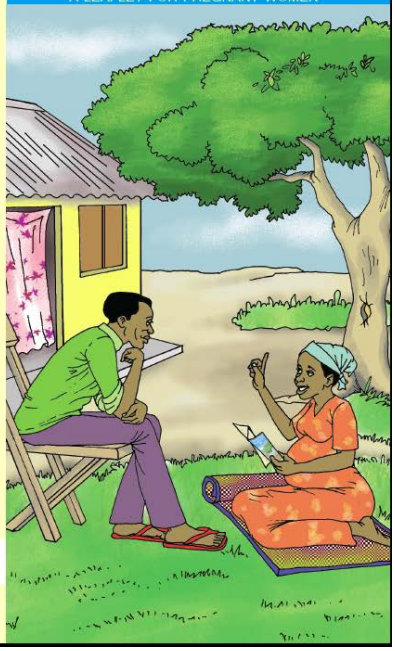
For more information, please contact the Infectious Disease Institute at Makerere University.

International Initiative for Impact Evaluation

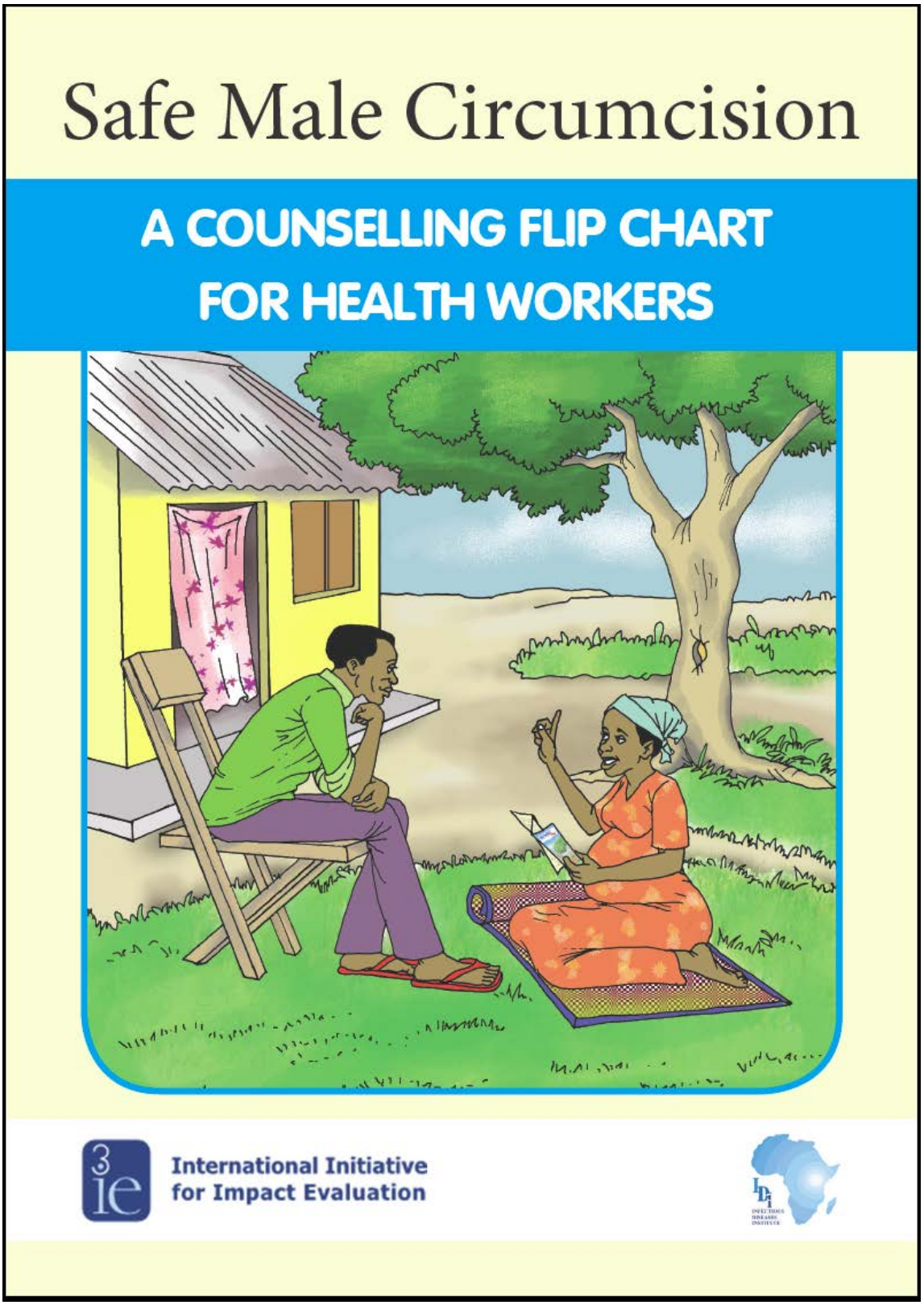
Mango Tree

FACTS ABOUT SAFE MALE CIRCUMCISION (SMC)

A LEAFLET FOR PREGNANT WOMEN



Appendix figure 3: Counselling flipchart cover page



References

Agot, K and Thirumurthy, H, forthcoming. Optimising the use of economic incentives to increase male circumcision demand: a randomised trial to compare fixed vs. lottery-based incentives in Kenya. 3ie-funded study under TW3 window. <http://3ieimpact.org/our-work/health/hiv-and-aids/voluntary-male-medical-circumcision-evidence-programme>

Auvert, B, Taljaard, D, Lagarde, E, Sobngwi-Tambekou, J, Sitta, R and Puren, A, 2005. Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial. *PLOS Medicine,* 2, e298.

Bailey, RC, Moses, S, Parker, CB, Agot, K, Maclean, I, Krieger, JN, Williams, CF, Campbell, RT and Ndinya-Achola, JO, 2007. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *The Lancet,* 369, pp.643–56.

Djimeu, WE and Brown, NA, 2013. Scoping Report on Interventions for Increasing the Demand for Voluntary Medical Male Circumcision. Washington, DC: International Initiative for Impact Evaluation (3ie).

French, SD, Green, SE, O'Connor, DA, Mckenzie, JE, Francis, JJ, Michie, S, Buchbinder, R, Schattner, P, Spike, N and Grimshaw, JM, 2012. Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework. *Implementation Science*, 7, p.38.

Gray, RH, Kigozi, G, Serwadda, D, Makumbi, F, Watya, S, Nalugoda, F, Kiwanuka, N, Moulton, LH, Chaudhary, MA, Chen, MZ, Sewankambo, NK, Wabwire-Mangen, F, Bacon, MC, Williams, C FM, Opendi, P, Reynolds, SJ, Laeyendecker, O, Quinn, TC and Wawer, MJ, 2007. Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial. *The Lancet,* 369, pp.657–66.

Kretschmer, S, Fram, F and Sharma, S, 2015. Unpublished findings from behavioural economics research relating to the 'path to medical male circumcision'.

McLeroy, KR, Bibeau, D, Steckler, A and Glanz, K, 1988. An ecological perspective on health promotion programs. *Health Education Quarterly*, 15(4), pp.351–77.

Ministry of Health and Family Health International, 2008. Situation analysis to determine the acceptability and feasibility of male circumcision promotion in Uganda.

Njeuhmeli, E, Forsythe, S, Reed, J, Opuni, M, Bollinger, L, Heard, N, Castor, D, Stover, J, Farley, T, Menon, V and Hankins, C, 2011. Voluntary medical male circumcision: modeling the impact and cost of expanding male circumcision for HIV prevention in eastern and southern Africa. *PLOS Med*, 8, e1001132.

Sekavuga, DB, 2013. Scaling up of safe adult male circumcision services in Uganda; comprehensive update on the contribution of the Infectious Diseases Institute: the Adult Male Medical Circumcision in Kampala initiative. Infectious Diseases Institute.

Siegfried, N, Muller, M, Deeks, J and Volmink, J, 2009. Male circumcision for prevention of heterosexual acquisition of HIV in men. *Cochrane Database of Systematic Reviews*, CD003362.

Siegfried, N, Muller, M, Deeks, J, Volmink, J, Egger, M, Low, N, Walker, S and Williamson, P, 2005. HIV and male circumcision—a systematic review with assessment of the quality of studies. *The Lancet Infectious Diseases*, 5, pp.165–73.

Uganda AIDS Commission, 2011. The National HIV Prevention Strategy for Uganda 2011–15. Ministry of Health, Uganda.

Weiss, HA, Quigley, MA and Hayes, RJ, 2000. Male circumcision and risk of HIV infection in sub-Saharan Africa: a systematic review and meta-analysis. *AIDS*, 14, pp.2,361–70.

Westercamp, N and Bailey, RC, 2007. Acceptability of male circumcision for prevention of HIV/AIDS in sub-Saharan Africa: a review. *AIDS and Behavior*, 11(3), pp.341–55.

Wilson, N, Frade, S, Rech, D and Friedman, W, forthcoming. Advertising for demand creation for voluntary medical male circumcision in South Africa. 3ie-funded study under TW3 window. <http://3ieimpact.org/our-work/health/hiv-and-aids/voluntary-male-medical-circumcision-evidence-programme>

Publications in the 3ie Impact Evaluation Report Series

The following reports are available from http://www.3ieimpact.org/evidence-hub/impact-evaluation-repository

Optimising the use of economic interventions to increase demand for voluntary medical male circumcision in Kenya, 3ie Impact Evaluation Report 47. Thirumurthy, H, Omanga, E, Rao, SO, Murray, K, Masters, S and Agot, K, 2016.

Estimating the impact and cost-effectiveness of expanding access to secondary education in Ghana 3ie Impact Evaluation Report 42. Dupas, P, Duflo, E and Kremer, M, 2015

The impact of earned and windfall cash transfers on livelihoods and conservation in Sierra Leone, 3ie Impact Evaluation Report 46. Bulte, E, Conteh, B, Kontoleon, A, List, J, Mokuwa, E, Richards, P, Turley, T and Voors, M (2016)

Property tax experiment in Pakistan: Incentivising tax collection and improving performance, 3ie Impact Evaluation Report 45. Khan, A, Khwaja, A and Olken, B (2016)

Impact of mobile message reminders on tuberculosis treatment outcomes in Pakistan, 3ie Impact Evaluation Report 44. Mohammed, S, Glennerster, R and Khan, A (2016)

Making networks work for policy: Evidence from agricultural technology adoption in Malawi, 3ie Impact Evaluation Report 43. Beaman, L, BenYishay, A, Fatch, P, Magruder, J and Mobarak, AM (2016)

Evaluating the effectiveness of computers as tutors in China, 3ie Impact Evaluation Report 41. Mo, D, Bai, Y, Boswell, M and Rozelle, S (2016)

Effectiveness of a rural sanitation programme on diarrhoea, soil-transmitted helminth infection and malnutrition in India, 3ie Impact Evaluation Report 38. Clasen, T, Boisson, S, Routray, P, Torondel, B, Bell, M, Cumming, O, Ensink, J, Freeman, M and Jenkins, M (2016)

Evaluating the impact of vocational education vouchers on out-of-school youth in Kenya, 3ie Impact Evaluation Report 37. Hicks, JH, Kremer, M, Mbiti, I and Miguel, E (2016)

Improving maternal and child health in India: evaluating demand and supply strategies, 3ie Impact Evaluation Report 30. Mohanan, M, Miller, G, Forgia, GL, Shekhar, S and Singh, K (2016)

A triple win? The impact of Tanzania's Joint Forest Management programme on livelihoods, governance and forests, *3ie Impact Evaluation Report 34.* Persha, L and Meshack, C (2016)

Removing barriers to higher education in Chile: evaluation of peer effects and scholarships for test preparation 3ie Impact Evaluation Report 36. Banerjee, A, Duflo E and Gallego, F (2016)

Sustainability of impact: dimensions of decline and persistence in adopting a biofortified crop in Uganda 3ie Impact Evaluation Report 35. McNiven, S, Gilligan, DO and Hotz, C (2016)

Micro entrepreneurship support programme in Chile, 3ie Impact Evaluation Report 40. Martínez, CA, Puentes, EE and Ruiz-Tagle, JV (2016)

Thirty-five years later: evaluating the impacts of a child health and family planning programme in Bangladesh, 3ie Impact Evaluation Report 39. Barham, T, Kuhn, R, Menken, J and Razzaque, A (2016)

Can egovernance reduce capture of public programmes? Experimental evidence from India's employment guarantee, 3ie Impact Evaluation Report 31. Banerjee, A, Duflo, E, Imbert, C, Mathew, S and Pande, R (2015)

Smallholder access to weather securities in India: demand and impact on production decisions, 3ie Impact Evaluation Report 28. Ceballos, F, Manuel, I, Robles, M and Butler, A (2015)

What happens once the intervention ends? The medium-term impacts of a cash transfer programme in Malawi, 3ie Impact Evaluation Report 27. Baird, S, Chirwa, E, McIntosh, C, and Özler, B (2015)

Validation of hearing screening procedures in Ecuadorian schools, 3ie Impact Evaluation Report 26. Muñoz, K, White, K, Callow-Heusser, C and Ortiz, E (2015)

Assessing the impact of farmer field schools on fertilizer use in China, 3ie Impact Evaluation Report 25. Burger, N, Fu, M, Gu, K, Jia, X, Kumar, KB and Mingliang, G (2015)

The SASA! study: a cluster randomised trial to assess the impact of a violence and HIV prevention programme in Kampala, Uganda, 3ie Impact Evaluation Report 24. Watts, C, Devries, K, Kiss, L, Abramsky, T, Kyegombe, N and Michau, L (2014)

Enhancing food production and food security through improved inputs: an evaluation of Tanzania's National Agricultural Input Voucher Scheme with a focus on gender impacts, 3ie Impact Evaluation Report 23. Gine, X, Patel, S, Cuellar-Martinez, C, McCoy, S and Lauren, R (2015)

A wide angle view of learning: evaluation of the CCE and LEP programmes in Haryana, 3ie Impact Evaluation Report 22. Duflo, E, Berry, J, Mukerji, S and Shotland, M (2015)

Shelter from the storm: upgrading housing infrastructure in Latin American slums, *3ie Impact Evaluation Report 21*. Galiani, S, Gertler, P, Cooper, R, Martinez, S, Ross, A and Undurraga, R (2015)

Environmental and socioeconomic impacts of Mexico's payments for ecosystem services programme, *3ie Impact Evaluation Report 20*. Alix-Garcia, J, Aronson, G, Radeloff, V, Ramirez-Reyes, C, Shapiro, E, Sims, K and Yañez-Pagans, P (2015)

A randomised evaluation of the effects of an agricultural insurance programme on rural households' behaviour: evidence from China, 3ie Impact Evaluation Report 19. Cai, J, de Janvry, A and Sadoulet, E (2014)

Impact of malaria control and enhanced literacy instruction on educational outcomes among school children in Kenya: a multi-sectoral, prospective, randomised evaluation, 3ie Impact Evaluation Report 18. Brooker, S and Halliday, K (2015)

Assessing long-term impacts of conditional cash transfers on children and young adults in rural Nicaragua, *3ie Impact Evaluation Report 17*. Barham, T, Macours, K, Maluccio, JA, Regalia, F, Aguilera, V and Moncada, ME (2014)

The impact of mother literacy and participation programmes on child learning: evidence from a randomised evaluation in India, 3ie Impact Evaluation Report 16. Banerji, R, Berry, J and Shortland, M (2014)

A youth wage subsidy experiment for South Africa, 3ie Impact Evaluation Report 15. Levinsohn, J, Rankin, N, Roberts, G and Schöer, V (2014)

Providing collateral and improving product market access for smallholder farmers: a randomised evaluation of inventory credit in Sierra Leone, 3ie Impact Evaluation Report 14. Casaburi, L, Glennerster, R, Suri, T and Kamara, S (2014)

Scaling up male circumcision service provision: results from a randomised evaluation in Malawi, 3ie Impact Evaluation Report 13. Thornton, R, Chinkhumba, J, Godlonton, S and Pierotti, R (2014)

Targeting the poor: evidence from a field experiment in Indonesia, 3ie Impact Evaluation Report 12. Atlas, V, Banerjee, A, Hanna, R, Olken, B, Wai-poi, M and Purnamasari, R (2014)

An impact evaluation of information disclosure on elected representatives' performance: evidence from rural and urban India, 3ie Impact Evaluation Report 11. Banerjee, A, Duflo, E, Imbert, C, Pande, R, Walton, M and Mahapatra, B (2014)

Truth-telling by third-party audits and the response of polluting firms: Experimental evidence from India, 3ie Impact Evaluation Report 10. Duflo, E, Greenstone, M, Pande, R and Ryan, N (2013)

No margin, no mission? Evaluating the role of incentives in the distribution of public goods in Zambia, *3ie Impact Evaluation Report 9*. Ashraf, N, Bandiera, O and Jack, K (2013)

Paying for performance in China's battle against anaemia, *3ie Impact Evaluation Report 8*. Zhang, L, Rozelle, S and Shi, Y (2013)

Social and economic impacts of Tuungane: final report on the effects of a community-driven reconstruction programme in the Democratic Republic of Congo, *3ie Impact Evaluation Report 7*. Humphreys, M, Sanchez de la Sierra, R and van der Windt, P (2013)

The impact of daycare on maternal labour supply and child development in Mexico, *3ie Impact Evaluation Report 6*. Angeles, G, Gadsden, P, Galiani, S, Gertler, P, Herrera, A, Kariger, P and Seira, E (2014)

Impact evaluation of the non-contributory social pension programme 70 y más in Mexico, *3ie Impact Evaluation Report 5.* Rodríguez, A, Espinoza, B, Tamayo, K, Pereda, P, Góngora, V, Tagliaferro, G and Solís, M (2014)

Does marginal cost pricing of electricity affect groundwater pumping behaviour of farmers? Evidence from India, 3ie Impact Evaluation Report 4. Meenakshi, JV, Banerji, A, Mukherji, A and Gupta, A (2013)

The GoBifo project evaluation report: Assessing the impacts of community-driven development in Sierra Leone, *3ie Impact Evaluation Report 3*. Casey, K, Glennerster, R and Miguel, E (2013)

A rapid assessment randomised-controlled trial of improved cookstoves in rural Ghana, *3ie Impact Evaluation Report 2*. Burwen, J and Levine, DI (2012)

The promise of preschool in Africa: A randomised impact evaluation of early childhood development in rural Mozambique, *3ie Impact Evaluation Report 1*. Martinez, S, Naudeau, S and Pereira, V (2012)

Despite attempts to provide free circumcision and increase the proportion of males who undergo voluntary medical male circumcision (VMMC), uptake of circumcision is low, especially among older Ugandan males. This study evaluated whether an information-based, partner-mediated intervention through pregnant mothers in their third trimester significantly increased demand for VMMC among their male partners in Kampala, Uganda. Overall, the intervention had no significant impact on increasing demand for VMMC. However, most women were willing to engage with their intimate partners and persuade them to seek VMMC. The intervention increased the level of comfort of the female partner in engaging their male counterpart in a conversation on VMMC. Men seemed to understand the benefits of VMMC, but the majority of them needed help to navigate religious, cultural, financial and work-related barriers to VMMC.

Impact Evaluation Series

International Initiative for Impact Evaluation
202-203, Rectangle One
D-4, Saket District Centre
New Delhi – 110017
India

3ie@3ieimpact.org
Tel: +91 11 4989 4444

www.3ieimpact.org

BILL & MELINDA GATES foundation