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'*I feel like more of a man*': A mixed methods study of masculinity, sexual performance, and circumcision for HIV prevention

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Abstract

Ethnographic studies from numerous societies have documented the central role of male circumcision in conferring masculinity and preparing boys for adult male sexuality. Despite this link between masculinity, sexuality, and circumcision, there has been no research on these dynamics among men who have received a circumcision for HIV prevention. We employed a mixed methods approach with data collected from recently circumcised men in the Dominican Republic (DR) to explore this link. We analyzed survey data collected 6-12 months post-circumcision ($N = 293$) and in-depth interviews with a sub-sample of those men ($n = 30$). We found that 42% of men felt more masculine post-circumcision. In multivariate analysis, feeling more masculine was associated with greater concern about being perceived as masculine (OR = 1.70, 95% CI: 1.25-2.32), feeling more potent erections post-circumcision (OR = 2.25, 95% CI: 1.26-4.03), and reporting increased ability to satisfy their partner post-circumcision (OR = 2.30, 95% CI: 1.11-4.77). In qualitative interviews, these factors were all related to masculine norms of sexually satisfying one's partner and men's experiences of circumcision were shaped by social norms of masculinity. This study highlights that circumcision is not simply a biomedical intervention and that circumcision programs need to incorporate considerations of masculine norms and male sexuality into their programming.

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VMMC; foreskin; sexuality; masculine; manhood; risk compensation; potency

Introduction

In three randomized controlled trials in sub-Saharan Africa, HIV incidence was lower among adult men who received a voluntary medical male circumcision (VMMC) compared to a control group of uncircumcised men (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007). Not only were there significant differences in HIV incidence at the initial 2-year follow-up, these protective effects were sustained in later follow-up studies (Auvert et al., 2013; Gray et al., 2012; Mehta et al., 2013).

Based on these convincing results that VMMC protects men against HIV infection, governments and non-governmental organizations in sub-Saharan Africa started to organize large-scale circumcision campaigns for adult men (World Health Organization (WHO), 2011). Though there are still many opponents to circumcision for HIV prevention and many challenges to implementing these strategies at scale (Dowsett & Couch, 2007; Katisi & Daniel, 2015; Sgaier, Reed, Thomas, & Njeuhmeli, 2014), by the end of 2011 1.4 million VMMC had been performed in 14 priority African countries with high HIV prevalence and low circumcision prevalence (WHO, 2011). Given this new emphasis on recruiting men to be circumcised – and expanding circumcision to new regions with low circumcision prevalence (Brito et al., 2015; Brito, Luna, & Bailey, 2010; Ning et al., 2013; Tynan et al., 2013) – there is a need to better understand men's experiences with this intervention. Numerous ethnographic studies from societies across the world have documented the central role of circumcision in conferring masculinity to boys or young men and preparing them for adult male sexuality (Castro-Vázquez, 2013b; Gilmore, 1990; Silverman, 2004; Weiss, 1966). But, prior research on men receiving VMMC for HIV prevention has not yet examined the interrelationships between circumcision, male sexuality, and feelings of masculinity.

While these dynamics have not been explored with men who have undergone VMMC for HIV prevention, some VMMC acceptability studies have noted the link between circumcision, male sexuality, and feelings of masculinity. In several studies in sub-Saharan Africa and elsewhere, the strongest predictor of men's willingness to be circumcised was positive opinions about future sexual performance post-circumcision (e.g., circumcision increases sexual pleasure for women) (Brito, Caso, Balbuena, & Bailey, 2009; Mattson, Bailey, Muga, Poulussen, & Onyango, 2005; Montano, Kasprzyk, Hamilton, Tshimanga, & Gorn, 2014; Price et al., 2014; Skolnik, Tsui, Ashengo, Kikaya, & Lukobo-Durrell, 2014). Rennie, Perry, Corneli, Chilungo, and Umar (2015) reported that traditionally circumcising communities in Malawi have adapted their beliefs to consider VMMC for HIV prevention as part of a rite of passage from boyhood to manhood. However, norms of masculinity and perceptions of future sexual performance have also been shown to be barriers to men's willingness to be circumcised. For example, Adams and Moyer (2015) found that some Swazi men perceived circumcision as a threat to their masculinity due to perceived negative

effects it could have on their sex lives (e.g., loss of sensitivity, inability to pleasure female partners). Moyo, Mhloyi, Chevo, and Rusinga (2015) and Khumalo-Sakutukwa et al. (2013) found similar masculinity-related barriers to men's circumcision in their studies in Zimbabwe and South Africa, respectively.

The study teams that conducted the VMMC randomized control trials in sub-Saharan Africa did not incorporate perceptions of masculinity into their research but they did publish analyses related to sexual satisfaction and sexual performance. The Kenya study team found that, at follow-up, the majority of circumcised men reported increased penile sensitivity and greater ease reaching an orgasm (Krieger et al., 2008). However, it was unclear whether these changes were viewed positively or negatively by the men. Riess, Achieng, Otieno, Ndinya-Achola, and Bailey (2010) also found that the Kenyan men reported decreased pain during sex due to no longer having cuts in the foreskin during sex, and increased ability to engage in more rounds of sex with a sex partner. Regarding their female partner's satisfaction, 46.9% reported at 6-month follow-up that their partner was “very pleased” or “somewhat pleased” by their circumcision; 31.3% were neutral and only 0.7% report that their partner was “somewhat” or “very displeased” (Krieger et al., 2008). The Uganda study team found that that there were no changes in sexual function or satisfaction experienced by men who received a circumcision that were not also experienced by men in the control group (Kigozi et al., 2008). In general, intervention and control groups in Uganda both reported minor increases in sexual function and satisfaction over the duration of the study (over 95% reported satisfaction and function in both arms at each time point) (Kigozi et al., 2008). Unfortunately, without reported data on how men felt about these changes, and how these changes influence their self-perception as a man, it is difficult for interventionists to incorporate these findings into future program design.

Any perceived changes in sexual performance are likely to impact a man's feelings of masculinity since norms of masculinity emphasize the importance of men's sexual performance and prowess (Connell, 1995; Courtenay, 2000; Fleming, DiClemente, & Barrington, 2015; Flood, 2008). As Connell and Messerschmidt (2005) wrote, “masculinity represents not a certain type of man but, rather, a way that men position themselves.” (p. 841). The men's sexual behaviors are extremely important to their positioning within the male status hierarchy (Butler, 1993; Courtenay, 2000; West & Zimmerman, 1987). In many cultures, including the Dominican Republic (DR), being able to satisfy sexual partners is a sign of masculinity (Gilmore, 1990; Padilla, 2008). Men are often motivated to closely adhere to norms of masculinity in order to gain status and avoid teasing or ridicule from peers (Cohan, 2009; Fleming, Andes, & DiClemente, 2013; Flood, 2008).

Adams and Moyer (2015) concluded their acceptability study in Swaziland emphasizing the “need for more research into the relationship between sexuality, masculinity, and health interventions seeking to involve men” (p. 721). Since norms of masculinity play a powerful role in men's behaviors (Gottert, 2014; Mahalik, Burns, & Syzdek, 2007), understanding how newly circumcised men perceive their sexual performance and masculinity could help us improve our understanding of how masculine norms shape men's experience of sexual health interventions. We employed a mixed methods approach with data collected from

recently circumcised adult men in the DR to explore the links among VMMC for HIV prevention, sexual performance, and men's feelings of masculinity.

Method

Study Setting and Context

We conducted this mixed-methods study as part of a feasibility trial of VMMC for HIV prevention in the DR (Brito et al., 2009; Brito et al., 2015; Brito et al., 2010). Prevalence of circumcision is low among 15-49 year old men in the DR (12.7%) (CESDEM & Macro International Inc., 2014). The parent study aimed to assess whether (a) medical professionals could be adequately trained to offer this service as part of HIV prevention for men, and (b) whether men would seek out and utilize this service. This is the first VMMC for HIV prevention trial within the Latin America and Caribbean region.

The parent study was conducted in two cities on the southeastern coast of the DR: Santo Domingo and La Romana. Santo Domingo is the capital and financial center of the DR and has an estimated population of 2.2 million people; La Romana has a population of approximately 250,000 and its surrounding areas are home to resorts for international tourists and Haitian-descendent communities (i.e., *bateyes*) who work on the area's sugar cane farms (Consejo Nacional de Poblacion y Familia, 2010). These cities were selected due to the capacity of medical personnel and institutions in those cities and because both have higher HIV prevalence than the national prevalence (DIGECITSS, 2014).

The HIV epidemic in the DR is characterized as concentrated since there is a low general prevalence (0.8%) and the HIV transmission occurs primarily among certain key populations (CESDEM & Macro International Inc., 2014; UNAIDS, 2013). According to 2010 modeling estimates, HIV in the DR is almost exclusively transmitted sexually: 65.9% of cases are transmitted due to heterosexual sex and 33.3% due to homosexual sex (UNAIDS, COPRESIDA, & DIGECITSS, 2010). The key populations include female sex workers (regional prevalence between 1.7% and 6.3%), men who have sex with men (3.9%-6.9%), and drug users (1.3%-6.2%) (DIGECITSS, 2014). Other important populations include male sexual partners of female sex workers (1.9%) and male residents of *bateyes* (2.6%) (i.e., poor Haitian descendent communities situated near sugar plantations) (CESDEM & Macro International Inc., 2014; Halperin, de Moya, Perez-Then, Pappas, & Garcia Calleja, 2009; Rojas, Malow, Ruffin, Rothe, & Rosenberg, 2011).

De Moya (2004), a prominent Dominican masculinities scholar, wrote about the socialization of Dominican males into the prevailing standards of masculine behavior. He posited that masculinity is a ‘totalitarian’ regime that controls the lives of Dominican boys and young men. De Moya used participant observation and interviews with men and women to identify the ‘rules’ associated with being a ‘normal’ boy in the DR including, “He should show a vivid and visible erotic interest in all females who come close to him when he is with his peers.” (de Moya, 2004) (p. 73-74). These masculine ideals that men should have sexual prowess are instilled in young Dominican boys and enforced by others through punishment and shaming during youth and adulthood. For more on Dominican masculinities and male

sexuality, see Barrington et al. (2007), Padilla (2008), and Fleming, Barrington, Perez, Donastorg, and Kerrigan (2014).

Prior to the parent study, a mixed methods acceptability study was conducted within La Romana and the surrounding area (Brito et al., 2009, 2010). In focus groups with community members, both men and women mentioned that discomfort and pain related to the foreskin was a problem for some men in their community. The majority of women thought that circumcised men experienced more pleasure during sex and thought that a circumcised penis was cleaner and more appealing (Brito et al., 2010). Most men thought that women preferred *un*circumcised men because they enjoyed the foreskin. Almost all men and women acknowledged the potential for increased hygiene associated with getting circumcised (Brito et al., 2010). Nearly half of men in the survey sample (46%) thought that being circumcised would reduce sexual pleasure (Brito et al., 2009). In multivariate analysis, the two most significant correlates of men's willingness to be circumcised were thinking that circumcision improves hygiene and *not* thinking that circumcision decreases sexual pleasure (Brito et al., 2009).

For the current study, we used both qualitative and quantitative data to gain multiple perspectives on the interrelationship among circumcision, sexual performance, and masculinity (Creswell & Plano Clark, 2011; Guest & Fleming, 2014). To design our study, we considered three dimensions of the integration for mixed-methods research: timing, weighting, and purpose (Guest & Fleming, 2014). For timing, we collected our qualitative and quantitative data simultaneously, conducted separate but concurrent data analyses, and integrated findings in the final analytic phase. For weighting, we placed equal emphasis on both qualitative and quantitative data and findings from the start of our project. Finally, for purpose, we used both qualitative and quantitative methods in an effort to triangulate findings and have a richer understanding of the topic than what could be obtained from one single method.

Recruitment, Data Collection, and Analysis

We used data from quantitative surveys conducted with all men receiving VMMC and data from in-depth interviews conducted with a sub-sample of these men. The parent study used referrals and community outreach to find men who were 18-40 and were willing to undergo a circumcision. To reach a sample at heightened risk for HIV, female sex workers in both sites were asked to refer their sexual partners and in La Romana one recruiter was dedicated to recruiting men from nearby *bateyes.* Men were given informational materials about circumcision and invited to a short educational talk at the clinic where they learned more about the procedure and its benefits. If men chose to enroll, they came to the clinic three times: (1) the first visit included informed consent, baseline survey, HIV testing and counseling, and the circumcision procedure, (2) the second visit was conducted seven days after the circumcision to ensure proper healing, and (3) the third visit occurred between 6 and 12 months after the circumcision and included HIV testing and counseling, a follow-up survey, and – for a small proportion of men (10%) – an in-depth interview. While the HIV testing and counseling addresses men's risky sexual behaviors, it did not address themes of masculinity or sexual prowess. A total of 454 men were enrolled and circumcised between

January 2013 and March 2014. Final follow-up occurred between July 2013 and February 2015. Men were reimbursed for their travel for each clinic visit (approximately 10 USD).

Survey data collection and analysis—We conducted one survey at baseline (prior to being circumcised) and one during the men's routine visit 6-12 months after their circumcision. Of the 454 men enrolled, 92 men were lost to follow-up and 69 were not asked masculinity-related survey items because the items were added after follow-up visits were initiated. Since our analysis for this paper relied exclusively on the follow-up survey data, our analytic sample has 293 men with complete data on key variables of interest. Both baseline and follow-up surveys included sections on demographic information, condom use and other sexual behaviors, other HIV risk behaviors, problems with sexual performance, and opinions related to circumcision. The follow-up survey additionally included sections on adverse events, sexual satisfaction and performance post-circumcision, and questions related to men's concern about demonstrating masculine characteristics.

Our quantitative analyses used the following question as the dependent variable ("Feeling more masculine post-circumcision"): "Compared to before being circumcised, do you feel (a) much more of a man, (b) a bit more of a man, (c) the same, (d) a bit less of a man, (e) much less of a man." For bivariate/multivariate analyses, we defined "feeling more masculine post-circumcision" as answering either "much more of a man" or "a bit more of a man." We conducted bivariate and multivariate logistic regression analyses examining factors associated with feeling more masculine in an effort to complement findings related to masculinity and sexual performance from the in-depth interviews. We used five independent variables in the bivariate and multivariate analyses based on preliminary findings from the qualitative analysis: (1) experienced problems during sex before circumcision, (2) has more potent erections post-circumcision, (3) has more frequent sex after circumcision, (4) felt much more capable to please partner sexually, and (5) concern about demonstrating masculine characteristics. Measurement of the first four independent variables related to sexual performance were binary yes/no variables. To assess men's concern about demonstrating masculine characteristics, we used a modified version of the Gender Role Conflict/Stress (GRC/S) scale (Eisler & Skidmore, 1987; Gottert, 2014; O'Neil, Helms, & Gable, 1986). Results from a factor analysis showed our GRC/S scale is unidimensional with 17 items and a Cronbach's alpha of 0.75. Response options for each item are 0 = disagree, 1 = somewhat agree, and 2 = strongly agree and we used a sum score to assess each man's GRC/S. For analyses in this paper, we used a standardized score where the mean is 0 and standard deviation is 1. A higher score on the GRC/S scale represents greater concern about demonstrating masculine characteristics. We report bivariate relationships between each independent variable and the dependent variable, and then results from our multivariable regression with all independent variables in the model and controls for study site, education, employment status, religion, civil status, and ethnicity. All quantitative analyses were conducted using SAS version 9.4 (SAS Institute Inc., 2014).

In-depth interview data collection and analysis—Between May and June 2014, 30 men were interviewed by the first author (PJF) in Spanish using a semi-structured interview guide (see Appendix) when they came for follow-up visits. This was a convenience sample

of men who were willing to participate and we selected fifteen interviews in each site to ensure saturation of themes (Guest, Bunce, & Johnson, 2006). The interviews included three sections: (1) decision-making process related to circumcision, (2) changes, including changes in sexual performance, experienced post-circumcision, and (3) perceptions of norms of masculinity in the DR, and (4) concerns about demonstrating masculine characteristics.

Qualitative data analysis was iterative (Gibbs, 2007), starting with the completion of the first interviews and continuing throughout the data collection process. After each interview, the interviewer wrote field notes about the interview and notable things the participant said or did (Emerson, Fretz, & Shaw, 2011). Interview questions and probes were modified during the data collection process in response to prior interviews.

Audio recordings of each interview were transcribed verbatim in Spanish by trained Dominican transcriptionists (McLellan, MacQueen, & Neidig, 2003). We first read each transcript while listening to audio to identify key themes and stories. For each participant, we wrote descriptive analytic summaries based on the qualitative data, demographic characteristics, and observations of the interviewer (Sandelowski, 1995). This analytic summary included a description of the participant's comments related to reasons for getting circumcised, changes in sexual performance post-circumcision, concerns about sexual performance, and his feelings of masculinity post-circumcision. This process served to contextualize findings within the life of each participant and integrate data sources.

Subsequent to writing analytic summaries, we developed a codebook with deductive codes derived from prior research and the language used in the interview guides and inductive codes based on themes or ideas that emerged throughout the data collection and preliminary analysis process (Gibbs, 2008). For example, deductive codes included “meanings of manhood” and “sex post-circumcision” and inductive codes included “lasting longer” and “pleasing partner.” We coded the transcripts using Atlas.ti software (Atlas.ti, 2012). The code outputs for key themes were used to deepen our understanding of and systematically assess the ideas that emerged in the analytic summaries. We looked at codes by participant to ensure our narratives were accurately portraying the participant, and codes across participants to examine overarching ideas conveyed by our sample population. Using the summaries and code outputs, we prepared matrices for the analysis of patterns across the study population and for comparisons between sub-groups (for example, older men vs. younger men, married vs. single, La Romana vs. Santo Domingo) (Miles & Huberman, 1994). We integrated memo writing throughout the process to facilitate the interpretation of the data and to provide an audit trail of how the data were interpreted (Saldaña, 2009). After reviewing all memos, analytic summaries, coding reports, and matrices, we examined how findings from the qualitative data compared to quantitative findings. Results from the in-depth interviews are described below using illustrative quotes (with pseudonyms) to highlight certain findings and more fully understand findings from the quantitative analyses.

All participants provided informed written consent to participate in each component of this research study. All study procedures and protocols were approved by the institutional review boards at the University of Illinois at Chicago, The University of North Carolina in Chapel

Hill, and the Instituto Dermatológico Domincano y Cirugia de Piel “Dr. Huberto Bogaert Díaz” in Santo Domingo, DR.

Results

Demographic characteristics of our quantitative sample (N = 293) and our qualitative sub-sample (n = 30) are presented in Table 1. We found that the vast majority of men expressed positive changes in sexual performance and ability to satisfy sexual partners after being circumcised and many men connected these feelings with increased feelings of masculinity. We begin by reporting evidence from the quantitative analyses and then use findings from the qualitative data to better understand these relationships.

Men surveyed at follow-up reported on their concern about fulfilling masculine norms of sexual performance (see Table 2). Eighty-one percent of men strongly agreed that “*I'd worry if a sexual partner said that she wasn't satisfied,*” 77% strongly agreed that “*Being good in bed is part of being a successful man,*” and 90% strongly agreed that “*Being able to function sexually is important to me as a man.*” These items come from the GRC/S scale.

Most men perceived an increased ability to fulfill these sexual norms after being circumcised (see Table 3). Eighty-nine percent of men surveyed at follow-up reported “*greater ability to pleasure my partner*” compared to before being circumcised. Of those who reported greater ability, 50% said it was because they could now last longer between penetration and ejaculation, 46% said it was because their partner believed the man's penis was more hygienic, and 21% said it was because their female partner felt like their penis was bigger now (note: more than one response was permitted). Fifty-eight percent of men said their erections were more potent now and about half of men (51%) reported that they were having more frequent sex after they were circumcised than before. Forty-one percent of men reported that, compared to before being circumcised, they now felt more masculine post-circumcision (0% felt “less masculine” post-circumcision).

We examined how these feelings of masculinity after circumcision were associated with concerns about being perceived as masculine and self-perceived changes in men's sexual performance (see Table 4 for bivariate and multivariate analysis results). In multivariate logistic regression – controlling for socio-demographic variables – feeling more masculine post-circumcision was significantly associated with reporting more potent erections after circumcision (OR = 2.25, 95% CI: 1.26-4.03), increased ability to satisfy their partner (OR = 2.30, 95% CI: 1.11-4.77), and greater Gender Role Conflict/Stress (OR = 1.70, 95% CI: 1.25-2.32). Men who reported pain or other issues prior to being circumcised had greater odds of feeling more masculine post-circumcision, though this relationship was marginally non-significant in the multivariate analysis (OR = 1.95, 95% CI: 0.97-3.89). Having more frequent sex post-circumcision was associated with feeling more masculine in the bivariate analyses, but the relationship was attenuated and non-significant in the multivariate analysis (OR = 1.41, 95% CI: 0.80-2.49).

We analyzed our in-depth interview data to further explore the factors associated with feeling more masculine after being circumcised. We found that the concepts represented by

our independent variables – having experienced problems during sex before circumcision, reporting an improved erection, having more frequent sex, and feeling more capable to please a partner – were all interrelated and connected to masculine norms of sexual performance and satisfying one's partner. Comments by Cesar, 32-years-old, exemplify the connections among these concepts for men after being circumcised:

> "I feel more confident now when I'm making love…I mean, I feel like more of a man, I feel better, yeah, because I know that I'm going to be able to do it well, I'm not afraid that I'll get raw skin [on my penis]…Us Dominican men always want the woman to feel good during sex, there are many guys that don't last long enough and the girls don't like that."

As evidenced by responses in Table 2, ability to sexually satisfy sexual partners was considered a key characteristic of masculinity. Cesar reported that the changes he experienced due to the circumcision increased his capacity to satisfy partners and he felt more masculine as a result. Below, we explore in greater depth how changes in sexual performance were connected to circumcision and men's ability to satisfy partners.

Some men felt improved sexual performance after circumcision because they said it fixed problems they were having prior to being circumcised. Denny, a 22-year-old with a long-term girlfriend, described a common complaint pre-circumcision mentioned by many men in the in-depth interviews:

> "I felt a bit uncomfortable because sometimes that little thing, the piece that connects to the foreskin [frenulum] hurt me sometimes…but now it's good, now it doesn't get raw or anything, it doesn't hurt me."

This type of pain or discomfort during sex was commonly described and interrupted men's sex lives. Edwin, 39-years-old, said, "*There were times that we couldn't have sex because it was bothering me.*" A few men described occasionally abstaining from sex or pausing sex because of this irritation or pain. Men with these problems pre-circumcision felt anxiety about their inability to consistently perform sexually and reported that being circumcised enabled them to overcome these issues and improve their ability to satisfy their sexual partners.

Feeling like erections were more potent was also associated with feeling more masculine post-circumcision and may have been related to changes the men and their partners felt related to how the penis felt and looked. Several men mentioned that they and their partners perceived the penis to be larger after the circumcision. Benito described his girlfriend's enthusiasm:

> "She tells me that she loves it and why didn't I do it sooner!…She told me that my penis is much bigger now…And I was like, wow, ok, that's good, but I know that it's just a visual effect."

Most men, like Benito, recognized that any perceived growth in their penis was just a "visual effect" related to the new shape of the penis. Nonetheless, the men who perceived that their penis was bigger (or whose partners perceived it was bigger) were thrilled about this change. Some men expressed that their partners felt a different and better sensation during vaginal

sex after the circumcision. Santo, 22-years-old, described his partner's feelings: "*She tells me that she can feel it deeper, I can penetrate her better.*" In both cases, men reported that these factors increased their perceived ability to satisfy their partners and made them feel better about themselves which in turn increased their feelings of masculinity.

In addition to size, across the in-depth interviews, men indicated that sexually satisfying a female partner required being able to last sufficiently long between penetration and ejaculation. Most men were concerned with this metric and many men connected this to circumcision status. Emilio, 21-years-old, described his own experience:

> "That skin [the foreskin], you know, it went back and forth and that made me ejaculate a bit faster. That made me feel bad sometimes…I worried about my partner, and also I felt bad about myself…yeah, because I ejaculated too quickly, I felt like I wasn't giving enough pleasure to my partner."

Emilio, like many others, perceived that the friction due to the movement of the foreskin – in combination with friction from their partner's vagina – contributed a quicker-than-desired ejaculation. About half the men in in-depth interviews reported that they felt they could last longer during sex after being circumcised (nearly all others noticed no difference). These men were happy with this result because they felt it increased their ability to satisfy their partner by bringing her to orgasm. Jorge, a 36-year-old married man, described the difference for him before and after the circumcision:

> "Before, I would ejaculate quickly, I didn't last very long. But now, no, now I can last a while until I come [ejaculate/orgasm], and sometimes I'll come with my partner, I mean, together, we'll come together. And sometimes, she'll come before I do and I still haven't come! I mean, in that sense I feel very different from what I used to be."

Jorge reported with pride his ability to bring his wife to orgasm before he himself had an orgasm. This same idea was reflected in the comments of other men. Bernardo, 40-years-old, commented on his new abilities by saying, "*I don't feel like I'm with that fear anymore that I can't last as long as I want to.*" For many of the men interviewed, they described that becoming circumcised lessened their fears of not being able to last long enough during intercourse and increased their perceived ability to satisfy their partners.

While having more potent erections and lasting longer made men feel more masculine because it increased their ability to sexually satisfying partners, reports of having more frequent sex made men feel more masculine because it emphasized the strength of their sex drive. According to the in-depth interviews, men reported more frequent sex because they had more regular sex with main partners. Edwin, 39-year-old, described why sex had increased in frequency with his wife:

> "[Sex is] more frequent…you know, it's like there's a stronger sensation, there's greater sensation and you feel more turned on. And, according to your desire, that's when you'll do it [have sex]. I mean, now I'm feeling more desire after being circumcised."

Like Edwin, other men similarly felt this increased sexual desire. Most men explained that this was due to the fact that their penis was no longer covered in foreskin and they were still adjusting to the increased sensation of having their uncovered penis rubbing against their underwear. Hector explains that he has more sex now because "*now my penis is just always* up*, more than before, its more happy* (laughter)." This may have additionally contributed to men's feelings that their erections were more potent after being circumcised since they were more prone to frequent erections. A few men also enthusiastically reported that their increased frequency of sex was because their female partners were initiating sex more often post-circumcision due to their preference for their partners' newly circumcised penis. In many cases, the men described that their increased hygiene (e.g., less odor and discharge from the penis) after circumcision made their partners desire sex with them more.

Discussion

We found that it was common for men to feel more masculine after receiving VMMC for HIV prevention and that increased feelings of masculinity were related to (a) perceptions of improved sexual performance and (b) men's concern about demonstrating masculine characteristics. These findings are the first to demonstrate the strong links among being circumcised for HIV prevention, sexual performance, and feelings of masculinity. Below, we discuss interpretations of our findings and implications for future work.

Our study emphasizes that men's experience of circumcision is often shaped through the lens of masculinity. The parent study recruited men by advertising that circumcision can help reduce HIV transmission. However, many men's satisfaction with the circumcision was because of perceptions of improved sexual performance or resolved medical problems they were having that were impacting their sexual relationships. These factors – all relevant to men's ability to adhere to masculine norms of sexual performance – were important to men's willingness to participate and positive impressions of receiving a VMMC. Recruiting men into public health programming is often a challenge for public health researchers and practitioners (Fleming, Barrington, Perez, Donastorg, & Kerrigan, 2015; Villa-Torres, Fleming, & Barrington, 2015). Other public health interventions targeting men may need to take note of how masculine norms shape men's willingness to participate and satisfaction with an intervention. Masculinity is a powerful influence in men's lives and how an intervention increases men's ability to fulfill masculine norms may be more important to men's participation and satisfaction than an intervention's intended public health goals (i.e., HIV prevention).

Our findings related to men's perceptions of improved sexual performance must be contextualized within previous empirical research on men's sexual performance after being circumcised. There is scant evidence to suggest that men's perceptions of improved sexual performance post-circumcision (e.g., more potent erections, increased sexual desire, and increased time to ejaculation) is caused by the removal of the man's foreskin. A systematic review of rigorous clinical studies and a separate meta-analysis indicated no significant differences in time to ejaculation, premature ejaculation, or sexual desire between circumcised men and uncircumcised men (Morris & Krieger, 2013; Tian et al., 2013). There is significant social meaning attached to the penis and its performance during sex (Castro-

Vázquez, 2013a; Reeser, 2010; Richters, 2006) and thus men's sexual performance following VMMC is more complex than the simple removal of one's foreskin. How men experience VMMC is shaped by social factors such as norms of masculinity that establish the penis as the embodiment of masculinity and define sexual performance expectations for men (Connell, 1995; Richters, 2006). “Lasting longer,” penetrating deeper, sexual desire, and having potent erections are characteristics of masculinity in most societies due to their association with partner's sexual satisfaction (Castro-Vázquez, 2012; Connell, 1995; Gilmore, 1990; Herold, Garcia, & DeMoya, 2001; Khan et al., 2008; Mlewa, 2013; Senkul et al., 2004). These norms may cause men to be more likely to notice and embrace subtle changes they experience after VMMC as a strategy to ease their own masculinity-related anxieties. Additionally, men who are especially concerned about demonstrating masculine characteristics – including satisfying sexual partners – may be more likely to identify and look for changes experienced after being circumcised. Reported changes in sexual performance are perceived to be real and dramatic because masculine norms emphasizing sexual performance are shaping the way men perceive, interpret, and experience VMMC.

Men's experiences of sexual performance after VMMC may also be significantly shaped by existing discourse or beliefs related to circumcision (Carpenter & Kettrey, 2014). According to the formative research, men who were willing to become circumcised were less likely to believe that circumcision decreased sexual performance (Brito et al., 2009). Thus, the men we interviewed may have been primed by previous beliefs to expect that their sexual performance would be the same or improved. Some men's perceptions of increased sexual performance may have been similar to a placebo effect where expectations shaped results (Stewart-Williams & Podd, 2004). Given men's expressed concerns related to sexual performance, VMMC programs for HIV prevention should take care to understand and manage men's expectations related to sexual performance (for both potential and actual VMMC clients). Additionally, since improved sexual performance has the potential to lead to increased risk behaviors (e.g., multiple sexual partners), programs need to incorporate potential changes in sexual performance into risk reduction counseling that men routinely receive as part of VMMC programs.

Men in our study overwhelmingly perceived circumcision to be a benefit for their sexual performance. But, should VMMC recruitment efforts tout improved sexual performance? We believe that VMMC programs should avoid using such an approach. First and foremost, public health campaigns that emphasize norms of masculinity related to sexual prowess and conquest can serve to reinforce the same norms that encourage men to have multiple sexual partners (Fleming, Lee, & Dworkin, 2014). This could potentially result in risk compensation and increase men's risk for HIV. As our data indicate, men already have anxiety about sexual performance and VMMC programs should not reinforce these concerns. Second, as described above, the expressed changes in sexual performance described by the men are subjective. Thus, men who seek a circumcision in an effort to improve sexual performance may be disappointed if their own subjective opinion of their sexual performance differs. Third, messaging that emphasizes increased sexual performance for men who are circumcised may serve to stigmatize men who choose not to be circumcised. While there may be programmatic goals to increase the number of men seeking

a circumcision, this should not be done at the expense of men who exercise their right to choose to not undergo a circumcision.

While VMMC programs should not emphasize increased sexual performance in recruitment efforts, our study does highlight several elements that could help improve circumcision programs. Men were extremely concerned about their sexual performance and capacity to satisfy their partners. While it is possible that this is specific to the Dominican context, there is evidence that this is true across a variety of settings (Gottert, 2014; O'Neil et al., 1986). VMMC recruitment should acknowledge the potential that men may perceive changes in sexual performance and function. Additionally, given men's concerns about their partner's perceptions, female partners may be an especially important voice to involve in men's decision to become circumcised. Our previous research has shown that men with a reputation of being able satisfy their partners are sought-after as sexual partners and may have more sexual opportunities (Fleming, Barrington, et al., 2014). Men in our study reported having more frequent sex post-circumcision. In most cases this referred to more frequent sex with their main partner, but there were cases of men in our study who increased their number of partners (though this does not necessarily equate to increased risk for HIV if they use condoms). Some studies of VMMC have shown that a small number of men go through a process of experimentation after VMMC that may increase their risk (Grund & Hennink, 2012; Riess et al., 2010). VMMC programs should consider modifying their standard HIV counseling to incorporate elements that help men challenge masculine norms that emphasize experimentation and multiple partners (e.g., gender-transformative programming (Dworkin, Fleming, & Colvin, 2015; Dworkin, Treves-Kagan, & Lippman, 2013)).

Limitations

While our study is the first to conduct an in-depth mixed-methods examination of the links among VMMC, sexual performance, and masculinity, there are several limitations to note. First, there was no control condition and we relied on men's retrospective reports of changes in sexual performance. Thus, we cannot ascertain whether men's feelings were specifically due to the circumcision or simply due to participating in a study. Second, our findings are limited to men who received VMMC in the context of an HIV-prevention intervention and had received their VMMC relatively recently (within 6-12 months prior). Third, our findings depend upon men's self-reported perceptions and experiences that are subject to social desirability bias. Fourth, like other VMMC studies (Bailey et al., 2007), men with previous problems during sex constituted an outsized proportion of our sample (32%). Our analyses on the association between feelings of masculinity and improved sexual performance controlled for this characteristic, but this sub-sample of men may vary in other ways that influenced our overall findings. Finally, the masculine norms and experiences post-circumcision described by men in this study are not generalizable to men in other countries; while there are similarities in masculine norms across contexts, research would need to be conducted in other settings to determine if our findings are transferrable.

Conclusion

Considering how VMMC, sexual performance, and norms of masculinity are intertwined reveals important relationships to consider when conducting VMMC programs for HIV prevention and other sexual health interventions with men. Future research needs to continue to explore how masculinity shapes men's engagement with and experiences of public health programming. Engaging men within public health programming – an important pursuit for improving population health – requires thorough examination of the interaction between interventions and masculinity to design programs that appeal to a broad spectrum of men.

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Appendix

Male circumcision Pilot Study: Dominican Republic In-depth interview guide 6 month post-operative visit

Thank you again for agreeing to participate in this interview. I would like to remind you that this interview is confidential and private and will not have any impact on your ability to access health services in the future.

I. Circumcision decision

Tell me a bit about your decisión to get circumcised…

- **1.1** How did you first hear about circumcision?
- **1.2** How did you find out about the study?
- **1.3** Why did you decide to get circumcised?
- **1.4** Did you tell people that you were going to get circumcised?
- **1.5** Was there anything that worried you about getting circumcised?

II. Experience with the study

- **2.1** Tell me about your experience getting circumcised here. Think back to the day you had the procedure and tell me about that day step by step.

How did you feel on the day of your procedure?

Were you nervous or concerned about anything? Tell me more…

How did you feel after the procedure?

2.2 How did you feel going to the clinic/hospital for the first time?

2.3 Had you visited clinics/hospitals/doctors before? Tell me a bit about your previous experiences

2.4 How were you treated by the study staff, doctors, and nurses?

2.5 How did you feel about participating in the study after the circumcision?

2.6 How satisfied are you with your participation in the study?

III. Post-operative experiences

Now I would like to ask you a few questions about your recovery process after your circumcision and your life in general since you have been circumcised.

3.1 Think back to the days after you were circumcised. How did you feel after the procedure?

3.2 How did you take care of yourself?

Did anyone help you?

Did you experience pain?

Did you ever need to come back to the clinic because of pain, infection or other problems? Tell me more about this.

3.3 Has anything changed in your routine daily bathing and hygiene practices since you were circumcised?

Has anything improved?

Has anything become harder or created a problem for you?

3.4 Now I would like to ask some more personal questions about your sexual life. Tell me about your sexual experience following your circumcision.

3.4.1 How long did you wait to resume sexual relations?

3.4.2 Tell me a bit about the first time you had sex after being circumcised…

3.4.3 How do you feel having sex now that it has been 6 months since your circumcision?

3.4.5 Has quality of your sexual experience with changed since you were circumcised? If so, tell me more about this.

3.4.6 Tell me about your main partner…What does she think about the circumcision?

3.4.4 Has the frequency of your sexual activity changed since you were circumcised? Tell me more about this…

3.4.7 Has your condom use habits changed? Tell me more about this…

IV. Being a man in the Dominican Republic

4.1 What does it mean to be a man?

4.1.1 What does it mean to be a tiguere?

4.1.2 What are the different types of men here?

4.2 What are things that a man has to do for others to consider him a real man?

4.3 What do you think about these characteristics? Do you agree with them?

4.4 How much do you worry about what other people might say about you related to _____ (characteristics previously mentioned)

What your partner could say?

What your friends could say?

What your family could say?

What your community could say?

4.5 Could you give me an example of a time when someone teased you about _____ and you were bothered by it?

V. Sexual reputations

5.1 What do Dominican men say about the importance of a man being able to please a woman sexually?

5.2 What do men say among friends about this topic?

Jokes?

Do your friends talk about this? Tell me a bit about this…

5.3 How do people find out about the sexual reputation of a man?

His partners talk? With who?

Have you heard any comments about the reputations of your friends/neighbors/acquaintances?

5.4 How much do men worry about what people say about this?

Why do they worry?

Have you ever felt worried about your ability to please a woman?

5.5 Was being able to please women better a motivation to be circumcised? Why or why not?

VI. Promoting male circumcision in the DR

6.1 Would you recommend this procedure to other men like you? Tell me more about why you would or wouldn't…

What advice would you give to a man who was going to get circumcised?

What do you think are the benefits of getting circumcised?

6.2 Would you circumcise your own son? Tell me more about why or why not…

6.3 What do you think are the main barriers to getting circumcised for other men?

6.4 How do you think we can most effectively encourage other men like you to get circumcised?

How would you respond to someone who says “real men don't get circumcised?”

Do you think many men would feel this way?

6.5 How do you think we can encourage men to continue using condoms to protect themselves and their sex partners from pregnancy, HIV/AIDS and other STI even after they are circumcised?

Do you think this is important? Tell me more…

6.6 Do you have any questions? Is there anything else you would like to share?

Thank you very much for participating in this study.

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Table 1

Men's Socio-Demographic Characteristics from Analytic Sample (N = 293) and In-depth Interview Sub-sample (n = 30)

	Total follow-up sample (*N* = 293)		In-depth Interview sub-sample (*n* = 30)	
	n	**%**	***n***	**%**
Study Site				
Santo Domingo	157	54	15	50
La Romana	136	46	15	50
Age in years				
18-24	127	44	12	40
25-29	72	25	8	27
30-34	51	17	4	13
35-41	42	14	6	20
Education				
Primary or less	48	16	5	17
Secondary	232	69	22	73
University	44	15	3	10
Employment status				
Employed	212	73	21	70
Unemployed	33	11	5	17
Student	47	16	4	13
Marital Status				
Married	41	14	5	17
Single, with a partner	148	51	16	53
Single, without a partner	103	35	9	30
Reported problems with penis pre-circumcision	95	32	8	27

Table 2

Men's Concerns About Sexual Performance from Follow-up Survey (N = 293)

	Disagree		Somewhat agree		Strongly Agree	
Items	***n***	**%**	***n***	**%**	***n***	**%**
It's important to me to know that I can sexually please my partners	0	0	3	1	290	99
Being good in bed is part of being a successful man	25	9	43	15	225	77
I'd worry if a sexual partner said that she wasn't satisfied	20	7	37	13	236	81
Being able to function sexually is important to me as a man	7	2	23	8	263	90
I think that I should always be ready to have sex with my partner, even if I'm tired.	70	24	68	23	155	53
I worry about not being able to get aroused sexually when I want to	43	15	53	18	195	67
Having a girlfriend or wife is part of my idea of a successful man	53	18	44	15	196	67

Note. These items come from the Gender Role Conflict/Stress scale

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Table 3

Men's Perceptions of Sexual Performance Post-circumcision, Follow-up Survey (N = 293)

	n	%
Penis sensitivity post-circumcision		
More sensitive post-circumcision	159	55
Same as before	53	18
Less sensitive post-circumcision	78	27
Female partner is ‘very satisfied’ with circumcision	238	88
How do you feel about your abilities to pleasure your partners?		
More capable post-circumcision	248	89
Same as before	29	10
A bit less able post-circumcision	2	1
Reasons for greater ability to pleasure partner		
Reason: Lasts longer[a]	125	50
Reason: Partner thinks penis is more hygienic[a]	115	46
Reason: Partner thinks penis feels bigger[a]	52	21
Enjoys sex more post-circumcision	188	70
Feels that erections are more potent post-circumcision	171	59
Has more frequent sex post-circumcision	141	51
Feelings of masculinity post-circumcision		
A bit more masculine post-circumcision	119	41
Same as before	167	58
Less masculine post-circumcision	1	0

[a]This was only asked of the subset of men (n = 248) who reported greater ability to pleasure partner

Table 4

Bivariate and Multivariable Correlations with Feeling More Masculine Post-circumcision (N = 293)

	BIVARIATE			*MULTIVARIATE*		
	OR	**95% CI**	***p***	**AOR[a]**	**95% CI**	***p***
Experienced problems during sex before circumcision	1.78	0.99-3.19	0.05	1.95	0.97-3.89	0.06
Erection more potent post-circumcision	2.50	1.54-4.06	<0.01	2.25	1.26-4.03	<0.01
Has more frequent sex now	2.01	1.25-3.25	<0.01	1.41	0.80-2.49	0.24
Much more capable to please partner	3.27	1.77-6.04	<0.01	2.30	1.11-4.77	0.03
Gender Role Conflict/Stress	1.71	1.33-2.20	<0.01	1.70	1.25-2.32	<0.01

[a]Adjusted for study site, education, employment status, religion, civil status, and ethnicity and also other variables listed (none of the control variables were statistically significant at $p < 0.05$).