

## Quarterly Research Digest on Voluntary Medical Male Circumcision for HIV Prevention

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### Biological mechanisms

1. Onywera, H., et al. **The penile microbiota in uncircumcised and circumcised men: relationships with HIV and human papillomavirus infections and cervicovaginal microbiota.** *Front Med (Lausanne)* 2020;7: 383.

Online at: <https://www.frontiersin.org/articles/10.3389/fmed.2020.00383/full>.

While the human microbiota especially that of the gut, cervix, and vagina continue to receive great attention, very little is currently known about the penile (glans, coronal sulcus, foreskin, and shaft) microbiota. The best evidences to date for the potential role of the penile microbiota in human immunodeficiency virus (HIV) and other sexually transmitted infections (STIs) acquisition have come from studies examining medical male circumcision. We are still at the foothills of identifying specific penile bacteria that could be associated with increased risk of STI/HIV acquisition. In this review, we summarize the available literature on the human penile microbiota and how it is impacted by circumcision. We also discuss the potential role of penile microbiota in STIs and its impact on cervicovaginal microbiota. Taken together, the findings from the penile microbiota studies coupled with observational studies on the effect of male circumcision for reduction of STI/HIV infection risk suggest that specific penile anaerobic bacteria such as *Prevotella* spp. potentially have a mechanistic role that increases the risk of genital infections and syndromes, including bacterial vaginosis in sexual partners. Although penile *Corynebacterium* and *Staphylococcus* have been associated with

healthy cervicovaginal microbiota and have been found to increase following male circumcision, further investigations are warranted to ascertain the exact roles of these bacteria in the reproductive health of men and women. This review aims to address existing gaps and challenges and future prospects in the penile microbiota research. The information described here may have translational significance, thereby improving reproductive health and management of STI/HIV.

### Combination HIV prevention and HIV testing

#### 1. Preventing HIV through safe voluntary medical male circumcision for adolescent boys and men in generalized HIV epidemics: recommendations and key considerations.

Geneva: World Health Organization; 2020 Aug.

Online at: <https://www.ncbi.nlm.nih.gov/books/NBK562463/>.

Since 2007 the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) have recommended voluntary medical male circumcision (VMMC) as an important strategy for the prevention of heterosexually acquired HIV in men in settings where the prevalence of heterosexually transmitted HIV is high. Over 25 million men and adolescent boys in East and Southern Africa have been reached with VMMC services. These new guidelines update earlier WHO recommendations to maximize the HIV prevention impact of safe VMMC services and aim to guide the transition to the sustained provision of interventions with a focus on the health and well-being of both adolescent boys and men.

### Cost and cost-effectiveness

#### 1. Babigumira, J. B., et al. Cost-effectiveness analysis of two-way texting for post-operative follow-up in Zimbabwe's voluntary medical male circumcision program.

*PLoS One* 2020;15(9): e0239915.

Online at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0239915>.

**OBJECTIVE:** Although adverse events (AEs) following voluntary medical male circumcision (VMMC) are rare, their prompt ascertainment and management is a marker of quality care. The use of two-way text messaging (2wT) for client follow-up after VMMC reduces the need for clinic visits (standard of care (SoC)) without compromising safety. We compared the cost-effectiveness of 2wT to SoC for post-VMMC follow-up in two, high-volume, public VMMC sites in Zimbabwe.

**MATERIALS AND METHODS:** We developed a decision-analytic (decision tree) model of post-VMMC client follow-up at two high-volume sites. We parameterized the model using data from both a randomized controlled study of 2wT vs. SoC and from the routine VMMC program. The perspective of analysis was the Zimbabwe government (payer).

The time horizon covered the time from VMMC to wound healing. Costs included text messaging; both in-person and outreach follow-up; and AE management. Costs were estimated in 2018 U.S. dollars. The outcome of analysis was AE yield relative to the globally accepted safety standard of a 2% AE rate. We estimated the incremental cost per percentage increase in AE ascertainment and the incremental cost per additional AE identified. We conducted univariate and probabilistic sensitivity analyses.

**RESULTS:** 2wT increased the costs due to text messaging by \$4.42 but reduced clinic visit costs by \$2.92 and outreach costs by \$3.61 -a net savings of \$2.10. 2wT also increased AE ascertainment by 50% (92% AE yield in 2wT compared to 42% AE yield in SoC). Therefore, 2wT dominated SoC in the incremental analysis: 2wT was less costly and more effective. Results were generally robust to univariate and probabilistic sensitivity analysis.

**CONCLUSIONS:** 2wT is cost-effective for post-VMMC follow-up in Zimbabwe. Countries in which VMMC is a high-priority HIV prevention intervention should consider this mHealth intervention to reduce overall cost per VMMC, increasing the likelihood of current and future VMMC program sustainability.

2. Minnery, M., et al. **Opportunities for improved HIV prevention and treatment through budget optimization in Eswatini.** *PLoS One* 2020;15(7): e0235664.

Online at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0235664>.

**INTRODUCTION:** Eswatini achieved a 44% decrease in new HIV infections from 2014 to 2019 through substantial scale-up of testing and treatment. However, it still has one of the highest rates of HIV incidence in the world, with 14 infections per 1,000 adults 15-49 years estimated for 2017. The Government of Eswatini has called for an 85% reduction in new infections by 2023 over 2017 levels. To make further progress towards this target and to achieve maximum health gains, this study aims to model optimized investments of available HIV resources.

**METHODS:** The Optima HIV model was applied to estimate the impact of efficiency strategies to accelerate prevention of HIV infections and HIV-related deaths. We estimated the number of infections and deaths that could be prevented by optimizing HIV investments. We optimize across HIV programs, then across service delivery modalities for voluntary medical male circumcision (VMMC), HIV testing, and antiretroviral refill, as well as switching to a lower cost antiretroviral regimen.

**FINDINGS:** Under an optimized budget, prioritising HIV testing for the general population followed by key preventative interventions may result in approximately 1,000 more new infections (2% more) being averted by 2023. More infections could be averted with further optimization between service delivery modalities across the HIV

cascade. Scaling-up index and self-testing could lead to 100,000 more people getting tested for HIV (25% more tests) with the same budget. By prioritizing Fast-Track, community-based, and facility-based antiretroviral refill options, an estimated 30,000 more people could receive treatment, 17% more than baseline or US\$5.5 million could be saved, 4% of the total budget. Finally, switching non-pregnant HIV-positive adults to a Dolutegravir-based antiretroviral therapy regimen and concentrating delivery of VMMC to existing fixed facilities over mobile clinics, US\$4.5 million (7% of total budget) and US\$6.6 million (10% of total budget) could be saved, respectively.

**SIGNIFICANCE:** With a relatively short five-year timeframe, even under a substantially increased and optimized budget, Eswatini is unlikely to reach their ambitious national prevention target by 2023. However, by optimizing investment of the same budget towards highly cost-effective VMMC, testing, and treatment modalities, further reductions in HIV incidence and cost savings could be realized.

### Enhancing uptake of VMMC

1. Nanteza, B. M., et al. **Enhancers and barriers to uptake of male circumcision services in Northern Uganda: a qualitative study [abstract]**. *AIDS Care* 2020;32(8): 1061-1068.

Online at: <https://www.tandfonline.com/doi/full/10.1080/09540121.2019.1698703>.

Uganda adopted voluntary medical male circumcision (VMMC) in 2010, but uptake remains disproportionately low in the Northern region despite implementing several demand creation strategies. This study explored the socio-cultural and structural enhancers and barriers to uptake of VMMC services in Gulu, a district in Northern Uganda where uptake is lowest. In September 2016, we conducted 19 focus group discussions, 9 in-depth interviews, and 11 key informant interviews with 149 total participants. Data were collected and analyzed thematically using both inductive and deductive approaches, then framed in four levels of the social ecological model. Enhancers included adequate knowledge about VMMC services, being young and single, partner involvement, peer influence, perceived increased libido after circumcision, and availability of free and high-quality VMMC services. Barriers included sexual abstinence during wound healing, penile appearance after circumcision, religion, culture, and misconceptions. Optimizing enhancers and addressing barriers could increase VMMC service uptake in northern Uganda.

2. Campbell, B.R., et al. **Mobile device usage by gender among high-risk HIV individuals in a rural, resource-limited setting [abstract]**. *Telemed J E Health*. 2020 Aug 21. doi: 10.1089/tmj.2020.0218. Online ahead of print.

Online at: [https://www.liebertpub.com/doi/10.1089/tmj.2020.0218?url\\_ver=Z39.88-2003&rfr\\_id=ori:rid:crossref.org&rfr\\_dat=cr\\_pub%20%20pubmed](https://www.liebertpub.com/doi/10.1089/tmj.2020.0218?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed).

**BACKGROUND:** Mobile health (mHealth) is a promising tool to deliver healthcare interventions to underserved populations. We characterized the use of mobile devices in rural KwaZulu-Natal, South Africa to tailor mHealth interventions for people living with HIV and at risk for acquiring HIV in the middle-income country.

**METHODS:** We surveyed participants in community settings and offered free HIV counseling and testing. Participants self-reported their gender, age, relationship, and employment status, receipt of monthly grant, condomless sex frequency, and circumcision status (if male). Outcomes included cell phone and smartphone ownership, private data access, health information seeking, and willingness to receive healthcare messages. We performed multivariable logistic regression to assess the relationship between demographic factors and outcomes.

**RESULTS:** Although only 10% of the 788 individuals surveyed used the phone to seek health information, 93% of cell phone owners were willing to receive healthcare messages. Being young, female, employed, and in a relationship were associated with cell phone ownership. Smartphone owners were more likely to be young, female, and employed. Participants reporting condomless sex or lack of circumcision were significantly less likely to have private data access or to purchase data.

**CONCLUSIONS:** mHealth interventions should be feasible in rural KwaZulu-Natal, though differ by gender. As women are more likely to own smartphones, smartphone-based mHealth interventions specifically geared to prevent the acquisition of or to support the care of HIV in young women in KwaZulu-Natal may be feasible. mHealth interventions encouraging condom use and medical male circumcision should consider the use of nonsmartphone short message service and be attuned to mobile data limitations- especially when targeting men.

3. Palmer, M. J., et al. **Targeted client communication via mobile devices for improving sexual and reproductive health.** *Cochrane Database Syst Rev* 2020;8: CD013680.

Online at:

<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013680/full>.

**BACKGROUND:** The burden of poor sexual and reproductive health (SRH) worldwide is substantial, disproportionately affecting those living in low- and middle-income countries. Targeted client communication (TCC) delivered via mobile devices (MD) (TCCMD) may improve the health behaviours and service use important for sexual and reproductive health.

**OBJECTIVES:** To assess the effects of TCC via MD on adolescents' knowledge, and on adolescents' and adults' sexual and reproductive health behaviour, health service use, and health and well-being.

**SEARCH METHODS:** In July/August 2017, we searched five databases including The Cochrane Central Register of Controlled Trials, MEDLINE and Embase. We also searched two trial registries. A search update was carried out in July 2019 and potentially relevant studies are awaiting classification.

**SELECTION CRITERIA:** We included randomised controlled trials of TCC via MD to improve sexual and reproductive health behaviour, health service use, and health and well-being. Eligible comparators were standard care or no intervention, non-digital TCC, and digital non-targeted communication.

**DATA COLLECTION AND ANALYSIS:** We used standard methodological procedures recommended by Cochrane, although data extraction and risk of bias assessments were carried out by one person only and cross-checked by a second. We have presented results separately for adult and adolescent populations, and for each comparison.

**MAIN RESULTS:** We included 40 trials (27 among adult populations and 13 among adolescent populations) with a total of 26,854 participants. All but one of the trials among adolescent populations were conducted in high-income countries. Trials among adult populations were conducted in a range of high- to low-income countries. Among adolescents, nine interventions were delivered solely through text messages; four interventions tested text messages in combination with another communication channel, such as emails, multimedia messaging, or voice calls; and one intervention used voice calls alone. Among adults, 20 interventions were delivered through text messages; two through a combination of text messages and voice calls; and the rest were delivered through other channels such as voice calls, multimedia messaging, interactive voice response, and instant messaging services.

### **Adolescent populations**

TCCMD versus standard care TCCMD may increase sexual health knowledge (risk ratio (RR) 1.45, 95% confidence interval (CI) 1.23 to 1.71; low-certainty evidence). TCCMD may modestly increase contraception use (RR 1.19, 95% CI 1.05 to 1.35; low-certainty evidence). The effects on condom use, antiretroviral therapy (ART) adherence, and health service use are uncertain due to very low-certainty evidence. The effects on abortion and STI rates are unknown due to lack of studies. TCCMD versus non-digital TCC (e.g. pamphlets) The effects of TCCMD on behaviour (contraception use, condom use, ART adherence), service use, health and wellbeing (abortion and STI rates) are unknown due to lack of studies for this comparison. TCCMD versus digital non-targeted communication The effects on sexual health knowledge, condom and contraceptive use are uncertain due to very low-certainty evidence. Interventions may increase health

service use (attendance for STI/HIV testing, RR 1.61, 95% CI 1.08 to 2.40; low-certainty evidence). The intervention may be beneficial for reducing STI rates (RR 0.61, 95% CI 0.28 to 1.33; low-certainty evidence), but the confidence interval encompasses both benefit and harm. The effects on abortion rates and on ART adherence are unknown due to lack of studies. We are uncertain whether TCCMD results in unintended consequences due to lack of evidence.

## **Adult populations**

### *TCCMD versus standard care*

For health behaviours, TCCMD may modestly increase contraception use at 12 months (RR 1.17, 95% CI 0.92 to 1.48) and may reduce repeat abortion (RR 0.68 95% CI 0.28 to 1.66), though the confidence interval encompasses benefit and harm (low-certainty evidence). The effect on condom use is uncertain. No study measured the impact of this intervention on STI rates. TCCMD may modestly increase ART adherence (RR 1.13, 95% CI 0.97 to 1.32, low-certainty evidence, and standardised mean difference 0.44, 95% CI -0.14 to 1.02, low-certainty evidence). TCCMD may modestly increase health service utilisation (RR 1.17, 95% CI 1.04 to 1.31; low-certainty evidence), but there was substantial heterogeneity ( $I(2) = 85\%$ ), with mixed results according to type of service utilisation (i.e. attendance for STI testing; HIV treatment; voluntary male medical circumcision (VMMC); VMMC post-operative visit; post-abortion care). For health and well-being outcomes, there may be little or no effect on CD4 count (mean difference 13.99, 95% CI -8.65 to 36.63; low-certainty evidence) and a slight reduction in virological failure (RR 0.86, 95% CI 0.73 to 1.01; low-certainty evidence).

### *TCCMD versus non-digital TCC*

No studies reported STI rates, condom use, ART adherence, abortion rates, or contraceptive use as outcomes for this comparison. TCCMD may modestly increase in service attendance overall (RR: 1.12, 95% CI 0.92-1.35, low certainty evidence), however the confidence interval encompasses benefit and harm. TCCMD versus digital non-targeted communication No studies reported STI rates, condom use, ART adherence, abortion rates, or contraceptive use as outcomes for this comparison. TCCMD may increase service utilisation overall (RR: 1.71, 95% CI 0.67-4.38, low certainty evidence), however the confidence interval encompasses benefit and harm and there was considerable heterogeneity ( $I(2) = 72\%$ ), with mixed results according to type of service utilisation (STI/HIV testing, and VMMC). Few studies reported on unintended consequences. One study reported that a participant withdrew from the intervention as they felt it compromised their undisclosed HIV status.

**AUTHORS' CONCLUSIONS:** TCCMD may improve some outcomes but the evidence is of low certainty. The effect on most outcomes is uncertain/unknown due to very low certainty evidence or lack of evidence. High quality, adequately powered trials and cost

effectiveness analyses are required to reliably ascertain the effects and relative benefits of TCC delivered by mobile devices. Given the sensitivity and stigma associated with sexual and reproductive health future studies should measure unintended consequences, such as partner violence or breaches of confidentiality.

## Epidemiological studies

1. Cork, M. A., et al. **Mapping male circumcision for HIV prevention efforts in sub-Saharan Africa.** *BMC Med* 2020;18(1):189.

Online at: <https://bmcmmedicine.biomedcentral.com/articles/10.1186/s12916-020-01635-5>.

**BACKGROUND:** HIV remains the largest cause of disease burden among men and women of reproductive age in sub-Saharan Africa. Voluntary medical male circumcision (VMMC) reduces the risk of female-to-male transmission of HIV by 50-60%. The World Health Organization (WHO) and Joint United Nations Programme on HIV/AIDS (UNAIDS) identified 14 priority countries for VMMC campaigns and set a coverage goal of 80% for men ages 15-49. From 2008 to 2017, over 18 million VMMCs were reported in priority countries. Nonetheless, relatively little is known about local variation in male circumcision (MC) prevalence.

**METHODS:** We analyzed geo-located MC prevalence data from 109 household surveys using a Bayesian geostatistical modeling framework to estimate adult MC prevalence and the number of circumcised and uncircumcised men aged 15-49 in 38 countries in sub-Saharan Africa at a 5 x 5-km resolution and among first administrative level (typically provinces or states) and second administrative level (typically districts or counties) units.

**RESULTS:** We found striking within-country and between-country variation in MC prevalence; most (12 of 14) priority countries had more than a twofold difference between their first administrative level units with the highest and lowest estimated prevalence in 2017. Although estimated national MC prevalence increased in all priority countries with the onset of VMMC campaigns, seven priority countries contained both subnational areas where estimated MC prevalence increased and areas where estimated MC prevalence decreased after the initiation of VMMC campaigns. In 2017, only three priority countries (Ethiopia, Kenya, and Tanzania) were likely to have reached the MC coverage target of 80% at the national level, and no priority country was likely to have reached this goal in all subnational areas.

**CONCLUSIONS:** Despite MC prevalence increases in all priority countries since the onset of VMMC campaigns in 2008, MC prevalence remains below the 80% coverage target in most subnational areas and is highly variable. These mapped results provide an actionable tool for understanding local needs and informing VMMC interventions for



maximum impact in the continued effort towards ending the HIV epidemic in sub-Saharan Africa.

### Infant male circumcision

1. Rossi, S., et al. **Management of pain in newborn circumcision: a systematic review**. *Eur J Pediatr*. 2020 Aug 3. doi: 10.1007/s00431-020-03758-6. Online ahead of print.

Online at: <https://link.springer.com/article/10.1007/s00431-020-03758-6>.

Male circumcision (MC) is one of the most common surgical procedures performed on neonates. In the last decades, there have been consistent advances in the understanding of pain mechanisms in newborns, and analgesia has become a fundamental part of neonatal care. MC is still often performed with inappropriate analgesic methods, and there is still great variability among the various centers about surgical and anesthetic techniques to do it. The purpose of this review is to summarize the findings in the literature about pain management and analgesia during newborn MC. We performed a systematic review of neonatal MC studies published in the last 20 years. The most effective technique appeared to be the combination of pharmacological and non-pharmacological methods of analgesia.

**CONCLUSION:** Combining local anesthesia with non-pharmacological analgesic strategies appears to be effective preventing procedural pain during MC. However, a standardized protocol for analgesia during MC is yet to be determined. Sensorial saturation appeared to help when used in conjunction with the local anesthesia techniques.

**WHAT IS KNOWN:** \* Male circumcision is a painful procedure and it is frequently performed with inappropriate analgesic methods. \* A gold standard practice in analgesia during male circumcision is still lacking and there is a great variability in the modus operandi between centers.

**WHAT IS NEW:** \* The combination of RB + EMLA + sucrose appears to be an analgesic strategy superior to other approaches. \* We advocate for the integration of sensorial saturation during male circumcision in order to improve the efficacy of current analgesic practices.

2. Bawazir, O. A., et al. **Sutureless versus interrupted sutures techniques for neonatal circumcision; a randomized clinical trial**. *J Pediatr Urol* 2020;16(4): 493.e1-493.e6.

Online at: [https://www.jpuro.com/article/S1477-5131\(20\)30402-2/fulltext](https://www.jpuro.com/article/S1477-5131(20)30402-2/fulltext).

**INTRODUCTION AND OBJECTIVE:** Male circumcision is a common procedure all over the world; in Saudi Arabia, circumcision is the most frequent elective surgical procedure performed on males. The use of sutures for neonatal circumcision may decrease bleeding; however, it may lead to skin sinus formation. The objective of this study was to compare the sutureless to the interrupted sutures technique for neonatal circumcision with Gamco clamp.

**PATIENTS AND METHODS:** We performed a randomized controlled clinical trial between 2017 and 2018. The study included 182 newborns assigned into two groups. Group 1 (n = 94) included neonates who had sutureless circumcision, and group 2 (n = 89) included neonates who underwent circumcision using interrupted absorbable 6/0 sutures. Study endpoints were bleeding, wound gaping, skin tunneling or sinus, and cyst formation.

**RESULTS:** There was no significant difference in patients' age and weight between groups. The procedure was significantly longer in group 2 (12.24 +/- 2.17 vs. 6.54 +/- 1.42 min; p < 0.001). There was no difference in bleeding between both groups (4 (4.26%) vs. 2 (2.27%) in groups 1 and 2, respectively, p = 0.683). Cyst formation was significantly reduced in group 1 (2 (2.13%) vs. 13 (14.77%); p = 0.002) and skin sinus formation increased in group 2 (14 (15.91%) vs. 0 in group 2 and 1, respectively; p < 0.001).

**DISCUSSION:** Circumcision can be performed with several techniques, and the superiority of one approach over the other is still debated. Many surgeons use interrupted sutures to oppose the skin edges, and in some reports, tissue glue was used for skin edges re-approximation with acceptable cosmetic results. In our study, the mean time taken for sutureless circumcision was about 7 min, and for the suture circumcision, it took around 11 min. In addition, the formation of a skin tunnel or sinuses rate was high despite the use of very thin sutures.

**CONCLUSION:** Male circumcision is a common and safe technique with minor and treatable complications. Risks of bleeding and sinus track formation are low with the sutureless method. The sutureless technique is recommended after Gamco circumcision as the standard technique for male circumcision in the newborn.

### Impact and coverage

1. Vandormael, A., et al. **HIV incidence declines in a rural South African population: a G-imputation approach for inference.** *BMC Public Health* 2020;20(1): 1205.

Online at: <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-09193-4>.

**BACKGROUND:** Ad hoc assumptions about the unobserved infection event, which is known only to occur between the latest-negative and earliest-positive test dates, can

lead to biased HIV incidence rate estimates. Using a G-imputation approach, we infer the infection dates from covariate data to estimate the HIV incidence rate in a hyper-endemic South African setting.

**METHODS:** A large demographic surveillance system has annually tested a cohort of HIV-uninfected participants living in the KwaZulu-Natal province. Using this data, we estimated a cumulative baseline hazard function and the effects of time-dependent covariates on the interval censored infection dates. For each HIV-positive participant in the cohort, we derived a cumulative distribution function and sampled multiple infection dates conditional on the unique covariate values. We right censored the data at the imputed dates, calculated the annual HIV incidence rate per 100 person-years, and used Rubin's rules to obtain the 95% confidence intervals.

**RESULTS:** A total of 20,011 uninfected individuals with a repeat HIV test participated in the incidence cohort between 2005 and 2018. We observed 2,603 infections per 58,769 person-years of follow-up among women and 845 infections per 41,178 person-years of follow-up among men. Conditional on age and circumcision status (men only), the female HIV incidence rate declined by 25%, from 5.0 to 3.7 infections per 100 person-years between 2014 and 2018. During this period, the HIV incidence rate among men declined from 2.1 to 1.1 infections per 100 person-years—a reduction of 49%. We observed similar reductions in male and female HIV incidence conditional on condom-use, marital status, urban residential status, migration history, and the HIV prevalence in the surrounding community.

**CONCLUSION:** We have followed participants in one of the world's largest and longest running HIV cohorts to estimate long-term trends in the population-wide incidence of infection. Using a G-imputation approach, we present further evidence for HIV incidence rate declines in this hyper-endemic South African setting.

2. Moodley, J., et al. **The impact of male partner circumcision on women's health outcomes [abstract].** *AIDS Educ Prev* 2020;32(4): 356-366.

Online at: <https://guilfordjournals.com/doi/10.1521/aeap.2020.32.4.356>.

Medical male circumcision is a proven method of HIV risk reduction in men with no known direct benefit to women. We investigated the benefit of partner circumcision on women's health. We conducted a secondary analysis of 5,029 women enrolled in the Vaginal and Oral Interventions to Control the Epidemic trial across 15 African sites, to look at the impact of partner circumcision status on sexually transmitted infections, pregnancy, frequency of sex, and condom use in women. Of 4,982 participants with a baseline response, 31% had circumcised partners. Women with circumcised partners

had a significantly reduced risk of syphilis acquisition, hazard ratio 0.51 (0.26, 1.00), p value = .05. Participants with uncircumcised partners were significantly less likely to have used a condom at the last sex act than the other two groups, adj. relative risk 0.86 (0.80, 0.92), adj. p value < .0001. We found no evidence of sexual risk compensation in women with circumcised partners.

## Safety

1. Galukande, M., et al. **Closing the gap toward zero tetanus infection for voluntary medical male circumcision: seven case reports and a review of the literature [abstract].** *Surg Infect (Larchmt)* 2020;21(7): 599-607.

Online at: [https://www.liebertpub.com/doi/10.1089/sur.2020.103?url\\_ver=Z39.88-2003&rfr\\_id=ori:rid:crossref.org&rfr\\_dat=cr\\_pub%20%20pubmed](https://www.liebertpub.com/doi/10.1089/sur.2020.103?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed).

**BACKGROUND:** Voluntary medical male circumcision (VMMC) is important for HIV prevention, providing up to 60% protection. Although VMMC is usually a safe procedure, it is not free of associated serious adverse events. In the Uganda VMMC program, which is available to males 10 years of age and older, 11 individuals were reported with tetanus infection out of almost 3.5 million circumcisions over an eight-year period (2009-2018). The majority had received tetanus vaccination prior to VMMC. Disproportionately and statistically significantly, the elastic collar compression method accounted for half the tetanus infection cases, despite contributing to only less than 10% of circumcisions done. This article describes gaps in presumed tetanus vaccination (TTV) protection along with relevant discussions and recommendations.

**CASE PRESENTATIONS:** We present seven tetanus case reports and a review of the literature. We were guided by a pre-determined thematic approach, focusing on immune response to TTV in the context of common infections and infestations in a tropical environment that may impair immune response to TTV. It is apparent in the available literature that the following (mostly tropical neglected infections) sufficiently impair antibody response to TTV: human immunodeficiency virus (HIV), pulmonary tuberculosis, nematode infections, and schistosomiasis.

**CONCLUSIONS:** One of seven patients died (14% case fatality). Individuals with prior exposure to certain infection(s) may not mount adequate antibody response to TTV sufficient to protect against acquiring tetanus. Therefore, TTV may not confer absolute protection against tetanus infection in these individuals. More needs to be done to ensure everyone is fully protected against tetanus, especially in the regions where risk of tetanus is heightened. We need to characterize the high-risk individuals (poor responders to TTV) and design targeted protective measures.

## Social and behavioural research

1. Palmer, E., et al. **Changing cultural practices: a case study of male circumcision in South Africa.** *Am J Mens Health* 2020;14(4): 1557988320927285.

Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7385840/>.

This article presents a case study of Simon, a 25-year old Black South African male. According to his Pedi customs, Simon underwent traditional male circumcision (TMC) as a 12-year-old adolescent. He tells of his fears relative to this experience and how, over time, he transitioned from a belief in TMC to a strong preference for medical male circumcision (MMC). Using a single-case study design, the aim of the research was to explore the value of the exercise of choice in TMC, which may influence cultural perceptions of gender and masculinity. The study unpacks the way in which the meaning and experience of TMC is shaped by the social and cultural contexts of South Africa. This qualitative exploration complements conventional medical accounts of circumcision, which are often focused on the medical procedure while ignoring cultural and social factors. Issues of gender, particularly the construction of hegemonic masculinity and how it positions men, women, and young boys in relation to each other and their communities, are discussed. Simon's case study provides new insights and perspectives on personally and culturally sensitive issues which are not easily accessed nor commonly understood. Data collected via in-depth interviews were transcribed and analyzed thematically. Analysis applied information from the literature and key concepts from the theoretical standpoint of social constructivism. Case study analysis allowed space for unexpected, emergent themes to arise from the data. Four main themes were identified, notably language, silence, patriarchy, and masculinity.

2. Banuelos Marco, B., et al. **Circumcision in childhood and male sexual function: a blessing or a curse?** *Int J Impot Res.* 2020 Sep 29. doi: 10.1038/s41443-020-00354-y. [Online ahead of print]

Online at: <https://www.nature.com/articles/s41443-020-00354-y>.

Male circumcision (MC) is the first planned surgical procedure ever performed. Nowadays many of these procedures are not necessarily carried out in a medical environment, therefore the real number remains unknown but it is estimated that one third of the men are circumcised. Some authors argue the negative impact of MC on men psychology and sexual life, but objective data are lacking. The purpose of this review is to summarize in the best possible way the literature to clarify this matter. A non-systematic narrative review was performed including articles between 1986 and 2019. The search for literature was carried out between July 2019 to October 2019 and any updates as of March 30, 2020. Although many authors support the hypothesis that circumcision status has an impact on sexual functioning, a negative outcome has not yet

been entirely proven. Circumcision might affect how men perceive their body image, and consequently affect their sexual life. We should consider this when analysing the literature about MC and sexual dysfunction, as many of the results are based on specific populations with different attitudes towards this procedure. Sexual function consists of many elements that not only relate to measurable facts such as anatomy, somatosensory and histology. An objective evaluation of the impact of circumcision on sexuality is still challenging, as it affects a wide variety of people that confront sexuality differently due to their sociocultural and historical background. Therefore, individuals can either perceive their circumcision status as a blessing or a curse depending on the values and preferences of the different communities or social environments where they belong.