

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

Combination HIV prevention and HIV testing

Costs and costing

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Epidemiological studies

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VMMC – general

Combination HIV prevention and HIV testing

1. Wu, Z. Y., et al. **Human immunodeficiency virus prevention strategies in China.** *Chinese Medical Journal* 2020;133(3): 318-325.

Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7004624/>

This paper reviews the current epidemics of human immunodeficiency virus (HIV) infection in China, particularly the globally available prevention strategies developed and implemented. This review focuses on HIV prevention measures in general, such as education, testing, and counseling and in specific responses to transmission modes, such as blood safety, harm reduction for people who inject drugs, and condom promotion to reduce sexual transmission. We also assess newly developed prevention measures, such as prevention treatment, pre-exposure prophylaxis, post-exposure prophylaxis, male circumcision, and promising potential future preventions, including microbicides and vaccines. Based on this assessment, we provide recommendations for their implementation in China. We conclude that there is no magic bullet for HIV prevention, particularly sexual transmission of the disease, but only a combination of these prevention strategies can control the HIV epidemic.

2. Castor, D., et al. **The only way is up: priorities for implementing long-acting antiretrovirals for HIV prevention and treatment.** *Curr Opin HIV AIDS* 2020;15(1): 73-80.

Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6903331/>

**PURPOSE OF REVIEW:** Long-acting HIV treatment and prevention (LAHTP) can address some of the achievement gaps of daily oral therapy to bring us closer to achieving Joint

United Nations Programme on HIV/AIDS Fast-track goals. Implementing these new technologies presents individual-level, population-level, and health systems-level opportunities and challenges.

**RECENT FINDINGS:** To optimize LAHTP implementation and impact, decision-makers should define and gather relevant data to inform their investment case within the existing health systems context. Programmatic observations from scale-up of antiretroviral therapy, oral preexposure prophylaxis, voluntary medical male circumcision, and family planning offer lessons as planning begins for implementation of LAHTP. Additional data intelligence should be derived from formative studies, pragmatic clinical trials, epidemiologic and economic modeling of LAHTP. Key implementation issues that need to be addressed include optimal communication strategies for demand creation; target setting; logistics and supply chain of commodities needed for LAHTP delivery; human resource planning; defining and operationalizing monitoring and evaluating metrics; integration into health systems.

**SUMMARY:** Successful LAHTP implementation can bolster treatment and prevention coverage levels if implementation issues outlined above are proactively addressed in parallel with research and development so that health systems can more rapidly integrate new technologies as they gain regulatory approval.

3. Mangombe, A., et al. et al. **Does peer education go beyond giving reproductive health information? cohort study in Bulawayo and Mount Darwin, Zimbabwe.** *BMJ Open* 2020;10(3): e034436.

Online at: <https://bmjopen.bmj.com/content/10/3/e034436.long>

**OBJECTIVE:** Peer education is an intervention within the voluntary medical male circumcision (VMMC)-adolescent sexual reproductive health (ASRH) linkages project in Bulawayo and Mount Darwin, Zimbabwe since 2016. Little is known if results extend beyond increasing knowledge. We therefore assessed the extent of and factors affecting referral by peer educators and receipt of HIV testing services (HTS), contraception, management of sexually transmitted infections (STIs) and VMMC services by young people (10-24 years) counselled.

**DESIGN:** A cohort study involving all young people counselled by 95 peer educators during October-December 2018, through secondary analysis of routinely collected data.

**SETTING:** All ASRH and VMMC sites in Mt Darwin and Bulawayo.

**PARTICIPANTS:** All young people counselled by 95 peer educators.

**OUTCOME MEASURES:** Censor date for assessing receipt of services was 31 January 2019. Factors (clients' age, gender, marital and schooling status, counselling type, location, and peer educators' age and gender) affecting non-referral and non-receipt of services (dependent variables) were assessed by log-binomial regression. Adjusted relative risks (aRRs) were calculated.

**RESULTS:** Of the 3370 counselled (66% men), 65% were referred for at least one service. 58% of men were referred for VMMC. Other services had 5%-13% referrals. Non-referral for HTS decreased with clients' age (aRR: ~0.9) but was higher among group-counselled (aRR: 1.16). Counselling by men (aRR: 0.77) and rural location (aRR: 0.61) reduced risks of non-referral for VMMC, while age increased it (aRR  $\geq$  1.59). Receipt of services was high (64%-80%) except for STI referrals (39%). Group counselling and rural location (aRR: ~0.52) and male peer educators (aRR: 0.76) reduced the risk of non-receipt of VMMC. Rural location increased the risk of non-receipt of contraception (aRR: 3.18) while marriage reduced it (aRR: 0.20).

**CONCLUSION:** We found varying levels of referral ranging from 5.1% (STIs) to 58.3% (VMMC) but high levels of receipt of services. Type of counselling, peer educators' gender and location affected receipt of services. We recommend qualitative approaches to further understand reasons for non-referrals and non-receipt of services

4. Wandera, S. O. et al. **Prevalence and determinants of recent HIV testing among older persons in rural Uganda: a cross-sectional study.** *BMC Public Health* 2020;20(1): 144. Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6995239/>

**BACKGROUND:** There is limited research on HIV testing among older persons in Uganda. The aim of this study was to investigate the socio-demographic determinants of recent HIV testing among older persons in selected rural districts in Uganda.

**METHODS:** A cross-sectional survey of 649 older men and women age 50 years and older, from central (Masaka district) and western (Hoima district) Uganda was conducted. Frequency distributions, chi-square tests and multivariable logistic regressions were used to examine the association between recent HIV testing and selected explanatory variables.

**RESULTS:** Nearly six in ten (58%) of older persons had primary education. About 60% of the respondents were in union and 13% of them had two or more spouses. Half of the older people (51%) had sex in the last twelve months. A quarter (25%) of older persons gave or received gifts in exchange for sex in their lifetime. Nearly a third (29%) reported sexually transmitted infections in the last 12 months. Prevalence of lifetime HIV testing was 82% and recent (last 12 months) HIV testing was 53%. HIV testing in the last 12

months was associated with age (OR = 0.50; 95% CI: 0.31-0.79), self-reported sexually transmitted infections (OR = 1.59; 95% CI: 1.00-2.30), male circumcision (OR = 1.71; 95% CI: 1.0-2.93), and sexual activity in the last 12 months (OR = 2.89; 95% CI: 1.83-4.57).

**CONCLUSION:** Recent HIV testing among older persons was associated with younger age, self-reported STIs, male circumcision, and sexual activity among older persons in rural Uganda. HIV testing interventions need to target older persons who are 70 years and older, who were less likely to test.

### Costs and costing

1. Marais, L., et al. **Targeting for male medical circumcision: profiles from two South African cities.** *AIDS Care* 2020 Feb 18. 1-5. [Epub ahead of print]

Male circumcision is considered by some to be an acceptable global approach to reduce HIV infections. Consequently, many governments in sub-Saharan Africa run voluntary male circumcision programmes. South Africa also provides male circumcision for free at state clinics and hospitals. Very little is known about the men who use this service. This study uses data from Cape Town, a sample of 1194 in 2016, and from Mangaung, a sample of 277 in 2017 and 2018, to fill this gap. The study finds that age targeting is inadequate, risk targeting is absent, and religious and cultural factors have a negative effect on the cost-efficiency of the service in the long run.

### Enhancing uptake of VMMC

1. Kennedy, C. E., et al. **Economic compensation interventions to increase uptake of voluntary medical male circumcision for HIV prevention: a systematic review and meta-analysis.** *PLoS One* 2020;15(1): e0227623.

Online at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0227623>

**BACKGROUND:** Economic compensation interventions may help support higher voluntary medical male circumcision (VMMC) coverage in priority sub-Saharan African countries. To inform World Health Organization guidelines, we conducted a systematic review of economic compensation interventions to increase VMMC uptake.

**METHODS:** Economic compensation interventions were defined as providing money or in-kind compensation, reimbursement for associated costs (e.g. travel, lost wages), or lottery entry. We searched five electronic databases and four scientific conferences for studies examining the impact of such interventions on VMMC uptake, HIV testing and safer-sex/risk-reduction counseling uptake within VMMC, community expectations about compensation, and potential coercion. We screened citations, extracted data, and

assessed risk of bias in duplicate. We conducted random-effects meta-analysis. We also reviewed studies examining acceptability, values/preferences, costs, and feasibility.

**RESULTS:** Of 2484 citations identified, five randomized controlled trials (RCTs) and three non-randomized controlled trials met our eligibility criteria. Studies took place in Kenya, Malawi, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe. Meta-analysis of four RCTs showed significant impact of any economic compensation on VMMC uptake (relative risk: 5.23, 95% CI: 3.13 to 8.76). RCTs of food/transport vouchers and conditional cash transfers generally showed increases in VMMC uptake, but lotteries, subsidized VMMC, and receiving a gift appeared somewhat less effective. Three non-randomized trials showed mixed impact. Six additional studies suggested economic compensation interventions were generally acceptable, valued for addressing key barriers, and motivating to men. However, some participants felt they were insufficiently motivating or necessary; one study suggested they might raise community suspicions. One study from South Africa found a program cost of US\$91 per additional circumcision and US\$450-\$1350 per HIV infection averted.

**CONCLUSIONS:** Economic compensation interventions, particularly transport/food vouchers, positively impacted VMMC uptake among adult men and were generally acceptable to potential clients. Carefully selected economic interventions may be a useful targeted strategy to enhance VMMC coverage.

2. Atkins, K., et al. **Service delivery interventions to increase uptake of voluntary medical male circumcision for HIV prevention: A systematic review.** *PLoS One* 2020;15(1): e0227755.

Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6957297/>

**BACKGROUND:** Voluntary medical male circumcision (VMMC) remains an essential component of combination HIV prevention services, particularly in priority countries in sub-Saharan Africa. As VMMC programs seek to maximize impact and efficiency, and to support World Health Organization guidance, specific uptake-enhancing strategies are critical to identify.

**METHODS:** We systematically reviewed the literature to evaluate the impact of service delivery interventions (e.g., facility layout, service co-location, mobile outreach) on VMMC uptake among adolescent and adult men. For the main effectiveness review, we searched for publications or conference abstracts that measured VMMC uptake or uptake of HIV testing or risk reduction counselling within VMMC services. We synthesized data by coding categories and outcomes. We also reviewed studies assessing acceptability, values/preferences, costs, and feasibility.

**RESULTS:** Four randomized controlled trials and five observational studies were included in the effectiveness review. Studies took place in South Africa, Tanzania, Uganda, Zambia, and Zimbabwe. They assessed a range of service delivery innovations, including community-, school-, and facility-based interventions. Overall, interventions increased VMMC uptake; some successfully improved uptake among age-specific subpopulations, but urban-rural stratification showed no clear trends. Interventions that increased adult men's uptake included mobile services (compared to static facilities), home-based testing with active referral follow-up, and facility-based HIV testing with enhanced comprehensive sexual education. Six acceptability studies suggested interventions were generally perceived to help men choose to get circumcised. Eleven cost studies suggested interventions create economies-of-scale and efficiencies. Three studies suggested such interventions were feasible, improving facility preparedness, service quality and quantity, and efficiencies.

**CONCLUSIONS:** Innovative changes in male-centered VMMC services can improve adult men's and adolescent boys' VMMC uptake. Limited evidence on interventions that enhance access and acceptability show promising results, but evidence gaps persist due to inconsistent intervention definition and delivery, due in part to contextual relevance and limited age disaggregation.

3. Thomas, R., et al. **Improving risk perception and uptake of voluntary medical male circumcision with peer-education sessions and incentives in Manicaland, East Zimbabwe: study protocol for a pilot randomised trial.** *Trials* 2020;21(1): 108. Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6979356/>

**BACKGROUND:** Voluntary medical male circumcision (VMMC) is a key component of combination HIV-prevention programmes. Several high-HIV-prevalence countries in sub-Saharan Africa, including Zimbabwe, are looking to scale up VMMC activities. There is limited evidence on how a combination of social learning from peer education by a role model with different behavioural incentives influences demand for VMMC in such settings.

**METHODS/DESIGN:** This matched-cluster randomised controlled trial with 1740 participants will compare two behavioural incentives against a control with no intervention. In the intervention clusters, participants will participate in an education session delivered by a circumcised young male ("role model") on the risks of HIV infection and the benefits from medical male circumcision. All participants will receive contributions towards transport costs to access medical male circumcision at participating clinics. Via blocked randomisation, in the intervention clusters participants will be randomly assigned to receive one of two types of incentives - fixed cash payment or lottery payment - both conditional on undergoing surgical VMMC. In two sites, a

community-led intervention will also be implemented to address social obstacles and to increase support from peers, families and social structures. Baseline measures of endpoints will be gathered in surveys. Follow-up assessment at 6 months will include self-reported uptake of VMMC triangulated with clinic data.

**DISCUSSION:** This is the first trial to pilot-test social learning to improve risk perception and self-efficacy and to address the fear of pain associated with VMMC and possible present-biased preferences with front-loaded compensations as well as fixed or lottery-based cash payments. This study will generate important knowledge to inform HIV-prevention policies about the effectiveness of behavioural interventions and incentives, which could be easily scaled-up.

**TRIAL REGISTRATION:** This trial has been registered on ClinicalTrials.gov (identifier: NCT03565588). Registered on 21 June 2018

## Epidemiological studies

1. Carrasco, M. A., et al. **Left behind?: male clients of female sex workers in Zambia.** *AIDS Care* 2020 Jan 23: 1-8. [Epub ahead of print]

Male clients of female sex workers (CFSWs) are a key-affected group within the HIV epidemic. However, few studies have quantified HIV/STI burdens among CFSWs. This study used nationally representative data from the 2013-14 Zambia Demographic and Health Survey to estimate proxies for HIV and STI prevalence among sexually active men aged 15-59 paying for sex recently (past 12 months) [5%, n = 679] or in their lifetime [15%, n = 1,887]. Chi-square tests were calculated to assess differences in prevalence estimates between CFSWs and non-clients. Multivariable logistic regression models were generated to identify sociodemographic factors associated with prevention characteristics. CFSWs had higher odds of reporting HIV infection (recent: aOR 1.413,  $p < 0.05$ ; lifetime: aOR 1.604,  $p < 0.001$ ) and past-year STI symptomology (recent: aOR 3.342,  $p < 0.001$ ; lifetime: aOR 2.266,  $p < 0.001$ ) than non-clients, irrespective of transactional sex recency. Compared to non-clients, CFSWs were more likely to be <25yo (42% vs. 29%,  $p < 0.001$ ), have a cohabitating partner (43% vs. 35%,  $p < 0.001$ ), use condoms at last sex (31% vs. 27%,  $p < 0.001$ ), and never test for HIV (36% vs. 29%,  $p < 0.001$ ). When comparing CFSWs to non-clients, marital status was an effect modifier of HIV testing, medical circumcision, and condom use at last sex. Findings suggest high HIV/STI burdens and highlight the urgent need for differentiated HIV prevention programming for CFSWs in Zambia including the provision of PrEP.

2. Carrasco, M. A., et al. **Medically, traditionally, and dually circumcised men in Lesotho: population-based measurement of HIV/STI infections, sexual risk behaviors, and service use patterns.** *AIDS Behav* 2020 Jan 11. [Epub ahead of print]

Voluntary medical male circumcision (VMMC) is an HIV prevention priority in Lesotho, but uptake remains suboptimal. We analyzed the 2014 Lesotho Demographic and Health Survey to assess population-level social, behavioral, and serological correlates of circumcision status, specifically traditional and/or medical circumcision. Among 2931 men, approximately half were traditionally circumcised, and fewer than 25% were medically circumcised. Only 4% were dually (traditionally and medically) circumcised. In multivariate analysis, only medical circumcision emerged as significantly ( $p < 0.05$ ) protective against HIV infection, whereas dual circumcision was significantly associated with past-year STI symptomology. Younger (ages 15-24), lower educated, rural-dwelling, and traditionally circumcised men, including those who never tested for HIV, had significantly lower odds of medical circumcision. Our findings indicate other unmeasured behavioral factors may mitigate VMMC's protective effect against HIV and STI infections in dually circumcised men. Further research can help identify counseling and demand creation strategies for traditionally circumcised men presenting for VMMC.

### Impact and coverage

1. Pretorius, C., et al. **Modelling impact and cost-effectiveness of oral pre-exposure prophylaxis in 13 low-resource countries.** *J Int AIDS Soc* 2020;23(2): e25451. Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7048876/>

**INTRODUCTION:** Oral pre-exposure prophylaxis (PrEP) provision is a priority intervention for high HIV prevalence settings and populations at substantial risk of HIV acquisition. This mathematical modelling analysis estimated the impact, cost and cost-effectiveness of scaling up oral PrEP in 13 countries.

**METHODS:** We projected the impact and cost-effectiveness of oral PrEP between 2018 and 2030 using a combination of the Incidence Patterns Model and the Goals model. We created four PrEP rollout scenarios involving three priority populations-female sex workers (FSWs), serodiscordant couples (SDCs) and adolescent girls and young women (AGYW)-both with and without geographic prioritization. We applied the model to 13 countries (Eswatini, Ethiopia, Haiti, Kenya, Lesotho, Mozambique, Namibia, Nigeria, Tanzania, Uganda, Zambia and Zimbabwe). The base case assumed achievement of the Joint United Nations Programme on HIV/AIDS 90-90-90 antiretroviral therapy targets, 90% male circumcision coverage by 2020 and 90% efficacy and adherence levels for oral PrEP.



**RESULTS:** In the scenarios we examined, oral PrEP averted 3% to 8% of HIV infections across the 13 countries between 2018 and 2030. For all but three countries, more than 50% of the HIV infections averted by oral PrEP in the scenarios we examined could be obtained by rollout to FSWs and SDCs alone. For several countries, expanding oral PrEP to include medium-risk AGYW in all regions greatly increased the impact. The efficiency and impact benefits of geographic prioritization of rollout to AGYW varied across countries. Variations in cost-effectiveness across countries reflected differences in HIV incidence and expected variations in unit cost. For most countries, rolling out oral PrEP to FSWs, SDCs and geographically prioritized AGYW was not projected to have a substantial impact on the supply chain for antiretroviral drugs.

**CONCLUSIONS:** These modelling results can inform prioritization, target-setting and other decisions related to oral PrEP scale-up within combination prevention programmes. We caution against extensive use given limitations in cost data and implementation approaches. This analysis highlights some of the immediate challenges facing countries—for example, trade-offs between overall impact and cost-effectiveness—and emphasizes the need to improve data availability and risk assessment tools to help countries make informed decisions.

2. Akullian, A., et al. **The effect of 90-90-90 on HIV-1 incidence and mortality in eSwatini: a mathematical modelling study.** *Lancet HIV* 2020 Feb 13. [Epub ahead of print]  
Online at: [https://www.thelancet.com/journals/lanhiv/article/PIIS2352-3018\(19\)30436-9/fulltext](https://www.thelancet.com/journals/lanhiv/article/PIIS2352-3018(19)30436-9/fulltext)

**BACKGROUND:** The rapid scale-up of antiretroviral therapy (ART) towards the UNAIDS 90-90-90 goals over the last decade has sparked considerable debate as to whether universal test and treat can end the HIV-1 epidemic in sub-Saharan Africa. We aimed to develop a network transmission model, calibrated to capture age-specific and sex-specific gaps in the scale-up of ART, to estimate the historical and future effect of attaining and surpassing the UNAIDS 90-90-90 treatment targets on HIV-1 incidence and mortality, and to assess whether these interventions will be enough to achieve epidemic control (incidence of 1 infection per 1000 person-years) by 2030.

**METHODS:** We used eSwatini (formerly Swaziland) as a case study to develop our model. We used data on HIV prevalence by 5-year age bins, sex, and year from the 2007 Swaziland Demographic Health Survey (SDHS), the 2011 Swaziland HIV Incidence Measurement Survey, and the 2016 Swaziland Population Health Impact Assessment (PHIA) survey. We estimated the point prevalence of ART coverage among all HIV-infected individuals by age, sex, and year. Age-specific data on the prevalence of male circumcision from the SDHS and PHIA surveys were used as model inputs for traditional male circumcision and scale-up of voluntary medical male circumcision (VMMC). We

calibrated our model using publicly available data on demographics; HIV prevalence by 5-year age bins, sex, and year; and ART coverage by age, sex, and year. We modelled the effects of five scenarios (historical scale-up of ART and VMMC [status quo], no ART or VMMC, no ART, age-targeted 90-90-90, and 100% ART initiation) to quantify the contribution of ART scale-up to declines in HIV incidence and mortality in individuals aged 15-49 by 2016, 2030, and 2050.

**FINDINGS:** Between 2010 and 2016, status-quo ART scale-up among adults (aged 15-49 years) in eSwatini (from 34.0% in 2010 to 74.1% in 2016) reduced HIV incidence by 43.57% (95% credible interval 39.71 to 46.36) and HIV mortality by 56.17% (54.06 to 58.92) among individuals aged 15-49 years, with larger reductions in incidence among men and mortality among women. Holding 2016 ART coverage levels by age and sex into the future, by 2030 adult HIV incidence would fall to 1.09 (0.87 to 1.29) per 100 person-years, 1.42 (1.13 to 1.71) per 100 person-years among women and 0.79 (0.63 to 0.94) per 100 person-years among men. Achieving the 90-90-90 targets evenly by age and sex would further reduce incidence beyond status-quo ART, primarily among individuals aged 15-24 years (an additional 17.37% [7.33 to 26.12] reduction between 2016 and 2030), with only modest additional incidence reductions in adults aged 35-49 years (1.99% [-5.09 to 7.74]). Achieving 100% ART initiation among all people living with HIV within an average of 6 months from infection-an upper bound of plausible treatment effect-would reduce adult HIV incidence to 0.73 infections (0.55 to 0.92) per 100 person-years by 2030 and 0.46 (0.33 to 0.59) per 100 person-years by 2050.

**INTERPRETATION:** Scale-up of ART over the last decade has already contributed to substantial reductions in HIV-1 incidence and mortality in eSwatini. Focused ART targeting would further reduce incidence, especially in younger individuals, but even the most aggressive treatment campaigns would be insufficient to end the epidemic in high-burden settings without a renewed focus on expanding preventive measures.

**FUNDING:** Global Good Fund and the Bill & Melinda Gates Foundation.

## Social and behavioural research

1. Bauermeister, J. A., et al. **Social representations of the prevention of heterosexual transmission of HIV among young Africans from five countries, 1997-2014.** *PLoS One* 2020;15(3): e0227878.  
Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7059925/>

HIV prevention has evolved dramatically since the 1990s. The ABC trilogy (abstinence, be faithful, use a condom) has expanded to incorporate a range of biomedical prevention strategies, including voluntary medical male circumcision, pre- and post-

exposure prophylaxis, and treatment-as-prevention, and to accommodate structural and combination prevention approaches. This study examines how young Africans from five epidemiologically and socio-culturally diverse countries (Swaziland, Kenya, Nigeria, Burkina Faso and Senegal) made sense of the evolving prevention of sexual transmission of HIV between 1997 and 2014. It uses a distinctive data source: 1,343 creative narratives submitted to HIV-themed scriptwriting competitions by young people aged 10-24. The study triangulates between analysis of quantifiable characteristics of the narratives, thematic qualitative analysis, and narrative-based approaches. Over time, HIV prevention themes become less prominent. Condoms are represented less often from 2008, though representations become more favourable. Biomedical prevention is all but absent through 2014. While prevention strategies may be described as effective in narratorial commentary, they are rarely depicted as preventing HIV, but are evoked instead in moralistic cautionary tales or represented as ineffective. Over time, an increasing proportion of protagonists are female. One in five narratives acknowledge structural drivers of HIV, but these are generally either disempowering or condemn characters for failing to prevent HIV in the face of often overwhelming structural challenges. In the context of combination prevention, there is a need to disseminate an empowering cultural narrative that models successful use of HIV prevention strategies despite structural constraints and avoids blaming and stigma.

2. Grund, J. M., et al. **Correction to: Association of male circumcision with women's knowledge of its biomedical effects and with their sexual satisfaction and function: systematic review.** *AIDS Behav* 2020;24(1): 344.  
Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7050554/>

The article "Association of Male Circumcision with Women's Knowledge of its Biomedical Effects and with Their Sexual Satisfaction and Function: A Systematic Review," written by Jonathan M. Grund, Tyler S. Bryant, Carlos Toledo, Inimfon Jackson, Kelly Curran, Sheng Zhou, Jorge Martin del Campo, Ling Yang, Apollo Kivumbi, Peizi Li, Naomi Bock, Joanna Taliano, Stephanie M. Davis, was originally published electronically on the publisher's Internet portal (currently SpringerLink) on 24 October 2018 without open access.

3. Ledikwe J. H., et al. **Voluntary medical male circumcision and perceived sexual functioning, satisfaction, and risk behavior: a qualitative study in Botswana.** *Arch Sex Behav* 2020;49(3): 983-998.

This article examines perceptions of sexual functioning, satisfaction, and risk-taking related to voluntary medical male circumcision (VMMC) in Botswana. Twenty-seven focus group discussions were conducted in four purposively selected communities with community leaders, men, and women. Discussions were analyzed using an inductive content analytic approach. Perceptions of VMMC's impact on sexual functioning and

satisfaction varied. Increased satisfaction was attributed to improved penile health and increased ejaculatory latency time, whereas decreased satisfaction was attributed to erectile dysfunction and increased vaginal irritation during sex. Most participants thought sexual disinhibition occurred after circumcision; nevertheless, some women said they used male circumcision status as a marker of HIV status, thereby influencing sexual decision-making and partner selection. Messaging should emphasize that VMMC does not afford complete HIV protection. Optimizing VMMC's impact requires increasing uptake while minimizing behavioral disinhibition, with a balance between potential messaging of improved sexual functioning and satisfaction and the potential impact on sexual disinhibition.

4. Chatsika, Z.J., et al. **Voluntary medical male circumcision and sexual practices among sexually active circumcised men in Mzuzu, Malawi: a cross-sectional study.** *BMC Public Health* 2020;20(1): 211.

**BACKGROUND:** Voluntary medical male circumcision (VMMC) is one of the strategies being promoted to prevent sexual heterosexual transmission of HIV. It has been adopted by 14 countries with high HIV prevalence and low circumcision rates. The 60.0% protective efficacy of VMMC has come with misconceptions in some societies in Malawi, hence VMMC clients may opt for risky sexual practices owing to its perceived protective effect. The study estimated proportion of circumcised men engaging in risky sexual behaviors post-VMMC, assessed knowledge on VMMC protective effect and identified socio-demographic factors associated with risky sexual practices.

**METHODS:** A cross sectional study was conducted at two sites of Mzuzu city. Systematic random sampling was used to select 322 participants aged 18-49 who had undergone VMMC. The independent variables included age, location, occupation, religion, marital status and education. Outcome variables were non condom use, having multiple sexual partners and engaging in transactional sex. Data from questionnaires was analyzed using Pearson's chi square test and logistic regression.

**RESULTS:** Out of 322 respondents, 84.8% (273) understood the partial protection offered by VMMC in HIV prevention. Ninety-six percent of the participants self-reported continued use of condoms post VMMC. Overall 23.7-38.3% participants self-reported engaging in risky sexual practices post VMMC, 23.7% (76) had more than one sexual partner; 29.2% (94) paid for sex while 39.9% (n = 187) did not use a condom. Residing in high density areas was associated with non-condom use, ( $p = 0.043$ ). Being single ( $p < 0.001$ ) and residing in low density areas ( $p = 0.004$ ) was associated with engaging in transactional sex.

**CONCLUSION:** Risky sexual practices are evident among participants that have

undergone VMMC. Messages on safer sexual practices and limitations of VMMC need to be emphasized to clients, especially unmarried or single and those residing in low density areas.

5. Nxumalo, C.T., et al. **Zulu men's conceptions, understanding, and experiences of voluntary medical male circumcision in KwaZulu-Natal, South Africa.** *Am J Mens Health* 2020;14(2): 1557988319892437.  
Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7059234/>

Voluntary medical male circumcision (VMMC) is proven to reduce transmission of HIV/AIDS. Despite concerted efforts to scale up VMMC in men aged 18-49, the number of medically circumcised men in this age group remains suboptimal. Research has shown that several individual factors hinder and promote uptake of VMMC. The nature of these factors is not clearly understood within the dimensions of religion, culture and tradition, particularly in a low-income rural setting. This study aimed to analyze Zulu men's conceptions, understanding and experiences regarding VMMC in KwaZulu-Natal (KZN), South Africa. A qualitative phenomenographic study approach was used to collect data from 20 uncircumcised males at six different clinics that provide VMMC services. Ethical approval to collect data was obtained from the Biomedical Research Ethics Committee of the University of KZN (BREC - BE627/18). Individual in-depth face to face interviews were conducted using a semistructured interview guide. Audiotapes were used to record interviews which were transcribed verbatim and then analyzed manually. The conceptions regarding medical circumcision appeared to be related to religious and cultural beliefs surrounding circumcision and the historical traditional practice thereof. The understanding of males regarding VMMC was mainly attributed to HIV prevention; however, knowledge on the degree of partial protection appeared to be limited. An array of negative accounted in the form of complications such as poor wound healing and postoperative pain undergone by peers and other close influencers accounted for participants' experiences of VMMC. Poor knowledge and negative experiences relating to VMMC could account for reasons why men choose not to undergo VMMC.

### Traditional male circumcision

1. Mpateni, A., et al. **An autopsy of palliative health hazards associated with the contemporary traditional male circumcision rite: the case of 2016 Alice study.** *Indian J Palliat Care* 2020;26(1): 80-85.  
Online at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7017700/>

**AIM:** This article examined the health hazards associated with the contemporary traditional circumcision rite in Alice, Eastern Cape, South Africa.

**METHODS:** The study from which this article was extracted was explorative, descriptive, and employed a qualitative method. The study took use of one-on-one interviews, with the use of interview guide as an instrument to ease focus group discussions and interviews. Data were then analyzed thematically.

**RESULTS:** The findings brought the following factors; hospitalization of initiates; contraction of diseases; amputation of manhood organs; and maltreatment leading to health hazards.

**CONCLUSIONS:** This article then recommended that, government, cultural custodians, and parents are requested to work hand in hand to curb all these health hazards associated with the contemporary rite.

2. Shi, C., et al. **Traditional male circumcision is associated with sexual risk behaviors in sub-Saharan countries prioritized for male circumcision.** *AIDS Behav* 2020;24(3): 951-959.

To understand the sexual risk behavior of men with traditional male circumcision and medical male circumcision in the context of the World Health Organization's (WHO) campaign for voluntary medical male circumcision (VMMC) scale-up, we investigated ten countries prioritized for the scale-up from the Demographic and Health Surveys. Male respondents aged 15-49 were selected. Ordinal regression was used to analyze the relationship between three sexual risk behaviors-condom use with non-cohabiting partners, number of non-cohabiting partners, and partner type-and circumcision status (traditionally circumcised before and after the VMMC scale-up, medically circumcised before and after the scale-up, and not circumcised), while controlling for social demographic covariates. We found evidence that some sexual risky behavior, specifically lower condom use and higher number of sexual partners, was associated with traditional circumcision. This finding suggests that messages about the protective effect of male circumcision may not have reached men with traditional circumcision. We suggest that WHO's VMMC campaign should include communities where traditional male circumcision is popular. We looked for, but did not find, evidence of differences between groups circumcised at different times, which could have indicated sexual risk compensation.

### VMMC – general

1. Dogan, G. **The effect of religious beliefs on the publication productivity of countries in circumcision: a comprehensive bibliometric view.** *J Relig Health* 2020;59(2): 1126-1136.

Circumcision is one of the most common surgical operations in newborns, babies, and children due to cultural, religious, and medical reasons. Religious beliefs are known to

have an important role in circumcision. Although bibliometric analyses have been performed about several topics with a lot of publications in literature, no studies in the literature were found to focus on male circumcision. This study aims to make a comprehensive bibliometric analysis of circumcision and investigate the relationship between publication productivity and religious beliefs of the countries. Web of Science was utilized to obtain the documents needed for bibliometric analyses. "Circumcision" keyword was used for search. The search included studies published between 1980 and 2018. The literature review indicated that there were 3,694 publications about circumcision published between 1980 and 2018. Of these publications, 1,770 (47.9%) were articles. This study provided a bibliometric summary of 1,770 articles. The top five active countries about circumcision were the USA, England, South Africa, Turkey, and Kenya. The present study found that the religious beliefs of a country were directly related to publication productivity about circumcision. The top-cited study was the article entitled "Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomized controlled trial" written by Bailey et al. and published in the journal Lancet. The keyword analysis results showed that HIV was the top keyword used in all articles about circumcision. This study is believed to help researchers interested in circumcision topic to access a summary of the literature, see contemporary and more important topics, and discover new ideas about the issue.