

Cost Analysis of Adult Male Circumcision comparing the PrePex Device to a Surgical procedure in Zimbabwe

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Background

It is well known from a range of observational and epidemiological studies that the lifetime risk of acquiring HIV among males can be significantly reduced via circumcision by 53%-60% [1-3]. Numerous papers on the topic have been published over the past two decades to elevate HIV prevention awareness, especially in sub-Saharan countries.

Results from the Decision Makers' Program Planning Tool (DMPPT) models supported by the USAID Health Policy Initiative and UNAIDS, performed in 2011, suggest that scaling up adult voluntary medical male circumcision (VMMC) to reach 80% coverage in the 13 countries by 2015 would entail performing 20.34 million circumcisions between 2011 and 2015 and additional 8.42 million between 2016 and 2025. Such a scale-up would result in averting 3.36 million new HIV infections through 2025. In addition, while the model shows that this scale-up would cost a total of US\$2 billion between 2011 and 2025, it would result in net savings (due to averted treatment and care costs) amounting to US\$16.51 billion.

In Zimbabwe, the percentage of all circumcised men is estimated at about 10% of the male population [4]. Zimbabwe started a phased implementation of the national male circumcision (MC) Program using the forceps guided surgical method surgical procedure in 2009. The MOVE (Models for Optimizing Volume and Efficiency) model was adopted to increase efficiency in surgical circumcision programs by task sharing, setting up surgical suites, and making available MC kits that include all the necessary components for the surgery [5]. About 50,000 circumcisions had done during the program until 2011 (MoHCW, TWG Report 2012). Ministry of Health and Child Welfare (MoHCW) estimates that scaling up to reach 80% of men, aged 13 - 29 in Zimbabwe means that over 1.26 million circumcisions need to be performed by 2015 (National Strategic Plan 2010). To increase the feasibility of accomplishing this target and scaling up MC, the MoHCW had shown interest in non-surgical circumcision devices for adult and adolescent MC that might make the procedure quicker, simpler and less expensive and have the potential to aid and accelerate scale up of MC.

Methods:

A comparative phase (RCT) assessed the performance of PrePex method compared to forceps guided surgical method, registered in clinicaltrials.gov: NCT01956370. The main objective was to examine the procedure time, the secondary objectives were comparing the rate of pain, healing time, satisfaction rate, cosmetic results and cost of procedure. Here we elaborate on the cost difference gathered during the study.

Findings:

The study was conducted at ZNFPC Spilhaus Center, Harare, Zimbabwe. 240 eligible adult male were randomized in a 2:1 ratio; 160 for the PrePex arm and 80 to the surgical arm, Forceps guided technique was used for the surgical arm [6]. Subjects in both groups achieved successful circumcision and healing. The costs were documented per arm, taking into account time per procedure to calculate the personnel costs.

Cost Item	PrePex VMMC US\$ (%)	Surgical VMMC US\$ (%)
Consumable supplies costs	27.92 (58.1%)	29.66 (51.9%)
Non-consumable supplies costs	0.41 (0.9%)	0.37 (0.6%)
Personnel costs	18.10 (37.7%)	25.84 (45.2%)
Support personnel	1.21 (2.5%)	0.55 (1%)
Training costs	0.11 (0.2%)	0.27 (0.5%)
Capital costs	0.30 (0.6%)	0.48 (0.8%)
Total	\$48.05 (100%)	\$57.17 (100%)

Table 01 – Total Cost for PrePex & Surgical Arms

Interpretation:

As a result of our study, it's clear to indicate that the PrePex procedure is less expensive than a surgical procedure. The total difference between the two methods was found to be \$9.12 per VMMC procedure, which means there is 16% of cost savings.

This finding is an essential parameter for stakeholders when assessing different methods and devices of MC targeting to scale up circumcision to over 1.26 million men.

References:

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