

Original Research Article

## Acceptability of Voluntary Medical Male Circumcision among Indian Men: An Online study

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**Abstract:** WHO reports 60% reduction in heterosexual transmission of HIV, with circumcision, recommending that VMMC should be considered an efficacious intervention for HIV prevention? In India, VMMC isn't offered, due to presumed socio-cultural barriers. Also no information is given to the people-at-risk about its benefits. This study aims to find out the knowledge and acceptability of VMMC. An online survey was conducted amongst adult Indian men using Google forms by posting link on Facebook, in November-2015. Proportions were calculated and Chi-square test was applied. 111 Indian men participated. Average age was 27.5 years. 39% of participants were circumcised. 94% Muslims were circumcised, while 14% non-Muslims were circumcised. The knowledge regarding VMMC's benefits was highest for 'better genital hygiene' (70%) and lowest for 'decreased sexual pleasure' (44%). 29% of uncircumcised men were willing for VMMC. The most common reason for opting was 'better genital hygiene' and the least common was 'reduction of risk of HIV'. Religious/cultural barriers to its acceptance were cited by only 9% of declining uncircumcised men. Indian men have some awareness and acceptability for VMMC. The knowledge of the benefits is translated into willingness to opt for VMMC. Religious/cultural opposition to circumcision wasn't found to be a major barrier. Thus, the government should launch VMMC as a free and safe procedure along with behavior change communication to increase knowledge VMMC's role in decreasing HIV transmission, to increase its uptake.

**Keywords:** heterosexual transmission, HIV, circumcision

### INTRODUCTION

Circumcision means cutting off the foreskin at the end of the penis [1]. The word "circumcision" comes from the Latin *circumcidere* (meaning "to cut around") [2].

Male Circumcision has been practiced for religious and ethnic reasons since ages. It is universally practiced amongst Muslims and Jews. Today, male circumcision is performed for a range of reasons, mainly social or health related, in addition to religion and ethnicity. The most frequent medical reason for male circumcision is phimosis – a stricture of the foreskin that narrows the opening and prevents it from being retracted to uncover the glans. The age at circumcision can vary from first week of life to puberty [2].

### Health benefits of Circumcision

Research has proven that circumcision decreases the risk of HIV and other STI, penile cancer and cervical cancer in partner. Circumcision helps in maintaining better penile hygiene, as it prevents accumulation of smegma.

Circumcised men are likely to be protected from STI. Difficulty in maintaining good penile hygiene may contribute to the risk of infections among uncircumcised men.

Circumcision is known to prevent the following infections-

- UTI [3]
- Chancroid [4]
- Syphilis [4]
- HIV [5-8]
- HSV-2 [4]

- HPV [9]

It has been shown that uncircumcised infants are more likely to harbour a reservoir of uropathogenic organisms (for example *Escherichia coli*) in the urethral meatus and periurethral area [10] and that these uropathogenic bacteria adhere especially well to the inner mucosal surface of the foreskin as opposed to the keratinized external surface [11]. These very adherent, more abundant uropathogenic organisms may then ascend to the bladder and kidneys, causing urinary tract infections and pyelonephritis [12]. There is consistent evidence from studies in the United States of America that circumcised men are at significantly lower risk of invasive penile cancer [13-16].

Three randomized controlled trials, in Kenya, South Africa and Uganda, have found that circumcised men are at 48–60% reduced risk of becoming infected with HIV [5, 6, 8].

#### **Safety of Circumcision**

Neonatal male circumcision is a relatively simple, quick and safe procedure when performed in a clinical setting under aseptic conditions by trained professionals. Complication rates are between 1 in 500 and 2 in 100 and are usually minor. In adults, the operation is more complex and under optimal conditions complication rates of about 2–4% are seen. [2]

#### **Role of VMMC in HIV Prevention**

Apart from abstinence, safer sex practices and use of condoms, male circumcision can be an additional way of decreasing the risk of HIV transmission in heterosexual acts.

Male circumcision is one of the new (though used traditionally since centuries) potential methods, along with vaginal microbicides, pre-exposure prophylaxis with antiretroviral medication, herpes suppressive therapy, cervical barrier methods and HIV vaccines [17]. So far, it is the only new prevention method to have shown consistent efficacy through randomized controlled trials [18].

#### **Acceptability of VMMC**

In many high prevalence countries, the governments have launched programmes of Voluntary Medical Male Circumcision. There are reports that demand for safe, affordable male circumcision is already increasing in southern Africa [19, 20]. The three most salient barriers to the acceptability of male

circumcision were fear of pain, concerns for safety and the cost of the procedure.

The determinants of male circumcision in traditionally circumcising populations, such as cultural identity, did not appear to be major barriers to circumcision in non-circumcising communities. Sanctions against circumcision in traditionally non-circumcising communities tend to be much less severe than the converse (i.e. not being circumcised in a circumcising community) [2].

The main factors associated with willingness to be circumcised were improved penile hygiene and a reduced risk of sexually transmitted infections [2].

India is a low-prevalence country for HIV with a prevalence of 0.35% amongst ANC clinic attendees, which is considered proxy group for general population, according to the latest HIV Sentinel Surveillance data (HSS 2012-13). The prevalence is much higher in the bridge populations of migrants and long-distance truck drivers. These are the populations, which are most likely to be benefited by introduction of VMMC [21].

The policymakers within the Indian Council of Medical Research and the National AIDS Research Institute, Pune, India, have recommended that ‘Male circumcision should be provided as part of a comprehensive HIV prevention package which includes correct and consistent use of male and female condoms, reduction in the number of sexual partners, delaying the onset of sexual debut, STI management and HIV testing and counseling’ [22].

In India, circumcision is mostly practiced by Muslims. In non-Muslims, there is a reported opposition to circumcision. With a population of 85% non-Muslims, the acceptability of this procedure is worth researching.

While there is data available on its usefulness, before its introduction, it is essential to understand the knowledge, perceptions and acceptability of this procedure.

In most Indian communities, the major determinant of male circumcision is religion: Muslims practice male circumcision for cultural reasons, while the predominantly Hindu population does not. For this reason, male circumcision is often considered a marker of religious identity [23]. Chandhiok and Gangakhedkar [22] have noted anecdotal reports that circumcision status has occasionally been used to identify Hindus or

Muslim during religious strife. To date, only three studies have been described in the literature on male circumcision in India. One observational study showed that male circumcision was strongly associated with HIV-1 infection among men attending STI clinics in Pune [24]. Another study in Calcutta showed that Muslim men who are traditionally circumcised were less likely to be HIV infected as compared to their uncircumcised Hindu counterparts despite having more sex partners and visits to commercial sex workers [25]. In the third study, the authors found that healthcare providers in Kerala were willing to recommend male circumcision to men attending STI clinics [26]. A better understanding of the knowledge, attitudes and beliefs of the India's diverse communities will be required before interventions which include expanded access to safe male circumcision services should be considered. In the study by Madhivanan, when women with uncircumcised children were asked whether they would circumcise their children if the procedure was offered in a safe hospital setting, free of charge, most (81%) said that they would definitely consider circumcising their children, and a smaller number (7%) said they would probably consider the procedure. Only seven women (1%) said that they would definitely/probably not consider male circumcision and 63 (9%) were unsure [23]. In the same study, it was found that though circumcision had a near universal cultural acceptability, even amongst non-Muslims, more people found it culturally acceptable (31%) than otherwise (18%)

#### **Aim**

To study acceptability and barriers to VMMC among Indian men

#### **Objectives**

- To know the knowledge regarding VMMC among Indian men
- To know the acceptability of VMMC among uncircumcised Indian men
- To know the reasons for acceptance or rejection of VMMC among uncircumcised Indian men

#### **MATERIAL AND METHODS**

The study type was online, cross-sectional, quantitative study.

An online survey was conducted amongst adult Indian men using Google forms by posting link to the survey on Facebook, in November 2015. To recruit more participants, snowball sampling technique was used. The data collection was completed in the month of November. Data collection was done using semi-structured, self-administered and validated questionnaire in English. Proportions were calculated and Chi-square test was applied to find significance of association.

#### **RESULTS**

111 adult Indian men participated in the study, having average age of 27.5 years. 91% were heterosexual, 25% were married, 63% were healthcare workers, 49% were Hindus, while 33% were Muslims, 93% were graduates or postgraduates, 65% were aware about VMMC. The knowledge about advantages of VMMC is described in Table 1. The knowledge regarding benefits of VMMC was highest for 'better genital hygiene' (70%) and lowest for 'VMMC doesn't lead to decreased sexual pleasure' (24%). 68% of the participants felt that VMMC should be provided as an option for HIV prevention. 39% of participants were circumcised. Amongst Muslim participants, 94% were circumcised, whereas in non-Muslims, 14% were circumcised. 19/66 (29%) uncircumcised men were willing to opt for VMMC, while 41/66 (62%) were not. 5 were not sure.

The reasons cited by uncircumcised men for opting for VMMC are listed in Table-2. The most common reason for opting for VMMC by uncircumcised men was better genital hygiene.

On the other hand, the most common reason cited by uncircumcised men for declining VMMC was no felt-need for it or perceived advantage of it. The same is compiled in Table-3. Religious/cultural barriers to acceptance of VMMC, were cited by only 9% of declining uncircumcised men.

12 of the 19 uncircumcised men willing for VMMC, said they are ready to pay for it; 7 said they will opt only if it is free.

**Table-1: Knowledge about VMMC**

Variable	TRUE	FALSE	DON'T KNOW	TOTAL RESPONDENTS
VMMC decreases risk of HIV transmission	48	39	22	109
VMMC decreases risk of other STI	59	29	21	109
VMMC leads to better genital hygiene	76	23	10	109
VMMC doesn't lead to decreased sexual pleasure	26	55	28	109
VMMC leads to protection against penile cancer	68	23	17	108

**Table-2: Reason for opting for VMMC by uncircumcised men**

Reason for opting for VMMC by uncircumcised men	Number of responses
Better genital hygiene	18
Protection against penile cancer	11
Protection against STI	9
Protection against HIV	8
Increased sexual pleasure	8
Total	54

**Table-3: Reasons for uncircumcised men to decline VMMC**

Reasons for uncircumcised men to decline VMMC	Number of responses
No need/ no advantage	33
Painful	7
Procedure unsafe	7
Long time to heal	6
Against religion or culture	6
Decreases sexual pleasure	3
Costly	2

**DISCUSSION**

Indian men have some awareness and acceptability for VMMC. The knowledge of the benefits is translated into willingness to opt for VMMC, as can be seen with the 'better genital hygiene'. A substantial number of uncircumcised men may be willingly to opt for VMMC is safe and cheap/free procedure is provided. Religious/cultural opposition to circumcision, which is considered as a potential barrier to introduction of VMMC, was not found to be a major barrier in adopting VMMC. Thus, the government should launch VMMC as a free and safe procedure alongwith behavior change communication to increase knowledge of role of VMMC in decreasing HIV transmission risk, to increase its uptake.

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