Acceptability of male circumcision among mothers with male children in Mysore, India

Purnima Madhivanan[a,b], Karl Krupp[b], Varalakshmi Chandrasekaran[b], Samuel C. Karat[c], Arthur L. Reingold[a] and Jeffrey D. Klausner[d]

Objective: There is currently little information on the acceptability of male circumcision in India. This study investigated the acceptability of male circumcision among Indian mothers with male children.

Design: A cross-sectional survey was conducted among a convenience sample of 795 women attending a reproductive health clinic in Mysore, India, between January and April 2007.

Results: Of the 1012 invited eligible participants, 795 women agreed to participate (response rate = 78.5%). The majority of women were Hindus (78%), 18% were Muslims, and 4% were Christians. About 26% of respondents had no schooling, 29% had 7 years of schooling, 42% had 8–12 years, and 3% had more than 12 years. After women were informed about the risks and benefits of male circumcision, a majority of women with uncircumcised children ($n = 564$, 81%) said they would definitely circumcise their children if the procedure were offered in a safe hospital setting, free of charge, and a smaller number ($n = 50$, 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.

Conclusion: Since male circumcision has been found to decrease risk of HIV infection among men, it is important to determine its acceptability as a potential HIV prevention strategy in India. This study found male circumcision to be highly acceptable among a broad range of mothers with male children in Mysore, India. Further studies of acceptability among fathers and other populations are warranted.

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Introduction

A number of observational studies [1,2] and several large randomized, controlled trials [3–5] have shown a protective effect for male circumcision against HIV and other sexually transmitted infections (STI) in men. Most notably, the South Africa Orange Farm Intervention Trial, sponsored by the French National Agency for Research on AIDS, demonstrated a 60% reduction in HIV infection among men who were circumcised, and trials in Kenya and Uganda showed a 53 and 51% reduction, respectively, in risk of acquiring HIV infection. In March 2007, an expert consultation convened by World Health Organization and UNAIDS recommended promotion of male circumcision 'as an additional, important strategy for the prevention of heterosexually acquired HIV infection in men' especially in settings where HIV is hyperendemic [6].

In many parts of the world, the effectiveness of future male circumcision interventions will depend in large part on the acceptance and uptake of the procedure among men and parents of male children in traditionally noncircumcising

From the [a]Department of Epidemiology, School of Public Health, University of California, Berkeley, California, USA, the [b]Public Health Research Institute, Mysore, India, the [c]Department of Pediatrics, CSI Holdsworth Memorial Hospital, Mysore, India and the [d]San Francisco Department of Public Health, San Francisco, California, USA.

Correspondence to Purnima Madhivanan, MD, MPH, PhD, Division of Epidemiology, University of California, 140 Warren Hall, Berkeley, CA 94720-7350, USA.

E-mail: mpurnima@berkeley.edu
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communities. A review of the 13 studies of acceptability of male circumcision in nine sub-Saharan countries showed that median acceptability was 65% among men; nearly 69% of women favored circumcision for their male partners; and 81% of both men and women found circumcision acceptable for their male children [7]. Studies found that the most common barriers to acceptability of male circumcision were fear of pain [8–10], cultural and religious reasons [1–3], cost [8,10,11], and concerns about complications and side effects especially if male circumcision was performed in traditional, nonmedical settings [10,12]. The major facilitators of male circumcision acceptability included better penile hygiene [9,10,13], protection from STI and HIV infection [10,12,14], and the belief that male circumcision improved sexual pleasure [8,10,11]. In the African studies, the preferred age for male circumcision varied by country. In Botswana, the majority of respondents favored male circumcision in infancy and early childhood [9], while in most other countries, participants expressed the belief that male circumcision should be carried out between ages 8 and 16 years [7].

According to a 2006 report from the Indian National AIDS Control Organization, there are approximately 2.5 million people living with HIV in India [15]. Although the national adult HIV prevalence in India is low at approximately 0.36%, the epidemic is heterogeneous and varies widely by geographical area and subpopulation. Six states, Maharashtra, Andhra Pradesh, Karnataka, Tamil Nadu, Nagaland and Manipur are designated as high HIV prevalence states where prevalence exceeds 1% among antenatal clinic attendees and 5% among STI clinic patients [16,17]. For this reason, 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' [18].

There are many sociocultural issues that will need careful exploration before male circumcision is considered as an HIV prevention strategy in India. 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. Chandhiok and Gangakhedkar [18] have noted anecdotal reports that circumcision status has occasionally been used to identify Hindus or Muslim during religious strife. They also observed that participation of Indian men in reproductive health programs has traditionally been low, so adoption of male circumcision among parents and young men may require a fundamental shift in how people in India view HIV/STI prevention programs. 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 [19]. 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 [20]. In the third study, the authors found that healthcare providers in Kerala were willing to recommend male circumcision to men attending STI clinics [21]. 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.

The public health benefits of male circumcision will, in part, depend on the age group prioritized for male circumcision interventions. Circumcision in male infants and children will have little impact on the HIV epidemic in the near future, but may provide a long-term strategy to reduce HIV infection in the general population over time [22]. There are currently no data on the acceptability of male circumcision among Indian mothers with male children or about the barriers/facilitators to uptake of the procedure. This study was carried out among 795 Indian mothers with male children attending a reproductive health clinic in Mysore, India, to assess their views and attitudes concerning male circumcision.

Methods

Between January and April 2007, structured interviews were conducted among 795 women with male children attending a reproductive health clinic at CSI Holdsworth Memorial Hospital in Mysore city, Karnataka.

Study population

The study population consisted of a nonrandom sample of women who agreed to be interviewed when they came in for an examination for reproductive health problems. Women were eligible if they were above 18 years of age with one or more male children. Informed consent was obtained from all participants, and interviews were conducted by trained female interviewers in the local languages of Kannada or Urdu in a private room at the clinic. The study was approved by the Independent Ethics Committee of CSI Holdsworth Memorial Hospital.

Study site

The study was carried out in a reproductive health clinic at CSI Holdsworth Memorial Hospital, a large inner-city hospital catering to the health needs of the middle and lower income populations residing in and around the city of Mysore in the state of Karnataka. Located in south-west India, Karnataka has a population of approximately 53 million and is considered one of the

six highest HIV-prevalent states [23]. A recent study showed that the median prevalence of HIV among women attending Karnataka antenatal clinics was 1.25% with 23 of the 27 districts having at least one site with a prevalence of more than 1% [24].

Mysore is the second largest city in the state of Karnataka. It is the headquarters of the Mysore district and lies about 87 miles south-west of Bangalore, the capital city. According to the most recent national census, the city has a total population of 799 228 of which approximately 77% are Hindus, 19% are Muslims, 3% are Christians and the remainder belong to other religions [23]. The city has an interesting history regarding male circumcision as it was the site, in 1784, of forcible male circumcision of 30 000 Christians by the Tippu Sultan, the Muhammaden ruler of Mysore [25].

Data collection

The data collection instrument utilized both closed and open-ended questions about demographic information and participants' views and attitudes concerning male circumcision. Prior to the start of the interview, all women were shown illustrations of male circumcision and the interviewer verbally described the procedure. Both the risks and the benefits of male circumcision were carefully explained. Each participant was told that the potential risks of male circumcision included bleeding or injury during the time of surgery, infection and pain after surgery. The benefits included protection against penile cancer, and infections such as HIV, urinary tract infections and sexually transmitted infections. For Urdu speaking women the term '*Khathna*' was used to describe male circumcision; and for Kannada speakers the term '*Munji*' was used. The interview proceeded only after the participants indicated that they understood and were willing to answer questions concerning the topic. Skip patterns were used in the questionnaire in order to save time and allow women to not answer questions that were not applicable. Data were analyzed using Stata 9.0 (Stata Corporation, College Station, Texas, USA). Conventional descriptive statistics were used to assess the characteristics of the study participants.

Results

Of the 1012 invited eligible participants, 795 women agreed to participate (response rate: 78.5%). Reasons for not participating included unsupportive husband or relative; discomfort about answering personal questions; and lack of time to complete study questionnaire. The median age of participants was 28 years (range 18–45 years). The majority of women were Hindus (78%), 18% were Muslims, and 4% were Christians. More than a quarter (26%) of respondents had no schooling, 29% had 1–7 years of schooling, 42% had 8–12 years, and 3% had more than 12 years. The median total monthly household income reported by the participants was INR 3000 (US$ 77). A majority (60%) of women interviewed were housewives or unemployed, 30% were unskilled laborers, and 10% were skilled workers. Women attending the reproductive health clinic came mainly from central Mysore city which is predominantly Hindu but also has a large enclave of Muslims living in close proximity to the hospital.

Reasons for accepting or not accepting male circumcision

Participants provided information about 1159 male children (median age: 8 years, range: 1 month to 17 years). Of those, 146 (12.6%) were circumcised. Among the 98 (12%) women who reported that they had at least one child who was circumcised, 82 (84%) were Muslims, 15 (15%) were Hindus and one (1%) was Christian. When asked for the important reasons why they circumcised their sons, participants gave the following responses: 80 (82%) specified religion, nine (9.2%) reported advice from doctor, seven (7%) reported health reasons, one (0.9%) said she wanted her child to look like his father and one declined to respond. Among women who reported not circumcising any of their male children, 394 (56%) gave religion as the most important reason. Other responses included: 323 (46%) reported that they had no knowledge about male circumcision, 70 (10%) stated that they intended to circumcise their children when they were older, 38 (5.4%) said they felt the procedure was unnecessary, six (0.8%) said they had not circumcised their children for health reasons, two (0.3%) reported that they felt it was a dangerous procedure, one (0.1%) had not circumcised her child for financial reasons, and eight (1%) gave no response.

Participants who had not circumcised their children were then asked to state the various reasons that might change their mind about having their children circumcised. Because women could give multiple reasons, there were 745 responses from 679 respondents. Reasons given included: learning that male circumcision might prevent serious health problems in their children including HIV infection [frequency (%) = 591 (87%)], learning how long it takes for male circumcision to heal completely [frequency = 33 (4.9%)], understanding how a doctor would circumcise a child [frequency = 26 (3.8%)], understanding that male circumcision would be done with minimal pain [frequency = 70 (9.4%)], and 'nothing would change my mind about having my child circumcised' [frequency = 25 (3.7%)].

Decision makers on male circumcision

When mothers who had not circumcised their sons were asked who would make the final decision about whether to circumcise, they gave the following responses: child's father alone ($n = 401$, 58%), mother alone ($n = 88$, 13%), jointly by parents ($n = 89$, 13%), other family members ($n = 78$, 11%), husband with other family members

($n = 31$, 4.5%) and both parents jointly with other family members ($n = 8$, 1.2%). Two mothers did not offer a response to this question. None of the women felt a doctor or care provider would be involved in the final decision. Overall, fathers were considered important decision makers, 70% of the time as compared with only 25% times, when mothers were involved in these decisions ($P < 0.001$).

Typical age for male circumcision

Among children who had been reported circumcised, 21 (15%) had been circumcised at less than 3 years of age, 53 (38%) between 4 and 6 years of age, 56 (40%) between 7 and 9 years of age, and 11 (8%) at more than 9 years of age. Five mothers did not remember the age at which their children were circumcised. Among participants who had not circumcised their sons, the majority (81%) did not know the age when they would circumcise their children.

Setting for male circumcision

When participants were asked 'Where is the best setting to have a male circumcision performed?', a majority specified hospital ($n = 612$, 77%), 2.3% ($n = 19$) felt a nonhospital setting such as a mosque or home was appropriate, 15% ($n = 120$) were unsure about what an appropriate setting would be and 5% ($n = 43$) of respondents felt that no setting was appropriate for male circumcision.

Acceptability of male circumcision

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 ($n = 564$, 81%) said that they would definitely consider circumcising their children, and a smaller number ($n = 50$, 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. When asked whether male circumcision was culturally acceptable, 342 (43%) stated that they thought it was, 118 (15%) believed that it was not, and 335 (43%) women were unsure (responses have been presented stratified by religion in Table 1).

Religion and male circumcision

Religion was considered an important factor in the acceptance of male circumcision. Table 1 describes the attitudes of all study participants stratified by religion (Muslims vs. non-Muslims).

Discussion

Male circumcision appears to be highly acceptable among mothers with male children in Mysore, India. Although the majority of men in this population are currently uncircumcised, 88% of participants with uncircumcised children stated after being informed of the risks and benefits of male circumcision that they would 'definitely' or 'probably' circumcise a male child if the procedure was offered free of charge in a hospital setting.

Table 1. Attitudes about male circumcision among mothers with sons in Mysore, India, January–April 2007.

	Total		Non-Muslims[a]		Muslims	
Characteristic	*N*	Percentage	*n*	Percentage	*n*	Percentage
Total	795	100	650	82	145	18
Do you have any children who are circumcised?						
Yes	98	12.3	16	2.5	82	56.6
No	697	87.7	634	97.5	63	43.4
What age would you typically circumcise your son?						
Less than 1 year	4	0.5	0	0	4	2.8
More than 1 year	138	17.4	8	1.2	130	89.6
Do not know	632	79.5	626	96.3	6	4.1
No response	21	2.6	16	2.5	5	3.5
Best place for conducting male circumcision						
Hospital	612	77	492	76	120	82.8
Traditional setting/other	19	2.4	3	0.4	16	11
No place (circumcision is not acceptable)	43	5.4	43	6.6	0	0
Unsure	120	15.1	111	17	9	6.2
If male circumcision was offered free of charge in a safe hospital setting, would you do it?						
Would definitely do it	575	72.3	534	82	41	28
Would probably do it	51	6.4	45	7	6	4
Would definitely not do it	3	0.4	3	0.5	0	0
Would probably not do it	4	0.5	3	0.5	1	0.7
Unsure	66	8.3	49	8	17	11.7
No response	96	12.1	16	2.5	80	55.2
Cultural acceptability of male circumcision						
Culturally acceptable	342	43	201	31	141	97.2
Culturally unacceptable	118	15	117	18	1	0.7
Unsure	335	42	332	51	3	2.1

[a]Non-Muslims include Hindus, Christians and other religions.

Religion was the strongest correlate for decisions concerning male circumcision. It was mentioned as a deciding factor both among mothers who had circumcised their children and those who had not. Nevertheless, a majority of mothers with uncircumcised children indicated that they would consider male circumcision if they learned that the procedure would prevent serious health problems for their children. This finding suggests that educational programs explaining the health benefits and risks of male circumcision might facilitate more informed decision-making about the procedure.

As expected, attitudes and beliefs about male circumcision varied widely between Muslim and non-Muslim mothers. It is interesting to note that although all religious groups agreed that a hospital was the best setting for male circumcision, Muslim mothers were less likely than their Hindu counterparts to definitely or probably circumcise their children if the procedure was offered free of cost. Anecdotal information provided by several Muslim mothers suggested that some participants believed that religious custom would not be satisfied unless they provided remuneration for the procedure. In addition, although Muslim women reported that the ideal time for circumcising a child was between 5 and 7 years of age, their non-Muslim counterparts were almost universally unsure about when to circumcise a child. More research is needed to better understand the cultural milieu surrounding male circumcision attitudes in India.

Strengths of our study included a relatively large sample size and a diverse population of participants. There were several limitations however. Because participants were recruited from a reproductive health clinic, findings from the study may not be generalizable to other populations. It is likely that some participants may have misreported their attitudes due to social desirability bias. There is also limited predictive value for responses about future events, so it is impossible to assess the reliability of participants' intent to circumcise their children [26–28]. In addition, only mothers of male children were surveyed, so the results reflect only the attitudes of women who already have male children. This study also did not assess acceptability among fathers who appear to have the primary decision-making power on whether male circumcision will be performed. Further research is needed to understand men's attitudes about male circumcision before male circumcision is considered as an HIV prevention strategy.

Despite these limitations, the results of this study indicate that in a traditionally noncircumcising society like India, a high proportion of mothers with male children were interested in having their children circumcised. Although our study reflects the attitudes of women, previous studies have shown that men and women have similar opinions regarding the acceptability of male circumcision for their children [7,9,29]. Furthermore, mothers appear to be highly motivated to learn more about male circumcision for their children, and express willingness to consider the procedure if it is offered in a hospital-based setting. Additional studies are needed to investigate actual uptake of the procedure and the relationship between stated intentions and actual behavior. It is also important to understand the cultural context of decision-making about male circumcision in a variety of settings with different study populations including fathers of male children in India.

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