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Key considerations in scaling up male circumcision in Tanzania: views of the urban residents in Tanzania

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Abstract: Male circumcision (MC) reduces the risk of sexually transmitted infections (STI) including HIV. The WHO and UNAIDS recommend male circumcision as an additional intervention to prevent HIV infection. Tanzania is embarking on activities to scale up safe male circumcision for HIV prevention and other related health benefits. In line with this, it is crucial to assess views of the population using specific groups. This paper describes perceptions on male circumcision and strategies of enhancing uptake of male circumcision in urban Tanzania using members of the police force. This cross sectional survey was conducted among members of the police force in Dar es Salaam Tanzania from January 2010 to July 2010. The police officer serves as a source of the clinical trial participants in on-going phase I/II HIV vaccine trials. Three hundred and thirteen (313) police officers responded to a self-administered questionnaire that comprised of socio-demographic characteristics, reasons for not circumcising, perceptions regarding circumcision, methods of enhancing male circumcision, communication means and barriers to promote circumcision. This was followed by a physical examination to determine male circumcision status. The prevalence of circumcision was 96%. Most (69%) reported to have been circumcised in the hospital. The reported barriers to male circumcision among adults and children were: anticipation of pain, cost, fear to lose body parts, and lack of advice for adult's circumcision. Sensitization of parents who take children to the reproductive and child health services was recommended by most respondents as the appropriate strategy to promote male circumcision. The least recommended strategy was for the women to sensitize men. Use of radio programs and including male circumcision issues in school curricula as means of enhancing community sensitization regarding male circumcision were also highly recommended. Other recommendations include use of public media, seminars at work and issuance of circumcision regulations by health authorities. In conclusion, the present study reveals male circumcision was common in a selected urban population. There are various barriers and channels of communication regarding male circumcision. In view of scaling male circumcision in Tanzania, use of radio messages, inclusion of male circumcision in the school curricula and sensitization at the reproductive and child health clinics are likely to promote early medical male circumcision.

Keywords: Male circumcision, barriers, perception, police officers, Tanzania

Introduction

For more than two decades, the acquired immune deficiency syndrome (AIDS) caused by human immunodeficiency virus (HIV) remains a challenge that affects all segments of global population. The Joint United Nations program on HIV/AIDS (UNAIDS) estimated that about 33.3 (31.4-35.3) million people globally were living with HIV by the end of 2009. An estimated 2.6 million (2.3-2.8) persons became newly infected with HIV and an estimated 1.8 million (1.6-2.1) lost their lives to AIDS in 2009. Although HIV/AIDS has far-reaching

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consequences worldwide, the majority of people with HIV/AIDS are living in developing countries. The sub-Saharan Africa region, including Tanzania, has particularly continued to bear the overwhelming burden of the epidemic (UNAIDS, 2010).

Male circumcision (MC) has been shown to reduce the risk of acquiring sexually transmitted infections (STI) including HIV and AIDS as reported in observational studies and clinical trials (Siegfried *et al.* 2003;Moses *et al.*, 1998; Auvert *et al.*, 2005; Bailey *et al.*, 2007; Gray *et al.*, 2007a,b). The World Health Organisation and UNAIDS recommend the scaling up of male circumcision activities in countries with low prevalence of male circumcision as well as promotion of male circumcision in non-practicing countries. However MC only partially reduces the risk, therefore other HIV prevention strategies should be encouraged alongside (Williams *et al.*, 2006; Curran, 2007; WHO/UNAIDS, 2007).

In Tanzania, the prevalence of male circumcision is estimated at 69.7% with a wider variation among the regions; some regions with more than 95% circumcision rates and others as low as 20%. As such, two in three men age 15-49 years in Tanzania are circumcised, and urban men are more likely to be circumcised than rural men (88% and 60%, respectively). As for regions in Tanzania mainland, the prevalence of circumcision is lowest in Shinyanga (21%), followed by Rukwa (24%), and Iringa (29%)(THIS, 2003-2004).

The stipulated reasons for geographical differences in prevalence of male circumcision could be religion, ethnicity, perceived health and sexual benefits, and conformity to social norms (THIS, 2003-2004) . In a study conducted in northwest Tanzania to assess the determinants of male circumcision status in a traditionally non-circumcising ethnic group as well as the reasons for increasing acceptance of circumcision, the most frequently mentioned reason was health as circumcision was considered to enhance penile hygiene, reduce sexually transmitted disease incidence, and improve sexually transmitted disease cure rates (Nnko *et al.*, 2001). Similar findings have been reported from a study on circumcision among adolescent boys in rural north-western Tanzania (Weiss *et al.*, 2008) which revealed the widespread belief that male circumcision was beneficial for penile hygiene and disease prevention. The attitudes to male circumcision in the same group were positive despite of their low prevalence.

Attitudes and appropriate communication strategies are vital to scaling up health interventions (Ngalande *et al.*, 2006; WHO, 2007). Nevertheless, there is need to identify the perceived barriers, sensitization and communication methods while adopting male circumcision as an HIV intervention strategy. Beneficiaries of the male circumcision include the needy sub population such as those participating in the HIV intervention studies including HIV vaccine trials. The HIVIS-03 HIV vaccine trial recruited volunteers from the Police Officers cohort in Dar es Salaam. This study was conducted among members of the police force in Dar es Salaam, Tanzania to determine the prevalence, perceived barriers, communication methods and sensitization towards male circumcision.

Materials and Methods

Design, sampling and data collection

This cross sectional survey was conducted among members of the police force in Dar es Salaam Tanzania from January 2010 to July 2010. Male police officers (PO) attending weekly meetings (baraza) at their work place were purposely recruited into the study.

The participants were informed about the study a written informed consent was obtained from each. Consenting PO completed a self-administered questionnaire. The

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questionnaire included questions on socio-demographic characteristics, perception on male circumcision (MC), benefits of MC, disadvantages, perceived reasons for adults not to circumcise, perceived reasons of parents not to circumcise their children and communication strategies to enhance male circumcision. The questionnaire was informed by results from an earlier qualitative study using key informant interviews conducted in August 2009. (Findings from the qualitative study are reported in elsewhere). Circumcision status was determined through both self-reporting and physical examination performed by a male physician examined at the submission of a filled-in questionnaire.

Data analysis

The collected information was checked for completeness and then double entered into the Epidata version 3.1software. The cleaned data was then imported into the Statistical Program for Social Scientist (SPSS) version 17 for analysis. The summary descriptive statistics were computed and the Chi-square test, factors analysis and ANOVA were used to determine associations. The Crobanch's alpha was performed to determine the reliability. A double-sided p-value of less than 0.05 was considered significant. The perception and reasons for MC were measured on the 4 questions Likert's scale.

Ethical considerations

Prior to the conduct of this study ethical clearance was obtained from the ethics committee of the Muhimbili University of Health and Allied Sciences (MU/RP/AEC/Vol.XIII/39). Informed consent was sought from each patient before recruitment into the study.

Results

Demographic characteristics

A total of 313 POs participated in the study; this represented a response rate to participation of 98%. Most of the participants were married (64.9%), Christians (67.7%) and with secondary level of education (51.8%). Participant's age ranged from 20 to 60 years (mean 38.1) with majority (42.2%) of participants falling in the group of 40-49 years (Table 1). The mean and median age at circumcision was 8 and 7 years respectively. The participant's ethnic backgrounds represented 30 Tanzanian tribes. Of the 313 participants, 285 (91.1%) gave consent to be physically examined while 28 (8.9%) refused. The prevalence of male circumcision, objectively assessed through physical examination, in this population was 96%, with the majority (69%) reporting the procedure to have been done in a hospital setting.

Perceived barriers to circumcision of male-adults and children

More than half of participants agreed that anticipation of pain during circumcision, fear of losing part of the body, and cost to undergo male circumcision were important reasons for not circumcising. However, less than a quarter agreed that lack of advice was an important reason contributing to male-adults not being circumcised. The reasons that contributed to male-children not being circumcised were assessed. Fear that the child will lose part of the body emerged as the most prominent reason followed by cost to undergo male circumcision, and fear that the child will feel pain. However, lack of advice about circumcision of male-child and negligence of the parents were not important reasons to discourage the circumcision of male-children (Table 2).

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Table 1: Demographic characteristics of study participants

Variable	Response	Total (N= 285)	Circumcised (N=275)	(%)
Marital status	Never married	61	61	(100.0)
	Married	183	176	(96.2)
	Cohabiting	36	33	(91.7)
	Separated/Widowed	5	5	(100.0)
Religion	Christian	192	182	(94.8)
	Moslem	93	93	(100.0)
Education	Primary	110	104	(94.5)
	Secondary	146	142	(97.3)
	Above secondary	29	29	(100.0)
Age	20-29 years	70	69	(98.6)
	30-39 years	69	68	(98.6)
	40-49 years	120	114	(95.0)
	50 year and above	26	24	(92.3)

Table 2:- Perceived barriers to circumcision of male-adults and children

Reasons for not circumcising male-adults	No. (%) of participants who agreed that this is very important/ Important n	(%)
Fear for a man to lose a part of the body	249	(79.6)
Cost to undergo male circumcision	238	(76.0)
Anticipation of pains during circumcision	185	(59.1)
Lack of male circumcision custom	151	(48.2)
Shyness	127	(40.6)
Negligence	121	(38.7)
Lack of awareness	88	(28.1)
Lack of advice	69	(22.0)
Fear that the child will lose part of the body	248	(79.2)
Cost involved in circumcising the child	196	(62.6)
Fear that child will feel pains	194	(62.0)
Lack of male-child circumcision custom	89	(28.4)
Lack of awareness on child circumcision	71	(22.7)
Negligence of the parents to circumcise their children	67	(21.5)
Lack of advice on child circumcision	60	(19.2)

Methods of enhancing male circumcision

Participants ranked different strategies that can be used to enhance male circumcision. The most ranked method was sensitization about male circumcision to parents who take their children for reproductive and child health (RCH) services. This was followed by the provision of information/advocacy in the school curricula. The least ranked method was that of encouraging women to sensitize men (Table 3).

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Table 3: Methods of enhancing male circumcision

Ways of enhancing male circumcision	1st Rank		2nd Rank		3rd to 6th rank	
	n	(%)	N	(%)	n	(%)
Sensitization at RCH	102	(32.6)	52	(16.6)	159	(50.8)
School curriculum	88	(28.1)	57	(18.2)	168	(53.7)
Circumcision regulations	41	(13.1)	22	(7.0)	250	(79.9)
Public media	40	(12.8)	80	(25.6)	193	(61.7)
Seminars at work places	23	(7.3)	46	(14.7)	244	(78.0)
Women sensitize men	7	(2.2)	20	(6.4)	286	(91.4)

Channels of communicating information about male circumcision

Participants were also asked to rank the different channels that could be used to communicate information regarding male circumcision. The most ranked channel of was that of employing radio programs, while the least ranked was the use of newspapers (print media) (Table 4).

Table 4:- Channels of communicating information about male circumcision

Channels of enhancing male circumcision	1st Rank		2nd Rank		3rd to 7th rank	
	n	(%)	n	(%)	n	(%)
Radio programmes	155	(49.5)	52	(16.6)	106	(33.9)
Television	38	(12.1)	87	(27.8)	188	(60.1)
Cinema and video	32	(10.2)	31	(9.9)	250	(79.9)
Flyers	30	(9.6)	17	(5.4)	266	(85.0)
Posters and banners	16	(5.1)	29	(9.3)	268	(85.6)
Drama/plays	16	(5.1)	28	(8.9)	269	(85.9)
Newspapers	11	(3.5)	33	(10.5)	269	(85.9)

Perception on circumcised and uncircumcised males

Generally, circumcised males were perceived to be at lower risk for HIV and other sexually transmitted illnesses. In addition, circumcised males were accepted well in the community than their counterparts. The respondent perceived that it is easy to wear condom with a circumcised penis and the penis has a good appearance. On the other hand, the uncircumcised males were perceived to easily be bruised during sexual intercourse and others mocked them in the community (Table 5).

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Table 5: Perceptions regarding males who are circumcised and uncircumcised

Perceptions towards male circumcision	Participants Responses			
	Not true at all/ not true		True/ completely true	
	n	(%)	N	(%)
Circumcised males are more confident	35	(11.2)	278	(88.8)
Circumcised males have less chances of HIV	32	(10.2)	281	(89.8)
Circumcised males are more brave	30	(9.6)	283	(90.4)
Circumcised males have less chances of other diseases	28	(8.9)	285	(91.1)
Circumcised males are more accepted	28	(8.9)	285	(91.1)
Women like circumcised males	27	(8.6)	286	(91.4)
Circumcised males are more respected	24	(7.7)	289	(92.3)
Circumcised males have more sexual pleasure	18	(5.8)	295	(94.2)
Circumcised males have reduced chances of STIs	12	(3.8)	301	(96.2)
It is easy to wear condom for circumcised males	11	(3.5)	302	(96.5)
Penis of circumcised males look good	8	(2.6)	305	(97.4)
Uncircumcised males have difficult to have sex	212	(67.7)	101	(32.3)
Uncircumcised males have difficult to have spouse	176	(56.2)	137	(43.8)
Uncircumcised males are isolated by others	116	(37.1)	197	(62.9)
Uncircumcised males smells bad	80	(25.6)	233	(74.4)
Uncircumcised males easily get bruises when having sex	73	(23.3)	240	(76.7)
Uncircumcised males are not respected by others	69	(22.0)	244	(78.0)
Uncircumcised males are mocked by others	41	(13.1)	272	(86.9)

*Scale ranges from 1 (not true at all) to 4(completely true)

Discussion

The present results illustrate a high prevalence of male circumcision as evidenced by physical examination in this urban segment of Tanzanian population. Additionally, the attitude towards MC was generally positive despite there being a number of barriers towards male circumcision in this community. The finding that the prevalence of MC is quite high among the police officers in Dar es Salaam is similar to the earlier reported rate in the general population in Dar es Salaam (THIS, 2003-2004). We had expected a different picture as members of the police force are recruited from various parts of the country. Indeed, in this study the participants represented a quarter of the ethnic groups in Tanzania. This finding may be due to increased awareness of health promoting attitudes in an urban setting such as Dar es Salaam and wide spread media campaigns.

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In view of the continuing scaling up of male circumcision in sub Saharan Africa including Tanzania as part of the HIV intervention strategy, it was encouraging to note that the participants were able to come up with suggested strategies to facilitate MC including sensitization to parents who take their children for reproductive child health services (RCH) and use of radio programs. This is in keeping with the observation that MC is widely accepted in Tanzania as reported in various studies (Nnko *et al.*, 2001; Weiss et al., 2008; Wambura *et al.*, 2009; Mshana *et al.*, 2011, Kilima *et al.*, 2012,). Previous studies in sub Saharan Africa have reported on strategies to scale up MC (Ngalande et al., 2006; WHO, 2007; Wambura *et al.*, 2009) such as circumcision campaigns in non-circumcising communities, reducing the cost for a circumcision procedure and sensitizing women attending RCH clinics. The suggested strategies will most likely give an opportunity of circumcision at a younger age. The fact that sensitization of men by women was the least recommended strategy could be explained by the fact that participants in this study came from a purportedly patriarchal system where gender imbalance in decision making is the norm, and where men are commonly perceived as key decision makers.

The study participants were of the opinion that the use of radio to convey messages about MC is more appropriate than using other means of communication. This is very practical in our settings as most of the population can access information through radio at home and in public/private cars, it is estimated that 75% of the urban population have access to radio and 53% of the rural population (THIS, 2003-2004).

The reported perceived barriers to MC among adults and children in this study were similar to findings from studies conducted elsewhere in sub Saharan Africa (Ngalande *et al.*, 2006). Furthermore, the proposed strategies to scale up MC in the country had also been reported earlier (THIS, 2003-2004; Ngalande *et al.*, 2006; Wambura *et al.*, 2009). Previous studies had also indicated that additional barriers include fear of infection, bleeding and shortage of health providers (Ngalande *et al.*, 2006; Wambura *et al.*, 2009). The cost for performing MC has also been reported by participants as a potential barrier. It is therefore important to appreciate that while efforts to scale up are being undertaken, the cost for this procedure should be moderated for majority of the population to access MC services. In the situational analysis report to the Ministry of Health and Social Welfare it was recommended that the services be provided free of charge to boys aged less than 10 years (Wambura *et al.*, 2009). In another study in three districts of Tanzania, Kilima *et al.* (2012) proposed that male circumcision procedure should be covered under the current health insurance schemes.

Limitations of this study include the use of a purposive sample. This design is not optimal since a non-random sample always generates selection bias and decreases (external) validity. In addition, the study participants were self-selected after a weekly meeting in which most of officers attend. Possibly, non-participants may have affected the reported results because we have no knowledge of their characteristics. Hence, inference from this study to the general population or to the overall police force in Tanzania is not possible. Thus, the interpretation of our results only focuses on the actual group from which data were collected. Participants' refusal to undergo physical examination to ascertain circumcision status may have affected the conclusion from this study.

In scaling up MC, the implementers should consider following strategies in a Tanzanian setting to maximize uptake. Sensitization of women attending the RCH clinics and inclusion of MC in the school curricula should be considered. The recommended communication strategies that include the use of radio programs are worth pursuing. Therefore, findings of this study though representing views of a sub-population of adults in

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an urban setting, does contribute important information in the scaling up of MC programs in Tanzania.

Competing interests

Authors declare no competing interests**.**

Authors' contributions

JMF conceptualized and designed the study, supervised its implementation, performed data analysis and drafted the manuscript. DK provided inputs to the study design, performed data analysis and reviewed the manuscript. EAMT contributed to the study design, implementation and reviewed the manuscript. PM provided inputs to the study design and reviewed the manuscript. MB provided inputs in the design and reviewed the manuscript. ES contributed to the design, provided inputs in the data analysis and reviewed the manuscript.

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