

**The practice of uvulectomy and related complications among children aged below 6 years in Ilemela district, Mwanza, Tanzania**

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**Abstract**

**Aim:** The aim of the study was to assess the prevalence of traditional uvulectomy, the age at which it is normally performed, the reasons as well as the associated complications. **Study Design:** This was a descriptive cross sectional community based study done in Mwanza region in Tanzania during the months of August-September 2007. **Study subjects and Methods:** The targeted respondents were 242 parents/guardians of children from 6 years and below, comprising of 45.2% males and 54.8% females. Multistage random sampling technique using ballot system was used to get the region and district. Using the same system by listing all the wards in Ilemela districts Kirumba ward was selected. All households with children in the desired age were included and the schools and ten-cells were randomly select to attain 242 children. Children below 3 months could not be available in the study population. **Results:** Prevalence of uvulectomy in this study was 3.6%. It was found to be higher among females (4.38%) than males (2.65%), but the difference was not statistically significant (P=0.417). The majority (77.78% ) of those reported to have done uvulectomy did it when less than one year while few (22.22%) had the operation between age 1 and less than 2 years. The commonest indication for uvulectomy was cough (81.8%) whereas the most common reported complications were severe hemorrhage (66.57%), rejecting foods (9.1%), failure to gain weight (9.1%), and others 15.3. **Conclusion:** The prevalence is much less than in previous studies in Tanzania and elsewhere in Africa. The major reason for the surgery was cough and major complications were bleeding and difficult in feeding. The uvula returns to normal shape and size by 6 years.

**Key words:** Uvula, Uvulectomy, bleeding, Mwanza-Tanzania

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**Introduction**

Traditional uvulectomy is a procedure which consists of cutting away a part of the uvula for traditional or customary reasons, however it has been reported in several sub Saharan African countries, Middle East and some Asian countries (1, 2, 3) with a belief that it reduces cough, sore throat and snoring (3, 5). Epidemiological and anthropological data on this practice are rare.

A study done by Wind (6) in 1983 in Tanzania showed that following uvulectomy anaemia reached almost epidemic proportions and was the leading cause of admission and death among hospitalized children. The same study also discovered that Tanzanian mothers took their children for uvulectomy hoping to improve the children's well being and prospects of longevity. Ignorance of the parents/guardians with regard to health of the babies and possible complications of uvulectomy, traditional belief and easy access to traditional healers may contribute to the surgery being practiced in Tanzania and elsewhere (7, 8).

A study done by Miles and Ololo (2) in Sudan in 2003 about traditional surgeons in sub Saharan Africa revealed that itinerant traditional surgeons

work throughout sub-Saharan Africa and perform many procedures including uvulectomy. Cutting and injection equipments were not cleaned and were used on a rapid succession of up to 10 patients in a single clinic session. The procedures cause hemorrhage, septicaemia, tetanus, gangrene, abscesses, airway obstruction, lacerations and death. The whole exercise carried a high risk for HIV infection (1).

A study done by Prual (9) in Niamey, capital of Niger in 1992, revealed that by the age of 5 years, 19.6% of children in the survey had undergone uvulectomy. The severe complications represented 7.8/1000 cases of hospitalization for children under 15 years of age. The complications were infections (including tetanus), hemorrhage and passage of the uvula further down the respiratory tract, leading to obstruction and possible death. Uvulectomy was systematically performed in the societies on the seventh day after birth, during the naming ceremony, to prevent death due to a swelling of the uvula. Other reasons were for curative practice both for children and adults for vomiting, diarrhea, anorexia, the child's rejection of the breast, growth retardation and fever (10). Uvulectomy is performed in Niger by the barbers, whose functions to this practice.

According to a study done by Ijaduola (11) in Nigeria from 1978-80, on hazards of traditional uvulectomy showed the main indications for uvulectomy to be chronic tonsillitis 44.64%, chronic laryngitis 20.54% chronic pharyngitis 15.18%, chronic sinusitis 11.61%, nasopharyngeal carcinoma 3.57%, carcinoma of larynx 1.79%. Carcinoma of tonsils 0.89% was the least indication.

In another study done by Oyelami (12) on traditional uvulectomy among preschool children in far north eastern Nigeria showed that 72% of preschool children had the operation done by the traditional healers, 69% had the operation done on or before the 8<sup>th</sup> day corresponding to the naming day. When asked about the function of the uvula 70% could not describe the function of the uvula but they believed that the operation could prevent vomiting and illness in the child. About 50% of the mothers in the study could not give reasons for the operation and whether there were cultural reasons or not, 37% had the operation done to prevent vomiting, 12% reported that it was done to prevent throat obstruction and sore throat. A study done in Cameroon by Einterz et al (13) in 1993 about the age at which traditional uvulectomy was done among children aged between 0 and 4 years showed that the mean age was 65 days. Regarding who performed the operation, barbers performed 99% of the operations while the remaining was done by other indigenous practitioners. The same study shows that the main reasons for the operation included prevention or treatment of vomiting (62%), uvula can kill (15%), uvula was sick (6%), necessary for health (5%), as a traditional practice or religion (5%) and because of cough (4%).

Uvulectomy as an epidemiological factor in neonatal tetanus as studied by Energie et al (8) in 1994 revealed a mortality of 2.06%. Although there was a male preponderance of 55.6% in deaths due to neonatal tetanus deaths the association between neonatal tetanus and sex was not significant. Traditional uvulectomy was found to have been performed to more than 80% of the children who had tetanus. Health education was suggested as a way forward to discourage uvulectomy and other traditional surgeries (8).

A case report done in Kenya (14) depicts severe anaemia as a complication of uvulectomy. The child presented with severe anaemia secondary to uvulectomy performed by a traditional healer for treatment of chronic cough.

A study done in south west Ethiopia by Asefa et al (3) in 1992 on traditional surgical practices and their effects on the growth of infants showed the prevalence of uvulectomy to be 35% and there was loss of weight among children who underwent the operation.

However, there are some reports on professional surgeries of the uvula to improve snoring and obstructive sleep apnoea (4, 10, 15, 16, 17, 18)

### Methodology

*Study design:* The study was a descriptive cross sectional study.

*Study population:* The study population included children from 3 months to 6 years old and were found in households, kindergarten and grade one in primary schools in Ilemela, one of the districts in Mwanza region, Tanzania.

Two hundred and forty two parents/guardians households, kindergartens and primary schools with the children in the desired age participated in the study. 45.2% (113) were males and 54.8% (137) were females.

The exclusion criterion was age above six years of age and below 3 months.

*Sampling:* Multistage random sampling technique using ballot system was used to get the region and district. Using the same system by listing all the wards in Ilemela districts Kirumba ward was selected. All households with children in the desired age were included and the schools were randomly selected to attain 242 children.

*Testing of research instruments:* A self-administered questionnaire was prepared in English and translated into Swahili. It was tested on parents/guardians from a different population before going to the field. Two research assistants were trained and assisted during the testing of research instruments, in this way they were also tested on their consistence.

*Data collection and management:* Data collection was done using a structured questionnaire which was developed in English and translated into Swahili language the interviewees could easily understand and respond.

The parents/guardians of children 6 years and below were asked to respond to the questions, and where they did not understand they could ask the researcher and the assistants for clarification. In case where more than one under five or standard one pupil were present in a house hold then balloting system was used to select only one at random whose information was entered in the questionnaire. The collected data were coded and entered in a computer using the Epi Info programme for analysis (Epi info 2002).

*Photographs:* Photos were taken of children at 6 years who were subjected to uvulectomy during their tender age. Control photos for children who have not been subjected to uvulectomy were also

taken. However, there were no differences in the appearance of the uvulae in both groups.

**Data analysis**

Data was entered in computer and analysis was done by using 2002 Epi Info programme with the assistance of a statistician. In order to get P-values for interpretation of the results, Fisher's exact test was used, because of the small number of the children whose parents/guardians reported to have been subjected to uvulectomy.

**Ethical Issues**

We requested for the permission to conduct this study from the Department of Community Medicine MUHAS, as this was part of an elective study. Letters were sent to the local authority explaining the purpose of the study, time of study and how the study was to be conducted prior to the visit.

Informed consent was sought from the parents/guardians of the children to be included in the study. On arrival the researchers and assistants met the local authority and heads of schools who introduced them to the parents/guardians. A consent letter was signed by the parent/guardian after the researchers and research assistants were introduced. Names of participants were not mentioned or recorded on the questionnaire.

The study took place during August – September 2007.

**Results**

Prevalence of traditional uvulectomy among the study population was 3.6% (9 children out of 242), and was higher in female children (4.38%) than in male children (2.65%) (Table1).

**Table 1: The prevalence of traditional uvulectomy by gender**

Sex	Uvulectomy					
	YES		NO		TOTAL	
	No	%	No	%	No	%
Male	3	2.65	110	97.35	113	100
Female	6	4.38	131	95.62	137	100
Total	9	3.6	241	96.4	250	100

*P= 0.354*

Seven children (77.78%) out of those who had performed uvulectomy did it when they were less than one year old while 2 of them (22.22%) had the operation done between 1 and 2 years. All the male children had uvulectomy done when less than one year old (Table 2).

**Table 2: Age at which uvulectomy was performed**

age [months]	Sex					
	Male		Female		Total	
	No	%	No	%	No	%
0 𦉳 <12	3	100	4	66.67	7	77.78
12 𦉳 <24	0	-	2	32.33	2	22.22
TOTAL	3	100	6	100	9	100

*P= 0.417*

All respondents whose children had the traditional uvulectomy done reported that their children presented with cough prior to the surgery. One of them had both cough and tonsillitis, while another one presented with failure to gain weight and difficulties in breastfeeding apart from cough (Table 3).

The most common complication associated with this traditional operation among the study population was severe bleeding (66.67%). The least prevalent complications included rejecting foods and loss of weight which was reported in one respondent out of the 3 male children (33.33%) who had done the operation and 2 out of the 4 female children (33.33%) thus equal percentage between the sexes (table 4).

There were no differences in the appearance and size of the uvulae for children subjected and those not subjected to uvulectomy.

**Discussion**

The overall prevalence of traditional uvulectomy in the study population was 3.6%

**Table 3: Reasons for uvulectomy**

Reason	Frequency	Percentage
Cough	9	81.8
Tonsillitis	1	9.1
Others	1	9.1
Total	11	100

It was found to be higher among female (4.4%) as compared to (2.7%) male children, however the difference was not statistically significant (*P = 0.354*). In this study the prevalence of traditional uvulectomy is very low (3.6%) compared to other studies done in different parts of the world, which ranged from 19.6% in a study done in Niger by Prual (9), 35% west Ethiopia by Asefa et al (3) and 72% in a study by Oyelami (12) in Eastern Nigeria. The major reason for the huge difference in the prevalence could be the reasons for uvulectomy in these societies, where the major reason was uvulectomy associated with a traditional naming ceremony done at an early period of less than 8 days after birth (Oyelami (12)).

The majority of the children (77.78%) in this study had uvulectomy done when less than one year of age while few of them (22.22%) had the operation between the age of 1 and less than 2 years, probably the period when babies are most susceptible to infections, as they start to crawl and acclimatize to winning. These findings are similar to the study done in Cameroon by Einterz et al (13) 1993 about the age at which traditional uvulectomy was done among children aged between 0 and 4 years and in another study done by Oyelami (12) on

traditional uvulectomy among preschool children in far north eastern Nigeria, which showed that 69 had the operation done on or before the 8<sup>th</sup> day corresponding to the naming day. In our study however, although it was done below one year there was no mention of traditional reasons. This study did not dwell on education or awareness on the bad effects or benefits of uvulectomy, although various studies have mentioned lack of education as some of the reasons contributing to the practice.

**Table 4: Complications which followed after uvulectomy**

Complication	Frequency					
	Male		Female		Total	
	number	%	number	%	Number	(%)
severe bleeding	2	66.67	4	66.67	6	66.67
*Others	1	33.33	2	33.33	3	33.33
Total	3	100	6	100	9	100

*P* = 0.762

\*Others in the table above refer to "rejecting foods and loss of weight"

The most common reason given for uvulectomy was cough (81.1%) while only 9.1% gave tonsillitis as the reason for uvulectomy in addition to cough. Another 9.1% gave failure to gain weight and inappropriate breastfeeding as the cause of performing the operation. These reasons differ slightly from previous studies in that none of the participants reported sore throat, vomiting or cultural reasons for the operation. Comparing with the study done by Ijaduola (11) in Nigeria from 1978-1980, on hazards of traditional uvulectomy showed the main indications for uvulectomy to be chronic tonsillitis 44.64%, chronic laryngitis 20.54% chronic pharyngitis 15.18%, chronic sinusitis 11.61%, nasopharyngeal carcinoma 3.57%, carcinoma of larynx 1.79% as major reasons or indications for the operation. In our study no mention of sinusitis or carcinomas were mentioned, it could be due to lack of understanding with regard to specific clinical conditions or non-existing, something which can not be documented unless we plan another study, to include specific questions for such conditions.

The variations in reasons for uvulectomy between this study and others may be because our study was based on the respondents who are not familiar with details and knowledge on the upper airway diseases. However, some previous studies (3, 8), which were longitudinal and conducted by people who had enough medical knowledge to differentiate the named indications such tonsillitis, laryngitis and pharyngitis, carcinomas of larynx, carcinomas pharynx and carcinomas of tonsils, were more specific and therefore were able to diagnose these conditions. Also differences in the degree of cultural beliefs such as the culture of performing rituals during the naming of babies ceremonies play an important role (Pruhal et al 1994). Ignorance

regarding health and health services utilization is a possible factor in subjecting the children to various traditional surgeries and failure in recognizing the possible hazards of such surgeries (1, 5, 8, 9).

The most common complication associated with the traditional uvulectomy according to the study findings was severe bleeding (66.67%). It was found equally prevailing among males and females. The least prevailing complications included rejecting foods and loss of weight which rated 33.33% and appeared equally between the two sexes. The study reveals similar findings with other studies done in Tanzania (6), which showed that following uvulectomy anaemia reached almost epidemic proportions and was the leading cause of admission and death among hospitalized children. Other previous reports have shown severe anaemia following uvulectomy (2, 14). Uvulectomy was also shown to cause complications including septicemia, tetanus, gangrene, abscesses, HIV, airway obstruction, lacerations and death (3). A study done by Prual (9) in Niamey, capital of Niger in 1992, revealed that complications were infections (including tetanus), hemorrhage and passage of the uvula further down the respiratory tract.

The examination of the uvulae in children at 6 years following uvulectomy revealed that the uvula seem to have grown to its normal size and shape, as there were no differences noted between those who have undergone and those who did not undergo uvulectomy in their early life. This indicates that if there are any benefits, they might be short lived and if truly the uvula was too long or obstructing the airway, the symptoms would recur when the uvula grows to its original size and shape.

In areas where endemic diseases such as Malaria are a major threat to children below 5 years, uvulectomy may be a major complication as it has been shown to cause bleeding leading to anaemia (2, 14). However, reports show that when uvulectomy is done in hospital setting by professionals it can improve snoring and obstructive sleep apnoea (15, 16 17, 18).

### **Conclusion**

This study suggests that although traditional uvulectomy is practiced in the study population the prevalence is low. The study also suggests that the major reasons for uvulectomy are upper airway infections, while traditional reasons were not mentioned.

### **Recommendations**

We recommend more studies to include factors such as knowledge on the hazardous outcomes of traditional uvulectomy.

To plan a system of educating the society that its possible to get professional help from the health facilities so that where necessary and possible uvulectomy could be planned in a hospital setting done by competent professionals. This will help to assess whether the reported benefits achieved elsewhere through hospital-based uvulectomy could apply here in Tanzania.

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