



Prevalence and Complications of Traditional Uvulectomy amongst Under-Five Children in Dutse, Jigawa State, Nigeria

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Abstract

Background: Traditional healers in Nigeria continue to perform uvulectomy for all throat problems despite the severe complications presented to physicians. **Aim:** This study determined the prevalence and complications of traditional uvulectomy amongst under-five children in Dutse, Jigawa State. **Methods:** This was a community-based descriptive cross-sectional study design conducted in Dutse, Jigawa State between July and December 2018. A systematic sampling technique was used to select eligible children from Dutse Local Government Area community and data was collected using a designed, pre-tested questionnaire administered by the researcher (interviewer). The data were analysed using the Statistical Package for Social Sciences (SPSS IBM) version 23.0 computer software. **Results:** A total of 154 under-fives were recruited into the study with age ranged from 1 -57 months and a mean age of $20. \pm 8.1$ months. Amongst the under-fives that were studied, 141 (91.6%) had traditional uvulectomy performed on them and the complication reported most frequently was bleeding (9.3%) and least frequently was cough (3.6%). **Conclusion:** The prevalence rate of Traditional uvulectomy was high (91.6%) in this study. The highest complication rate of 9.3% was due to bleeding. Collaboration between all stakeholders is necessary to address the challenges of this harmful traditional practice.

Keywords: *Traditional uvulectomy, Under-fives, Prevalence, Complications.*

Introduction

Traditional healers cover the health needs of a substantial proportion of the African population however; the nature of practice and the people involved is quite extensive (Gessler *et al.* 1995).

The World Health Organization (W.H.O) defined traditional medicine as “the sum total of all the knowledge and practices, whether explicable or not, used in the diagnosis, prevention and elimination of physical, mental and social imbalance, relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing” (WHO, 1978 pg 8).

In the African continent, up to 80% of the population patronizes traditional healers for their healthcare needs (WHO, 2005). Traditional healers in Nigeria continue to perform uvulectomy for all throat problems despite the severe complications they present to physicians (Adoga & Nimkur, 2011). Traditional uvulectomy (TU) is a surgical form of traditional medical practice whereby the palatine uvula is partially or totally removed by the traditional surgeons who are known to provide affordable care to underserved areas (Miles & Ololo, 2003). Not only is TU ineffective but it also carries the threat of significant morbidity and mortality while delaying treatment of any significant

underlying medical condition (Sawe *et al.* 2015).

The indications for TU vary from place to place and depend on the socio-cultural belief of the people. It includes elongated uvula, persistent sore throat, irritable cough, poor appetite, and prevention of throat problems. These throat problems include sore throat, throat swellings, elongated uvula, inability to swallow, and loss of voice (Back *et al.* 2004, Ijaduola, 1988, Ijaduola, 1981, Sircar & Mckonen. 1988). Some African communities expect uvulectomy to improve the general health of individuals, improve appetite, reduce airway infection and coughing; as well as being thirst-quenching (Back *et al.* 2004, Beverly & Henderson. 2003). Other expectations include a cure for diarrhea disease, vomiting, malaise, and loss of weight or as ritual custom (Back *et al.* 2004., Ijaduola, 1988., Nathan *et al.* 1982).

Various complications reported as a result of this procedure include; primary and secondary hemorrhage, hypovolemic shock, severe anemia, cellulitis, peritonsillar abscess, parapharyngeal abscess, inadvertent laceration of the tongue and floor of the mouth, trismus, acute otalgia, and tetanus. Nasal speech and nasal regurgitations are late complications. Others include hepatitis and HIV infections from unsterilised instruments (Back *et al.* 2004., Ijaduola, 1985., Olu-Ibekwe, 1983., Lowe, 2004., Wind, 1984).

As far back as in 1948, St Clair Thomson and Negus described uvulectomy as one of the rarest operations in otorhinolaryngology (Ijaduola, 1988). Uvulectomy was an uncommon procedure in Western Europe and North America. Although at present the uvula is routinely removed as part of palatal surgery for snoring (Back *et al.* 2004) and various forms of uvulectomy are recognized as standard practice in the management of snoring and mild obstructive sleep apnoea (OSA) (Mukai *et al.* 2005., Herford & Finn 2000., Neruntarat, 2003., Pessey *et al.* 2005., Ariyasu *et al.* 1995), but many African

countries still perform it as part of traditional medicine (Back *et al.* 2004). Traditional uvulectomy is most prevalent, in areas where Otorhinolaryngologists are few.

This study determined the prevalence and complications of traditional uvulectomy amongst under-fives in Dutse, Jigawa state.

Methods

Setting

Dutse is the capital city of Jigawa state in the north-western geopolitical zone of Nigeria, located between latitudes 11.00°N to 13.00°N and longitudes 8.00°E to 10.15°E. Kano State and Katsina State border Jigawa to the west, Bauchi State to the east and Yobe State to the north-east. To the north, Jigawa state shares an international border with Zinder Region in The Republic of Niger. With an estimated population of 354,698, Dutse is currently the largest city in Jigawa State based on the census of 2006 at a growth rate of 2.94% (National Bureau of Statistics 2018). The projected population of under-fives is 20% of the total population (70,940) as of 2018. Islam is the dominant religion of the largely Hausa-Fulani ethnic majority of the state. Each extended family has its own traditional barber called "*Wanzamai*" who performs traditional uvulectomy, hair shaving, and circumcision on the newborn.

Study Design

The study was a community-based, descriptive, cross-sectional study design that was conducted between July and December 2018. All under-fives (study population) that were permanent residents in the study area since birth and their caregivers that were present during the naming ceremony of the child and/or who have information regarding the traditional uvulectomy status of the child were included in the study, while children who were too sick or with medical conditions that make oral examinations extremely uncomfortable such as jaw tumours, severe gingivitis, epiglottitis and those who had uvulectomy done for medical reasons by orthodox doctors were excluded.

An under-five was regarded as a child that was less than 5 years old, between the age of 0 -59 months and a Caregiver was regarded as a person who was responsible for looking after the under-five, attending to the needs and provides direct care (Merriam-Webster's, 1999).

Sample size Determination

The sample size was determined using Fisher's formula (Charan & Biswas, 2013); $n = \frac{Z^2 p q}{d^2}$ and was adjusted for non-response using a non-response rate of 10% (Araoye, 2004). The calculated sample size was 154.

Systematic sampling technique was used to select eligible children from Dutse LGA community. Advocacy visit was made to the community leader (Mai Unguwa) to facilitate community penetration to reach the participants. The existing house numbering used for the monthly routine Polio immunization was used to obtain the total number of households in the L.G.A (924 households) and this was used as the sample frame to enrol the participants into the study. The sample interval

(n^{th} selection = $\frac{\text{sample frame}}{\text{sample size}}$) was

calculated to be 6 and a random start used as the first household of a participant was selected between house number 1 and sampling interval by simple random sampling (using ballot method) and subsequent households were selected by repeatedly adding the sampling interval. In households with more than one eligible under-five, one was selected using simple random sampling and households without under-fives were skipped and the next household was sampled.

Data Management

A designed, pre-tested, semi-structured questionnaire that was administered by the researcher (interviewer) after it was translated into the local language of the participants was

used for data collection. Examination of the throat was done with the use of battery-powered headlight (Model: VersaBrite 2250 by Pelican) and disposable wooden tongue depressor (Model: Narrow 10cm X 2cm X 2mm) for evidence of total or partial removal of the uvula to confirm traditional uvulectomy. All examinations were conducted in the participant's house by the researcher with the child sitting comfortably on the lap of the caregiver facing the examiner. Complete or partial absence, amputated or a mutilated uvular was taken as evidence of traditional uvulectomy.

International Business Machines [IBM] Statistical Package for Social Sciences [SPSS] for Windows, Version 23.0 software [Armonk, NY: IBM Corp] was used for statistical analysis and results were summarized using frequencies, percentages, and graphic representations. Statistical significance was set at $P < 0.05$, at 95% confidence interval (CI).

Ethical Consideration

Ethical clearance was obtained from the Ethical Review Committee of the Ministry of Health, Jigawa state. The study protocol was explained to the participants. Subsequently, informed consent was obtained and respondents appended their signatures/thumb-prints on the consent form. Confidentiality of the respondents was strictly ensured. The study was carried out according to the Declaration of Helsinki (WMA, 2013).

Results

The Socio-Demographic Characteristics the Under-Fives

A total of 154 under-fives and Caregivers were recruited into the study. The age of the under-fives ranged from 1 -57 months, with a mean age of 20.3 ± 5.1 months. However, the majority were less than 24 months of age, 75 (48.7%). There were 68 (44.2%) males and 86 (55.8%) females with a male: female ratio of 1: 1.3. The socio-economic classes showed

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that majority (53; 34.8%) were of socio-economic class V. The Socio-demographic characteristics of under-fives and caregivers are as shown in table 1.

Table 1: Socio-Demographic Profile of Under-fives

Parameters	Frequency (n = 154)	Percent (%)
Age of child (months)		
< 24	75	48.7
25 – 48	48	31.2
49 – 60	31	20.1
Mean = 20.3 ± 5.1 months.		
Gender of child		
Male	68	44.2
Female	86	55.8
Religion		
Islam	149	96.8
Christianity	5	3.2
Ethnicity		
Hausa	113	73.4
Fulani	41	26.6
Socio-economic class		
I	8	5.2
II	14	9.1
III	37	24.0
IV	42	27.3
V	53	34.4
Status of caregiver		
Father	22	14.3
Mother	93	60.4
Relative	39	25.3
Gender of caregiver		
Male	28	18.2
Female	126	81.8

Prevalence of Traditional Uvulectomy amongst Under-Fives

Amongst the under-fives that were studied, 141 (91.6%) had traditional uvulectomy performed on them as shown in figure 1.

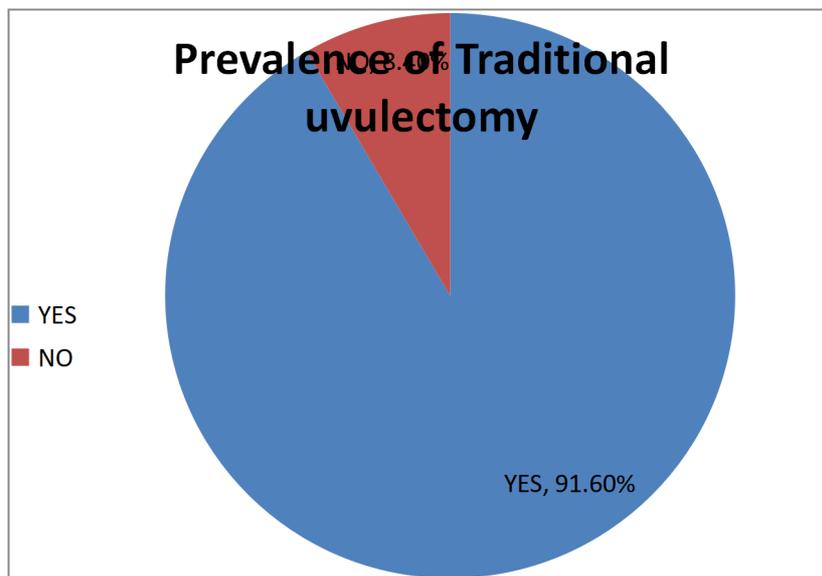


Figure 1: Prevalence of traditional Uvulectomy

Reported Complications of Traditional Uvulectomy

The complication reported most frequently was bleeding (14; 9.3%) and least frequently was cough (5; 3.6%) as shown in table 2.

Table 2: Reported Complications of Traditional Uvulectomy

Variable	Yes		No	
	Frequency	Percent (%)	Frequency	Percent (%)
n = 141				
Bleeding	14	9.3	127	90.1
Fever/Infection	6	4.3	135	95.7
Persistent sore throat	10	7.1	131	92.9
Neck swelling	0	0	141	100
Speech problems	7	4.9	134	95.1
Nasal regurgitation	8	5.8	133	94.2
Aspiration/ Cough	5	3.6	136	96.4
Jaundice	0	0	141	100

*Multiple responses were given.

Discussion

It has been noted that the prevalence of TU is as variable as the geographical area, race, and age of the studied population (Johnston & Riordan, 2005). This study reported a prevalence rate of 91.6%. In similar reports in under-fives; 78%, 85.7%, and 90% were reported in Northern-Cameroon (Dagnew & Damena, 1990), northwest-Ethiopia (Einterz et al. 1994) and Jigawa state, Nigeria (Ajibade et al. 2013), respectively. However, it differs

from reports in under-fives from studies by Mboneko & Fabian (2006), Prual et al(1994) and Taylor (2008), who found much lower prevalence rates of 34%, 19.6%, and 3.6% respectively, in children of similar age group as in this study. Participants in this study were of Hausa ethnic group and this may explain the higher prevalence rate as it is well documented that Hausas perform TU as part of naming ceremony ritual on the 7th day of

life (Johnston & Riordan, 2005., Prual *et al.* 1994., Lowe, 2004., Adebola *et al.* 2016). Also, traditional uvulectomy seems to be more common among the Muslims than the non-Muslims (Einterz *et al.* 1994) and 96.8% of participants in this study were Muslims.

This study reported the highest complication rate of 9.3%, and this was from bleeding. Although, this was at variance with the findings of other studies which noted higher rates of complications (Johnston & Riordan, 2005., Adoga & Nimkur, 2011., Lowe, 2004., Ajibade *et al.* 2013), but bleeding (hemorrhage) was the also the most common complication in other reports (Lowe, 2004., Taylor, 2008). This may be due to the repeated intake of warm water as instructed by the traditional barbers in the areas of this study instead of cold water. Warm water causes vasodilatation and leads to more bleeding while cold water causes vasoconstriction. There was a lower rate of complication associated with infections (4.3%) such as fever, septicaemia, cellulitis of the neck, pharyngitis peritonsillar abscess, parapharyngeal abscess even without the use

of antibiotics. This could be explained by the washing of instruments with water and disinfecting it with Dettol or hypochlorite after each use by TU practitioners in this study. The few reported infections may be due to aspiration of blood in those that had bleeding as complication leading to pneumonitis. Damage to the soft palate from overzealous uvulectomy may explain 4.9% and 5.8% reported as speech problem and nasal regurgitation complications respectively. Generally, the low rates of complications in this study may be explained by the fact that this study was community-based unlike most other studies of complications of TU which were hospital-based where the complications were commonly presented.

Conclusion

Traditional uvulectomy was, therefore, a common practice in the under-fives living in Dutse, Jigawa state with a prevalence rate of 91.6% in this study. The highest complication rate of 9.3% was due to bleeding. Collaboration between all stakeholders to address the challenges of this harmful traditional practice is therefore recommended.

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