

ORIGINAL ARTICLE

## KNOWLEDGE, ATTITUDE, AND PRACTICE OF FGM, UVULECTOMY AND EXTRACTION OF CANINE MILK TEETH FOLLICLE AMONG MOTHERS OF CHILDREN UNDER THE AGE OF ONE LIVING IN GONDAR TOWN

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### ABSTRACT

**Introduction:** Traditional cultural practices reflect values and beliefs held by members of a community for periods often spanning generations. Every social group in the world has specific traditional cultural practices and beliefs; some of these practices are harmful to a specific group of the population, such as women and children.

**Objectives:** The objective of the study is to assess knowledge, attitude and exercise (KAP) of harmful traditional practices (FGM, uvulectomy and extraction of canine milk teeth follicle) among mothers of infants living in Gondar town.

**Methods:** A community based crosssectional study was conducted among mothers of infants living in Gondar town. Mothers living in four kebeles of the town were interviewed using a pre-tested questionnaire prepared for this purpose to assess their knowledge, attitude, and practice of harmful traditional practices.

**Results:** A total of 503 mothers were interviewed on their knowledge, attitude, and exercise of harmful traditional practices in children. Mothers' age ranged from 16 to 45 years, the median age being 25. The majority (69.1%) were Orthodox Christians and (92.2%) Amhara by ethnicity. The educational status of 45.8% of the mothers was below high school. FGM, uvulectomy and extraction of canine milk teeth were considered to be valuable by 2.2%, 19.7%, and 14.5% of the mothers, respectively. The prevalence of FGM, uvulectomy and extraction of milk teeth of infants was 1.2%, 22.9% and 10.9%, respectively. Low level of maternal and paternal education and low income increased the risk of these harmful practices.

**Conclusions:** The prevalence of uvulectomy and extraction of milk teeth is high. A multidisciplinary approach involving all sectors is recommended for their eradication.

### INTRODUCTION

Traditional cultural practices reflect values and beliefs held by members of a community for periods often spanning generations. Every social grouping in the world has specific traditional cultural practices and beliefs, some of which are beneficial to all members, while others are harmful to specific groups, such as women and children. These harmful traditional practices include female genital mutilation (FGM), uvulectomy, teeth follicle extraction, early marriage, various taboos or practices which prevent women from controlling their own fertility, nutritional taboos, traditional birth practices, son preference and its implications for the status of the girl child, and early pregnancy(1).

It is estimated that over 130 million girls and women have undergone female genital mutilation, and that 2 million girls are at risk of undergoing some form of the procedure every year. Most of the women and girls affected live in Africa and some in the Middle East and Asia (2).

In 1997/1998 the National Committee for Traditional Practices in Ethiopia carried out a national baseline survey to determine the prevalence of this practice. The published results showed 72.7 percent of the female population had undergone female genital mutilation. The prevalence in the Amhara Region was found to be 81.1% (3).

Uvulectomy is a common harmful traditional practice in Africa (4-7). Risks for children who undergo

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these procedures are extensive, including septicaemia, potential for HIV transmission, anemia and death (6, 8).

A study in 3 villages in northwest Ethiopia identified that more than 84.5% of the mothers surveyed reported milk teeth extraction as a useful treatment for diarrhea (9).

A tremendous effort has been made by the Government of Ethiopia to educate the public on the harmful nature of these practices; however, there have been no recent studies in Gondar town on the prevalence of the practices. This study is designed to evaluate current knowledge, attitude, and exercise of harmful traditional practices by mothers of children under the age of one year living in Gondar town.

## METHODS

**Study design:** A community-based cross-sectional study design was used.

**Study area and population:** The study was conducted in May 2009 on mothers of infants living in Gondar town, Amhara Region, northwest Ethiopia. Gondar is the capital of North Gondar Zone and has a total of 20 kebeles. The zone is located in northwest Ethiopia around 720kms from Addis Ababa. The study participants were mothers of infants living in the town.

**Sampling:** Sample size was calculated using the formula for single population proportion.

$$\text{Sample size } (n) = Z^2 P(1-p)/W^2$$

Where Z (level of confidence) = 1.96

$$P \text{ (prevalence)} = 80\%$$

$$W \text{ (margin of error)} = 0.05$$

$$n = 246$$

Taking design effect as 2, total sample size was  $246 \times 2 = 492$ .

The prevalence of 80% was taken from a study done on uvulectomy in Gondar (10). This gave the largest sample size.

The cluster sampling procedure was employed. Out of the twenty kebeles, four kebeles (9, 10, 14 and 15) were randomly selected by the lottery method.

**Data collection procedure and analysis:** Data was collected using a pre-tested questionnaire prepared for this purpose. The original data collecting tool was interpreted to the native language - Amharic. Four high school graduates were recruited and trained on

data collection. The data collection tool was discussed with the collectors line by line and a close supervision was conducted during the process. Data were fed to EPI info 2004 version epidemiologic software. Statistical analysis was made using EPI info 2004 version and SPSS version 13.0.

**Ethical considerations:** Ethical clearance was obtained from the Institutional Review Board of the University of Gondar and Gondar Woreda Health Department. Permission to conduct the study was also obtained from kebele officials. The purpose of the study was explained to the participants in order to get their consent to provide information. Confidentiality about any information that the study subjects gave to the interviewer was granted. Participation in the survey was voluntary and anyone could decide to quit.

## RESULTS

A total of 503 mothers were interviewed on their knowledge, attitude, and exercise of harmful traditional practices on children. Mothers' age ranged from 16 to 45 years, with the median age of 25. The majority (69.2%) were Orthodox Christians, 29.0% Muslims, and 1.8% Protestants. Most of the mothers (92.2%) were Amhara, 7.4% Tigre, and 0.4 Oromo. A good number (23.5%) of the mothers were illiterate; the other 23.5% completed grade 12. The rest were elementary school graduates.

Paternal illiteracy rate was 11.6% and 38.7% had completed grade 12. Only 3.6% of the mothers and 9.7% of the fathers had college education. The majority of the mothers (66.7%) were housewives and only 7.0% were government employees. Most of the fathers (27.4%) were merchants, 24.0% government employees, and 22.8% daily laborers. Monthly income could be quantified for 77% of the households. The average monthly income was Br. 750 (SD  $\pm$  661). The median was 500 and the range varied from Br. 50 to 4000 (Table 1).

**Table 1:** Socio-demographic characteristics of the family of infants. Gondar 2009

Variable	Number	Percent
<b>Maternal age</b>		
< 20	64	12.7
20 – 24	154	30.6
25 – 29	155	30.8
30 – 34	88	17.5
≥ 35	42	8.3
<b>Religion</b>		
Orthodox Christian	348	69.2
Muslim	146	29.0
Protestant	9	1.8
<b>Ethnicity</b>		
Amhara	464	92.2
Tigrae	37	7.4
Oromo	2	0.4
<b>Maternal educational status</b>		
Illiterate	118	23.5
Read and write	23	4.6
Grade 1 – 6	89	17.7
Grade 7 – 12	155	30.8
Completed grade 12	101	20.1
College education	17	3.4
<b>Paternal educational status</b>		
Illiterate	57	11.6
Read and write	37	7.5
Grade 1 – 6	79	16.0
Grade 7 – 12	129	26.2
Completed grade 12	145	29.4
College education	46	9.3
<b>Maternal occupation</b>		
Housewife	336	66.8
Government employee	35	7.0
Merchant	30	6.0
Student	29	5.8
Daily laborer	55	10.9
Other	18	3.6
<b>Paternal occupation</b>		
None	18	3.6
Government employee	119	24.0
Merchant	136	27.4
Daily laborer	113	22.8
Driver	75	15.1
Other	35	7.1

Two hundred sixty-six (52.9%) of the infants were male and 237 (47.1%) female with a mean age of 6.5 (SD ± 3.5) months.

Most of the mothers, 460 (91.6%), believed that circumcision of a female child was of no value, 31 (6.2%) were not sure whether it was useful or harmful. Only 11(2.2%) thought that circumcision of females was important. The main reasons were cultural and required preservation on the as-

sumption that they facilitated child birth. Uvulectomy and extraction of milk teeth were said to be of value by 99 (19.7%) and 73(14.5%) mothers, respectively. Uvulectomy was said to be of importance to keep the child healthy; swelling and subsequent rupture of the uvula was assumed to cause either difficulty in breathing by 14(14.1%) or death by 68 (68.9%). Lack of extraction of the milk teeth was thought to be the cause of diarrhea by 18(24.7%), wasting by 18(24.7%), pain on the gums by 11 (15.1%) or infestation of the teeth with worms by 8 (10.9%) of the mothers.

“Female genital mutilation was conducted in only 3 (1.3%) infants. Uvulectomy and extraction of milk teeth was conducted in 115 (22.9%) and 55 (10.9%) infants respectively. Among infants who didn’t have uvulectomy and extraction of milk teeth 26 (6.7%) and 26 (5.8%) of infants were scheduled for future uvulectomy and extraction of milk teeth respectively in case they fell ill; however only 2 (0.8%) female infants were scheduled for FGM. All the three FGMs, 78 (67.8%) of uvulectomies, and 36 (65.5%) of milk teeth extractions were conducted based on decision of the mother”.

Mothers requesting the cessation of FGM, uvulectomy, and extraction of milk teeth were 450 (89.6%), 333(66.2%), and 354(70.4%), respectively (Table 2).

**Table 2:** KAP on traditional harmful practices, Gondar 2009

Variable	Number	Percent
FGM is useful	11	2.2
Uvulectomy is useful	99	19.7
Extraction of milk teeth is useful	73	14.5
FGM conducted	3	1.2
Uvulectomy conducted	115	22.9
Extraction of milk teeth conducted	55	10.9
FGM planned	2	0.8
Uvulectomy planned	26	6.7
Extraction of milk teeth planned	26	5.8
FGM should stop	450	89.6
Uvulectomy should stop	333	66.2
Extraction of milk teeth should stop	354	70.4

There is a significant association between knowledge and practice of traditional harmful practices. Sixty-seven (67.7%) of the mothers who thought that uvulectomy was useful performed it on their infants, while 40 (10.5%) of the mothers who didn’t believe that uvulectomy was useful did the same (OR 0.16; 95% CI 0.10 – 0.25). There was a similar observation regarding the extraction of milk teeth. That is, 39 (53.4%) of the mothers who believed that extraction

was useful, and 15 (3.7%) who believed it was not carried it out (OR 0.07; 95% CI 0.03 – 0.14).

FGM, Uvulectomy, and extraction of canine milk teeth follicle were said to be useful more commonly

by mothers who were either illiterate or below high school compared to those who attended high school or above (OR13.0; 95% CI 1.70 – 273.69), (OR 2.99; 95% CI 1.84 – 4.88) and (OR 3.79; 95% CI 2.12 - 6.84), respectively (Table 3).

**Table 3:** Influence of different socio-demographic characters on knowledge to harmful traditional practices, Gondar 2009

Socio-demographic variable	FGM useful		OR (95% CI)	uvulectomy useful		OR (95%CI)	Teeth extraction useful		OR (95%CI)
	yes	no		Yes	No		Yes	No	
Maternal education									
≤ grade 6	10	200	13.0(1.70-273.69)*	64	140	2.99(1.84-4.88)*	53	167	3.79(2.12-6.84)*
>grade 6	1	260	1	35	229	1	20	239	1
Paternal education									
≤ grade 6	8	146	8.41(1.63-58.07)*	49	111	2.47(1.52-4.00)*	34	126	2.05(1.19-3.54)*
>grade 6	2	307	1	47	263	1	36	274	1
Monthly income									
≤ 500birr	4	186	3.78(0.40-89.78)	54	141	3.18(1.74-5.86)*	41	156	2.64(1.37-5.15)*
> 500 birr	1	176	1	19	159	1	16	161	1
Maternal age									
≤25yrs	5	253	0.68(0.18-2.56)	59	201	1.31(0.81-2.10)	37	219	0.88(0.52-1.49)
>25 yrs	6	207	1	40	178	1	36	187	
Religion									
Christian	8	323	1.13(0.27-5.46)	74	274	1.13(0.67-1.94)	57	287	1.48(0.79-2.80)
Muslim	3	137	1	25	105	1	16	119	
Ethnicity									
Amhara	9	425	0.35(0.07-2.45)	89	353	0.73(0.31-1.74)	68	375	1.36(0.44-4.71)
Tigræ	2	33	1	9	26	1	4	30	1

\* Significant associations

Performing harmful traditional practices was also more commonly observed among those whose educational background was below high school. Uvulectomy and extraction of canine milk teeth follicle were performed 2.32 (95%CI 1.48 – 3.64) and 2.72 (95%CI 1.45 – 5.13) times more often by the less educated groups compared to those with high school education or above (Table 4). The 3 FGMs were performed by illiterate mothers, and all the 17 mothers with college education didn't assume these traditional practices as useful and none of them practiced them on their children. A similar association was observed between lower educational status of the father and harmful traditional practices (Table 4). Families with lower monthly income more commonly assumed that these traditional practices were useful and more commonly practiced them on their children compared to families with higher income (Tables 3 and 4).

Religion and ethnicity didn't affect KAP on traditional harmful practices. However, a large number of elderly mothers believe that FGM should be stopped 201 (96.6%) compared to young mothers aged 25 years or less 249 (90.9%) (OR 2.88, 95% CI 1.16 - 7.49) (Tables 3 - 5).

Further analysis using logistic regression showed that mothers with a lower educational background had a higher belief that extraction of canine milk teeth was a useful procedure (OR 3.50, 95%CI 1.73 - 7.10). Spouses of fathers with a higher educational status had the attitude that uvulectomy should stop (OR 1.83, 95% CI 1.07 – 3.11). A low monthly income was associated with the belief that uvulectomy was useful (OR 2.32, 95 % CI 1.23– 4.37), and a higher prevalence of uvulectomy (OR 2.23, 95% CI 1.24– 4.03).

**Table 4:** Influence of different socio-demographic characters on practice to harmful traditional practices, Gondar 2009

Socio-demographic variable	Uvulectomy done		OR (95% CI)	Teeth extraction done		OR (95% CI)
	Yes	No		Yes	No	
Maternal education						
≤ grade 6	71	159	2.32(1.48-3.64)*	37	193	2.72(1.45-5.13)*
>grade 6	44	229	1	18	255	1
Paternal education						
≤ grade 6	57	116	2.37 (1.60-4.94)*	30	143	2.59(1.41-4.77)*
>grade 6	55	265	1	24	296	1
Monthly income						
≤ 500birr	60	146	2.81 (1.60-4.94)*	33	173	2.26(1.12-4.62)*
> 500 birr	23	157	1	14	166	1
Maternal age						
≤ 25yrs	68	209	1.24(0.80-1.93)	25	252	0.65(0.36-1.18)
>25 yrs	47	179	1	30	196	
Religion						
Christian	86	272	1.28(0.78-2.11)	45	312	1.96(0.92-4.28)
Muslim	29	117	1	10	136	
Ethnicity						
Amhara	107	357	1.28(0.52-3.31)	54	410	4.74(0.68-94.86)
Tigræ	7	30	1	1	36	1

\* Significant associations

**Table 5:** Influence of different socio-demographic characters on attitude to harmful traditional practices, Gondar 2009

Socio-demographic variable	FGM should stop		OR (95% CI)	Uvulectomy should stop		OR (95% CI)	Teeth extraction should stop		OR (95% CI)
	Yes	no		Yes	No		Yes	No	
Maternal education									
≤ grade 6	191	35	1	126	103	1	133	96	1
>grade 6	259	13	3.65(1.81-7.49)*	207	65	2.60(1.75-3.88)*	221	51	3.13(2.05-4.77)*
Paternal education									
≤ grade 6	142	29	1	87	85	1	97	77	1
>grade 6	300	19	3.22(1.68-6.22)*	241	79	2.98(1.98-4.50)*	251	68	2.93(1.92-4.47)*
Monthly income									
≤ 500birr	182	20	1	133	73	1	143	62	1
> 500 birr	171	8	2.35(0.95-5.98)	144	35	2.26(1.38-3.70)*	151	28	2.34(1.38-3.98)*
Maternal age									
≤ 25yrs	249	25	1	185	91	1	197	78	1
>25 yrs	201	7	2.88(1.16-7.49)*	148	77	0.95(0.64-1.40)	157	69	0.90(0.60-1.35)
Religion									
Christian	311	34	1	229	118	1	242	105	1
Muslim	130	14	1.02(0.51-2.06)	95	50	0.98(0.64-1.50)	103	42	1.06(0.68-1.67)
Ethnicity									
Amhara	417	43	1	309	153	1	326	1369	1
Tigræ	31	5	0.64(0.22-1.98)	24	13	0.91(0.43-1.96)	28		1.30(0.57-3.05)

\* Significant associations

## **DISCUSSION**

The current study showed a lower prevalence of FGM of 1.3%; however uvulectomy and extraction of canine milk teeth were practiced by 22.9 and 10.9% of the mothers, respectively. Taking the fact that these procedures were conducted in the last one year, and some more infants were scheduled for subsequent procedures, the current observed prevalence is a concern for public health officials and the society at large. This prevalence is observed among urban dwellers, who have a better access to formal education and health care. A higher prevalence is expected among the vast majority of people living in rural areas, who have limited health care service.

Ethiopia is one of the African countries where traditional harmful practices are commonly performed. The baseline survey conducted in 1997/98 by the National Committee on Traditional Practices in Ethiopia showed that 72.7 percent of the female population underwent female genital mutilation; this figure was as high as 81.1% in Amhara Region (3).

An earlier study conducted by Schneider P et al showed that more than 80% of the children admitted to Gondar Hospital had undergone uvulectomy (10). Similarly, in a community based study conducted in northwest Ethiopia more than 84.5% of the mothers reported milk teeth extraction as a useful treatment for diarrhea (9). A study that was conducted 15 years back in Jimma, southwest Ethiopia, showed the prevalence of FGM, uvulectomy, and extraction of milk teeth to be 4%, 35%, and 38%, respectively (11).

Around 90% of the study population have the attitude that FGM should stop. This is close to the study in Dembia District, conducted in 2001, where 88% of the study population had similar attitude (12); however, only 9% and 18% of the study population in Dembia believe that uvulectomy and milk teeth extraction should stop in contrast to the current study where 66% & 70% believe that these procedures should be abandoned.

The prevalence of FGM is very low compared to the national baseline survey that was conducted 11 to 12 years back. This could be the reflection of the concentrated effort of the Government of Ethiopia in eradicating FGM. Press conferences, articles and short messages have been used to disseminate information about FGM. Since 1995, short radio messages

and spots transmitted through the education radio programs to school communities and general audiences have been used to create awareness about the negative effects of FGM (3). The health complications of FGM include the immediate complications of hemorrhage, severe pain, fractured bones, possible HIV transmission, and shock; long term complications such as keloid scar formation, painful intercourse, chronic infection, and problems in pregnancy and childbirth; and psychological problems associated with sexual dysfunction caused by painful intercourse, the loss of trust in care-givers, and depression (13).

Uvulectomy and extraction of canine milk teeth follicle are deeply rooted harmful practices in the Ethiopian society. Unlike FGM, significant reduction in the prevalence of these procedures is not observed. A study in Niger showed that by the age of 5, 19.6% of the children had undergone uvulectomy (14). In a cluster survey conducted on neonatal tetanus mortality in Nigeria, uvulectomy was highly associated with mortality from neonatal tetanus (15). Both uvulectomy and extraction of canine milk teeth follicle are usually performed by traditional healers. Risks for children who undergo these procedures are extensive, including hemorrhage, septicaemia, potential for HIV transmission, numerous dental complications and death (8). Further collaborative efforts are required to reduce the prevalence of these harmful practices.

A lower maternal and paternal education and an income less than 500 birr (around 45 dollars) per month were highly associated with harmful practices. In a study conducted in Sudan, a lower educational status was similarly a risk for the extraction of canine milk teeth (7).

Ethnicity and religion didn't have any influence on the prevalence of these harmful practices unlike the study conducted in Niger (14), where certain ethnic groups had a higher prevalence of uvulectomy.

In conclusion, there has been a dramatic decrease in the prevalence of FGM; however, uvulectomy and extraction of canine milk teeth follicle are still commonly practiced. These practices are more frequently observed among families with poor educational background and low income.

As these traditional harmful practices involve human rights and health issues, a multidisciplinary approach will be necessary for their eradication.

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