

## KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS INFANT ORAL MUTILATION AMONG MOTHERS OF LOMULE VILLAGE, BOMBO IN LUWERO DISTRICT- A CROSS-SECTIONAL STUDY.

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Page | 1

### ABSTRACT

#### Background

Infant Oral Mutilation (IOM) was a dangerous and sometimes fatal traditional or convectional dental malpractice that had been performed for decades in many areas of Africa. Uganda remains among the countries with almost a quarter of all deaths from IOM among infants.

#### Methodology

A descriptive cross-sectional study was designed on 50 respondents using a convenient sampling nonprobability technique and interview questionnaires with closed and open-ended questions.

#### Results

88.0% of respondents had ever had IOM, 74% knew IOM as the practice of removing the infant's harmful teeth, 62% reported diarrhea, fever, and vomiting as the major reasons for carrying out false teeth removal, 58% reported that they take their children who develop false teeth to the traditional healer for removal, 54% reported that the child would die if the false teeth were not removed, 88% reported that IOM was a good practice, 74% reported that they carried out IOM to treat childhood illness like fever, vomiting, diarrhea, 60% reported that traditional healers are the only people competent enough to decide whether the infant's teeth was to be removed, 68% reported that the infant's teeth were removed at around 4-8 months of age, 56% reported that a bicycle spoke was used to remove the infant false teeth, 88.0% reported that the child got better after false teeth removal.

#### Conclusion

The knowledge of the practice of IOM among mothers was not satisfactory. However, their attitude and practices which included myths and beliefs towards IOM were likely to expose more children to false teeth removal.

#### Recommendations

The community health workers should sensitize the community about the dangers of IOM, and teach mothers or caregivers the appropriate preventive measures and recommended management of childhood illness.

*Keywords:* Knowledge, Attitude, Practices, Infant Oral Mutilation, Mothers.

*Submitted:* 2024-05-20 *Accepted:* 2024-07-29

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#### Background of the study

Infant oral mutilation refers to the practice of removing or extracting the primary canine follicles or unerupted deciduous canine tooth in young infants, owing to the corresponding swelling of white soft enucleated tooth buds to tooth worms and is believed to be a source of childhood illness like vomiting, fever, diarrhea, loss of appetite. The practice can be termed as false tooth extraction, canine tooth bud removal, deciduous tooth removal, Germectomy, and tooth bud gouging by different authors. The procedure is performed by traditional healers often since they are strongly believed to be an oracle of health care despite having no formal medical education. They use unsterilized

instruments such as bicycle spokes, hot needles, pointed knives, nails, and other sharp objects without anesthesia. The practice also involves rubbing the tooth gums of the developing primary tooth with herbs by the traditional healer before the gouging out of the tooth buds. It is usually performed when the child is between 4-5 months of age but can still be carried out in children up to 18 months, Amy Helmenach, et al. (2022)

IOM is practiced in several sub-Saharan African countries like China, Ethiopia, South Sudan, Somalia, and East African countries like Kenya, Uganda, Tanzania, Rwanda, and Burundi. According to the Global Child Dental Fund in East Africa, approximately a 25 million children endure

IOM annually with a prevalence rate documented from Ethiopia (38%-70%), Tanzania (0.5%-37%), Uganda (2%-30%), South Sudan (70%-100%) and Kenya (37%-87%), Arthur M Kemoli, et al. (2022). Active documents report that the earliest literature reports on IOM was found in the Neupagan tribe of the Nilotic in Sudan in 1932 where the primary infant canines were enucleated with a piece of iron and it spread to several sub-Saharan African countries. They reported that 61.1% of children of the Acholi tribe in northern Uganda were missing canine teeth due to IOM. In 1989, the Uganda Ministry of Health carried out a survey and reported that 95% of the focus group they had studied in the southern district of Uganda had “Ebinyo” hence indicating its spread. The practice of “Ebinyo” which loosely translates to the false tooth by the Bantu speaking group, “Bino” by the blog, “lkela/lkela” by the sites of Eastern Uganda, “Gidog” by the Langi from northern Uganda, “lake jo marak” by the japadhola and “Two lak” by the Acholi, Bataringaya, et al.(2005)

The removal of the unerupted canine follicles is often a painful and traumatizing procedure that often exacerbates the illness leading to complications like profuse bleeding, transmission of blood-borne infections such as HIV/AIDs, hepatitis B, severe hemorrhagic anemia, septicemia, tetanus, Osteomyelitis and even shock. The long-term impacts were observed especially in the dentition and they included malformation of the tooth, non-eruption, dysplasia, and impaction of the teeth. The most commonly affected teeth were the mandibular canines and Atim Wendy Paula. (2018). Among the 4-59-month-old children affected by diarrhea, only half received appropriate treatment of oral rehydration solution (ORS). This could probably mean caretakers of these children attribute the diarrheal disease to the teething period and therefore seek the removal of the false teeth. (UNICEF,2011)

The prevalence of IOM is still high in Lomule village and become an issue of substantial concern to the community due to inadequate knowledge about IOM thus, the purpose of the study; was to determine the Knowledge, Attitude, and Practices toward Infant oral mutilation among mothers in Lomule village, Bombo in Luwero district.

## METHODOLOGY

### Study design

The study design used a descriptive cross-sectional study design. This was because the study did not require follow-up of clients over some time. This information was collected once from the study participants.

### Study area

The study was conducted in Lomule; Bombo in Luwero district, Lomule north village is located in Lomule parish, Bombo 21miles, Bombo Town council, Luwero district.

### Study population

The study population included the caretakers and mothers of the infants.

### Sample size determination

The sample size was determined using Burton’s formula (1965)

Sample size (n) =qr/o Where;

q=the total number of days taken for data collection.

r=maximum number of respondents who were

interviewed per day.

o=maximum time taken on

each respondent per day. Values; n=qr/o q=10days

r=5 respondents o=1hour

Therefore; n=qr/o

= (10x5)1

=50 respondents

### Sampling method and procedures

Convenient sampling, a type of non-probability sampling technique was used. It was a sampling technique based on the judgments of the researcher.

A convenient sample was one where the units that were selected for inclusion in the sample area were to be easy to access on grounds or individuals should be more conversant or knowledgeable about the topic of the study. The researcher chose, on different days to position herself at the young child clinics of different health facilities in Lomule village where it was easy to invite the many caretakers who had brought their infants or children for immunization to take part in the research. This was done until the desired sample was reached.

### Inclusion criteria

Those confirmed to be mothers or caretakers of these infants or children, consented, 18 years and above.

### Definition of variables

The dependent variable was infant oral mutilation while the independent variables were knowledge attitude and practices.

Data collection tools

### Questionnaire

Structured self-made questionnaires with both closed and open-ended questions in English were employed by the researcher to collect data from respondents after giving them clear instructions with the help of a research assistant.

### Interview

This involved face-to-face conversation between the researcher and the respondents. The researcher adapted questions as necessary, clarified doubt, and ensured that the responses were properly understood by repeating and rehearsing the questions, this data collection was preferred

because it was good in a way that some respondents who were not so conversant with questionnaires.

### **Data collection procedures**

An introduction letter was obtained from the principal and research committee of Kampala School of Health Sciences and then taken to the LC 1 chairperson of Lomule village. The researcher was then granted permission to collect data and was assisted by a trained research assistant who was knowledgeable in the local language.

After data collection, the participants were thanked and the researcher checked the data-filled forms before the respondents left the study area.

### **Pre-testing of questionnaires.**

The questionnaires were pre-tested among 10 mothers in Lomule village to assess the appropriateness of the questionnaires. The necessary adjustments were made accordingly to evaluate the effectiveness of the study following the standard criteria.

### **Data management procedure**

After data was collected, it was checked for completeness and accuracy. Those that were not completed or not correctly filled were removed and disposed of.

The forms shall then be kept in a locked cupboard to maximize confidentiality and ensure access to the research team only.

### **Data analysis**

Data was counted by tallying using a pen and 4 sheets of paper. The results were entered into the computer and analyzed using a Microsoft Excel program to generate tables, graphs, and pie charts.

### **Ethical considerations**

The researcher introduced the topic, purpose, and significance of the study to the respondents. The respondents were assured of confidentiality in the study as no names were used and therefore asked to sign a consent form. No respondents were forced to participate in the study. Each respondent was interviewed alone and information obtained from any respondent was not shared with other colleagues. The data collected was kept in a locked cupboard.

## **RESULTS**

**Table 1: Distribution of socio-demographic data of caretakers of children. N =50**

VARIABLES	CATEGORY	FREQUENCY (f)	PERCENTAGE (100%)
Age in years	18-25	8	16
	26-34	15	30
	>35	27	54
<b>Total</b>		<b>50</b>	<b>100</b>
Gender	Male	15	30
	Female	35	70
<b>Total</b>		<b>50</b>	<b>100</b>
Level of education	Primary	20	40
	Secondary	9	18
	Tertiary	5	10
	No formal education	16	32
<b>Total</b>		<b>50</b>	<b>100</b>
Tribe	Muganda	10	20
	Mukiga	6	12
	Acholi	16	32
	Nubian	18	36
<b>Total</b>		<b>50</b>	<b>50</b>
Marital status	Single	24	48
	Married	19	38
	Widowed/Widower	5	10
	Separated/divorced	2	4
<b>Total</b>		<b>50</b>	<b>100</b>
Occupation	Peasant	17	34
	Businessman/woman	9	18
	Health worker	2	4
	Housewife/unemployed	22	44
<b>Total</b>		<b>50</b>	<b>100</b>
Religion	Catholic	10	20
	Muslim	24	48
	Protestant/Anglican Born again/Pentecostal	8	16
		8	16
<b>Total</b>		<b>50</b>	<b>100</b>
Relationship to the child	Biological parents	38	76
	Grandparents	7	14
	Siblings(brother/sister)	2	4
	Aunt/Uncle	3	6
<b>Total</b>		<b>50</b>	<b>100</b>

From Table 1, more than half (54%) of the respondents were 35years of age and above, whereas the minority (16%) were between 18-25 years of age, majority (70%) of the respondents were females while the minority (30%) were males, most (48%) of the respondents were single mothers, Minority (4.0%) were either divorced or separated, most (40%) of the respondents had attained up to primary level, whereas the least (10%) attained up to tertiary education,

most (36%) of the respondents were Nubians whereas the least (12%) were Bakigas, Most (44%) of the respondents were unemployed, whereas the least (4%) were health workers, most (48.0%) of the respondents were Muslims whereas the least (16%) were Protestants and born again and, Majority (76.0%) of the respondents were biological parents of the children whereas (4.0%) were siblings to the children.

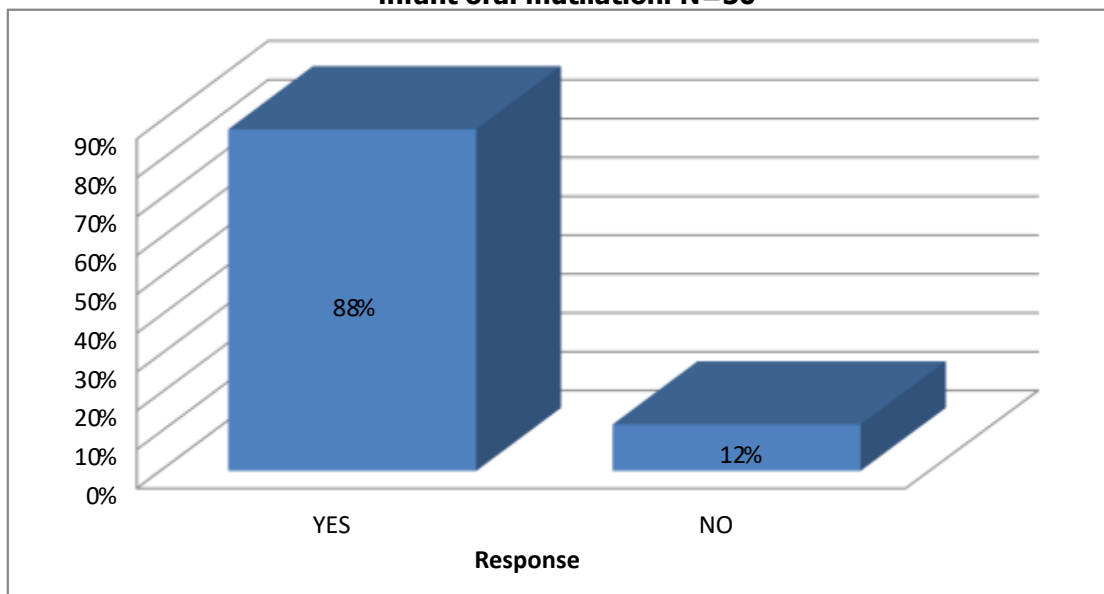
**Table 2: Distribution of the socio-demographic data of the child. N=50**

Variables	Category	Frequency (f)	Percentages (%)
Age of the child in months	0-6	31	62
	7-12	13	26
	13-18	6	12
<b>Total</b>		<b>50</b>	<b>100</b>
Sex of the child	Male	22	44
	Female	28	56
<b>Total</b>		<b>50</b>	<b>100</b>

From Table 2, the Majority (62%) of the children were between 0-6 months of age whereas the least (12%) were between 13-18 months of age, and, more than half (56%) of the children were females whereas the minority (44%) were males.

**Knowledge towards infant oral mutilation among mothers of Lomule village, Bombo, Luwero district.**

**Figure 1: shows the distribution of respondents according to whether they had ever had infant oral mutilation. N=50**



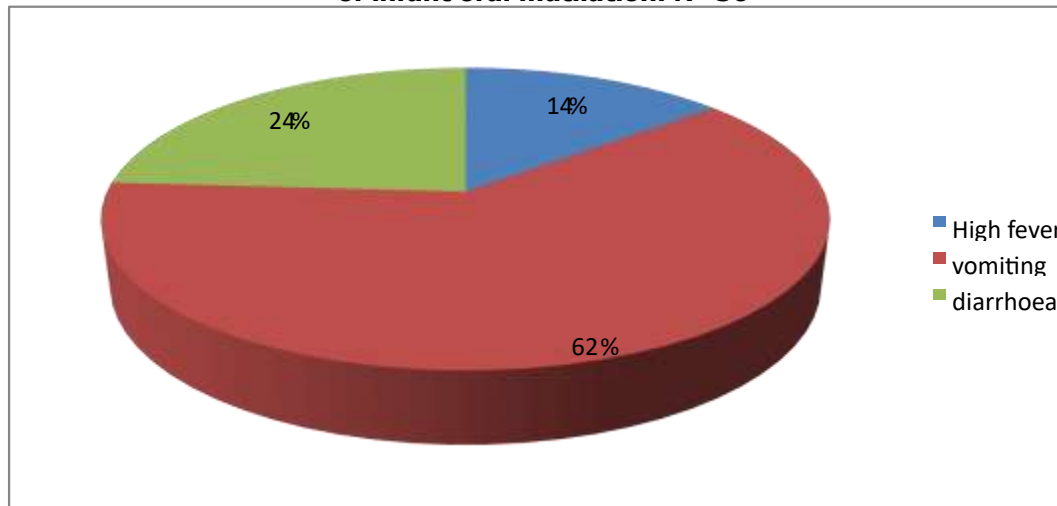
From Figure 1, the Majority (88%) of the respondents had ever had infant oral mutilation whereas the least (12%) had never heard of IOM.

**Table 3: Shows the distribution of respondents according to what they think IOM is. N=44**

Response	Frequency (f)	Percentage (%)
The removal of tooth worms/ maggots	10	20
The removal of harmful teeth	27	54
The removal of normal tooth buds	7	14
<b>Total</b>	<b>44</b>	<b>88</b>

From Table 3, more than half (54%) of respondents knew IOM as the removal of harmful teeth whereas the least (6%) knew the practice as the removal of normal tooth buds.

**Figure 2: Shows the distributions of respondents according to what they think are the causes of infant oral mutilation. N=50**



From Figure 2, the majority (62%) of respondents reported diarrhea as the leading cause of the practice of IOM, whereas the least (14%) reported high fevers.

**Table 4: It shows the distribution of respondents on what they do when a child develops a false tooth. N=50**

Response	Frequency (f)	Percentage (%)
Take them to the health facility to be treated or be removed	5	10
Take them to grandparents to be removed or treated	16	32
Take them to the traditional healer to be removed	29	58
<b>Total</b>	<b>50</b>	<b>100</b>

From Table 4, more than half (58%) of the respondents reported that they took their children to a traditional healer for false tooth removal whereas the minority (10%) reported that they took the child to a health facility for treatment and removal.

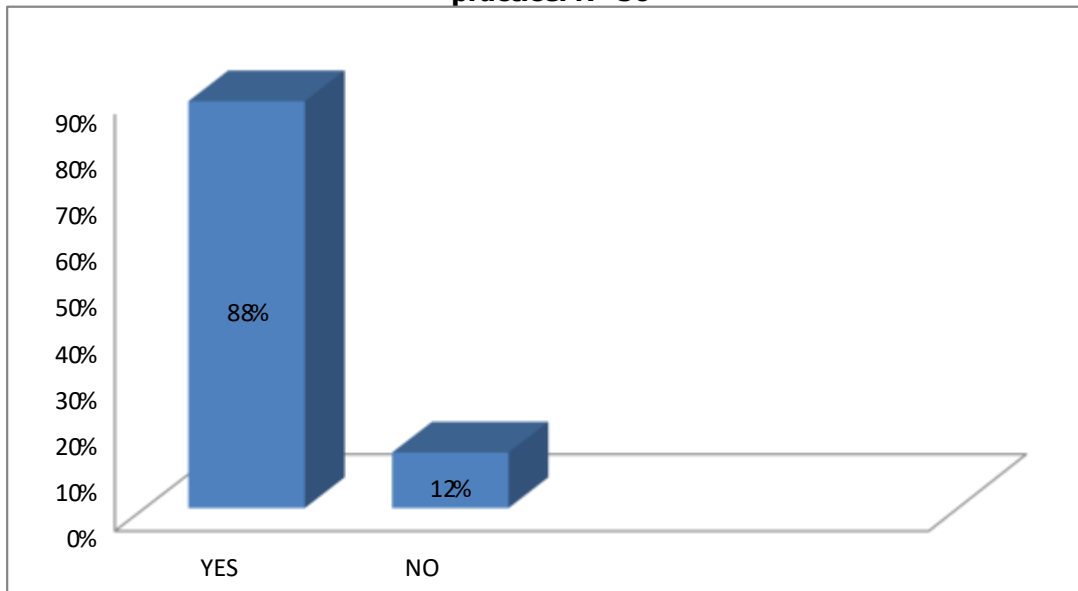
**Table 5: shows the distribution of respondents on what might happen to the child if the false tooth is not removed. N=50**

Response	Frequency (f)	Percentage (%)
The child will become very sick	20	40
The child will not grow well	3	6
The child will die	27	54
<b>Total</b>	<b>50</b>	<b>100</b>

From Table 5, more than half (54%) of the respondents reported that the child would die if the false tooth was not removed, whereas the least (3.0%) reported that the child would not grow well if the false tooth was not removed.

**Attitude towards infant oral mutilation among mothers of Lomule village, Bombo, Luwero district.**

**Figure 3: Shows the distribution of respondents on whether they think IOM is a good practice. N=50**



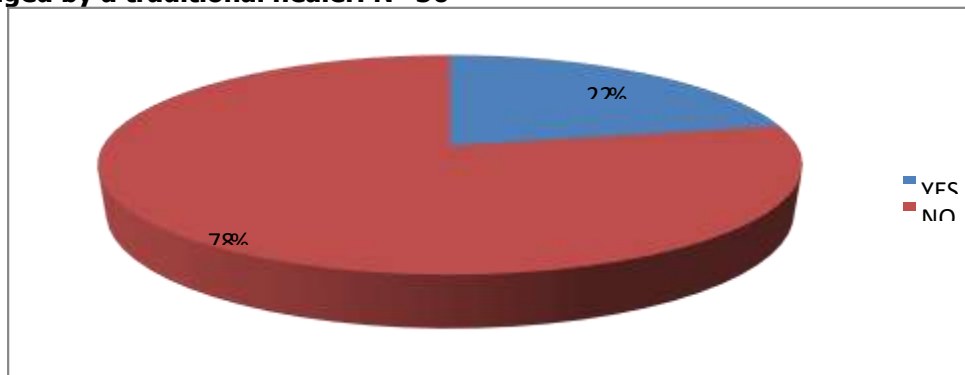
From Figure 3, the Majority (88%) of the respondents reported that IOM is a good practice, whereas the least (12%) reported that it is not a good practice.

**Table 6: Shows the distribution of respondents according to why they carry out IOM. N=44**

Response	Frequency (f)	Percentage
To treat high fevers, diarrhea, vomiting	37	74
It is a traditional custom	7	14
<b>Total</b>	<b>44</b>	<b>88</b>

From Table 6, the Majority (74%) of the respondents reported that they carry out infant oral mutilation to treat high fevers, vomiting, and diarrhea whereas the minority (14%) reported that they carry it out because it is a traditional custom.

**Figure 4: Shows the distribution of respondents on whether false teeth can only be recognized and managed by a traditional healer. N=50**



From Figure 4, the Majority (78%) of the respondents reported that false teeth can only be recognized and managed by a traditional healer whereas (22%) reported that they can also be recognized and managed by a health worker.

**Practices towards infant oral mutilation among women in Lomule village, Bombo, Luwero district.**

**Table 7: Shows the distribution of respondents who decide that the infant's false tooth should be removed. N=50**

Response	Frequency (f)	Percentage (%)
Biological parents	14	28
Health worker	6	12
Traditional healer	30	60
<b>Total</b>	<b>50</b>	<b>100</b>

From Table 7, the Majority (60%) of respondents reported that traditional healers decided whether to remove false teeth whereas the least (12%) by health workers.

**Table 8: Shows the distribution of respondents at what age was the child's false tooth removed. N=50**

Response	Frequency (f)	Percentage (%)
4-8months	34	68
9-12 months	11	22
13-18months	5	10
<b>Total</b>	<b>50</b>	<b>100</b>

From Table 8, the Majority (68%) of the respondents reported that the child's false teeth were removed at 4-8 months of age whereas the minority (10%) at around 13-18 months of age.

**Figure 5: Shows the distribution of respondents who removed the child's false tooth.**



From Figure 5, the Majority (92%) of the respondents reported that the traditional healer removed the false tooth whereas the minority (8%) reported that the health worker removed it.



**Table 9: Shows the distribution of respondents on what was used to remove the false tooth. N=50**

Response	Frequency (f)	Percentage (%)
Razor blades	0	0
Metallic wire	10	20
Bicycle spokes	28	56
Local herbs	12	24
<b>Total</b>	<b>50</b>	<b>100</b>

From Table 9, more than half (56%) of the respondents reported that bicycle spokes were used to remove the false tooth whereas the least (20%) of the respondents reported that a metallic wire was used to remove the false tooth.

**Table 10: Shows the distribution of respondents on what happened to the child after IOM. N=50**

Response	Frequency (f)	Percentage (%)
The child got better	32	64
The child did not get better	12	24
The child bled a lot	6	12
The child died	0	0
<b>Total</b>	<b>50</b>	<b>100</b>

From Table 10, the Majority (64%) of respondents reported that the child got better whereas (12%) reported that the child bled a lot after the practice.

**Table 11: Shows the distribution of medication given to children who did not show any improvement after the practice of IOM. N=50**

Response	Frequency (f)	Percentage (%)
Anti-malarial and anti-diarrheal	3	6
I don't remember	17	34
Traditional herbs	30	60
<b>Total</b>	<b>50</b>	<b>100</b>

From Table 11, the Majority (60%) of the respondents reported that the child was given traditional herbs to relieve pain, and bleeding and prevent infection whereas the least (6%) reported that the child was given anti-diarrheal and anti-malarial.

## DISCUSSION

### Knowledge towards infant oral mutilation in Lomule village.

From the study findings, the Majority (88%) of respondents agreed that they had ever heard of IOM (False teeth removal) which implied that the majority were aware and had their children's false teeth removed hence, the study was in agreement with a study conducted by Alya slam Elgamir et al. (2018), their study results showed that of a total population of (93.8%) response rate, a positive history of IOM was reported in (11.8%) cases compared to (10%) with confirmed clinical IOM.

About what they know about IOM, the Majority (72%) of respondents referred to it as the practice of removing the infant's harmful teeth while others (20%) thought they were maggots and had the children's false teeth removed. The study was in agreement with a study conducted by Atim Wendy Paula, (2018), the results of the study showed that (64.1%) thought that false teeth removal involved the removal of infant harmful teeth while others (37.6%) thought they were maggots.

From the study findings, more than half of respondents (62%) reported diarrhea, (14%) reported fever and (24%) reported vomiting as reasons for carrying out false teeth removal, the study was consistent with a study conducted by Teshome et al (2016). The results showed that (65.26%) of respondents reported diarrhea,(15.26%) reported fever.

In regards to what was done if the child developed false teeth, almost half of the respondents (58%) reported that they take their children to traditional healers for removal while a minority (10%) take their children to health facilities

for treatment or removal. The study results were in agreement with a study conducted by Francis K Mule (2010), whose results showed that traditional healers/surgeons performed (81%) of oral mutilation and (19%) were carried out by health workers.

Page | 10 **Attitude towards infant oral mutilation among mothers of Lomule village.**

From the study findings, the majority (88%) of respondents reported that IOM was a good practice and supported it however, the study was also in line with a study conducted by A Teshome et al (2016) whose results showed that one-third of the participants who were all mothers were found having the intentions of continuing with the practice in future.

In addition to the above, (74%) of respondents reported that they carry out false teeth removal to treat childhood illnesses like high fevers, diarrhea vomiting. This study was in agreement with a study conducted by Arthur Kemoli, (2015) whose results showed that the myth of IOM lies in the fact that people believe that by extracting the primary canine tooth, children will get rid of all childhood illnesses like fever, and diarrhea.

From the study findings, most of the respondents, (78%) reported that false teeth can only be recognized and managed by a traditional healer in the community and disagreed with having witnessed a child with false teeth improve after being managed using modern conventional medicine only, this study was in agreement with a study conducted by Margaret N Wandera, et al. (2017) whose results showed that (50%) of the respondents stated that the best treatment of false teeth was by a traditional healer.

**Practices towards Infant Oral Mutilation among mothers of Lomule village.**

The study found that the majority (60%) of the respondents reported that a traditional healer in the community helped to recognize and decide whether the child's false teeth were to be removed or not. This study was in agreement with a study conducted by S.Girgis, et al. (2016) whose result showed that traditional healers carry out IOM because they are recognized to be competent enough and well-established to provide health care in the community.

From the study findings, the majority of (68%) respondents reported that the children's false teeth were removed within 4-8 months of age, this study results concur with a study conducted in Rukungiri by Aymna H, et al. (2017), whose results showed that the most common age of infant oral mutilation was 5 months of age.

The majority (92%) of respondents reported that the traditional healers in the community were responsible for the removal of the false teeth, the study results were in agreement with the study conducted by Fiona Atim, (2018) whose results showed that (69.8%) of caretakers mentioned

that the false teeth were removed by a traditional healer and (12%) by a trained health worker (dentist).

From the study findings, more than half of the respondents (56%) reported that the child's false teeth were removed using bicycle spokes, (and 24%) reported the child's false teeth were treated using local herbs which were rubbed on the gum of the erupting false tooth, the study results were in agreement with a study conducted by Arthur Musakulu Kemoli (2022), whose results showed that non-sterilized instruments like sharpen stones, bicycle spokes or local herbs were used to remove the false teeth.

The majority (88%) of respondents reported that the child improved after false teeth removal (IOM), however, this study's results were in disagreement with a study conducted by S.Girgis, et al. (2016) whose study results showed that systemic complications of IOM where fever, vomiting, pneumonia, anemia, and death might also occur.

**Limitations of the study**

Due to financial and time constraints, a small sample was used and it is also expected that some participants gave wrong information while others were absent on the day of the interview.

**Conclusions**

Participants had good knowledge about what IOM was but their knowledge of the practice of IOM was not satisfactory. Generally, the attitude of mothers toward IOM was not pleasing hence majority believed it was a good practice and had intentions of continuing with the practice.

**Recommendations**

Based on my research findings already disclosed, I would recommend that since most children in Lomule village, Bombo are at a risk of IOM, the following are the measures needed to be urgently implemented.

The Uganda MOH should target all children country-wide when implementing preventive measures against IOM in communities by putting up initiatives and strategies that target family members, and caretakers of children since they play a major role in decision-making during false teeth removal.

There is a need to enforce health-seeking behaviors among mothers or caretakers who seek medical attention for their children's illnesses and discourage the use of other modes of self-treatment for childhood illnesses like the use of Local herbs.

The government through the MOH should continue to sensitize individuals through different mass media platforms like television, and radio on the risks and complications of IOM to create awareness.

The MOH should eradicate IOM through interventions to involve traditional healers, and health workers, and offer improved access to PHC, especially in rural areas, and slums.

Health professionals like pediatricians should be informed and liaise with dental practitioners to develop strategies to eliminate the practice of IOM.

There is a need to sensitize the community since the majority of the respondents had never heard of IOM, health workers should carry out appropriate cultural educational materials targeting parents, local healers/traditional birth attendants since they play a key role in the fueling of the removal of children's false teeth.

### **ACKNOWLEDGEMENT**

My most sincere and heartfelt gratitude goes to the almighty God who has always been faithful and gracious to me and has granted me success in everything I do. To him, I owe the Glory and honor now and forever, Amen.

I extend my sincere gratitude to my parent, Ms. Akun Irene for both the moral support and guidance, for all the financial support from my childhood up to now.

In particular, I would love to honor and appreciate my supervisor Mr. Alinde Patrick for his valuable time spent to guide and ensure that this research is completed successfully.

I would also like to acknowledge Mr. Masaka Asuman the LC 1 and the residents of Lomule village, without whom I wouldn't have obtained all this information.

Thanks to all my friends Asonya Rashida, Kyobe Timothy, Kissa Joy, Yeko Prossy, Cheka Shaime, Nakiria Joan, and all my course mates who have been with me through every step of the journey during this course, may the almighty God bless you all.

### **LISTS OF ABBREVIATIONS**

**MOH:** Ministry Of Health

**IOM:** Infant Oral Mutilation

**ORS:** Oral Rehydration Solution

**UNICEF:** United Nations International Children Emergency Fund

**HIV:** Human immunodeficiency virus

**AIDS:** Acquired immunodeficiency syndrome

### **Source of funding**

The study had no funding

### **Conflict of interest**

No conflict of interest declared

### **Author biography.**

Mercy Lamunu is a final year student of a Diploma in clinical medicine and community health at Kampala School of Health Science.

Patrick Alinde is a tutor at Kampala School of Health Science.

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Page | 2

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