INFANT ORAL MUTILATION (IOM)

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PRESENTATION SUMMARY

- Definition
- Other names for IOM
- Who and how it is done
- Places where IOM is still rife
- Case examples of IOM
- Morbidity & Mortality
- Prevalence
- Our role as dentists
It is a dental traumatic procedure to which parents subject their young children, in the hope of preventing and treating feared common childhood illnesses like diarrhoea, vomiting, fevers etc.
## OTHER NAMES FOR IOM

<table>
<thead>
<tr>
<th>Name</th>
<th>Country Associated with the name</th>
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<tr>
<td>Infant oral mutilation IOM/ dental ablation</td>
<td>UK, USA</td>
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<tr>
<td>Dental mutilation</td>
<td>Uganda, Tanzania</td>
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<td>Enucleation Primary canine</td>
<td>Uganda, UK</td>
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<td>Germectomy</td>
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<td>Haifat (lancing of the alveolus over the deciduous tooth)</td>
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<td>Killer canine extraction</td>
<td>Ethiopia</td>
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<td>Ibino Ebino Ebinyo or “false teeth”</td>
<td>Tanzania, Uganda</td>
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<td>Canine follicle extirpation</td>
<td>Africa/Arabia, Australia</td>
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<td>Tooth bud gouging</td>
<td>UK</td>
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<td>Milk tooth extraction -</td>
<td>Ethiopia</td>
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<td>Nylon teeth (plastic teeth)</td>
<td>Tanzania, Kenya</td>
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<td>Lawalawa (Plastic teeth)</td>
<td>Tanzania (Sindiga region)</td>
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<tr>
<td>Ebinyo, Ebiino, Bino, Lake jo marak /Lakijo marach (bad teeth) Ikel</td>
<td>Uganda Tribe: (Acholi, Lango, Luganda, Runyankole, Lusoga, Japadhola, Iteso, Jop’Adhola)</td>
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<tr>
<td>Ilko-dacowo (fox teeth)</td>
<td>Somalia</td>
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<td>Tooth worm</td>
<td>Sudan</td>
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Usually, it will be the primary canines of a child that are involved. The buds of the teeth are considered to be “worms” that cause diseases. The gingival swelling of the unerupted tooth is mistakenly thought to indicate the presence of “tooth worms”.

Crude and unsterile methods, without any form of anaesthesia are employed, particularly during the growth period of the child of between 4 to 18 months.

A 4 year-old child who had been subjected to IOM by the parents.
It should be remembered that there are other tribal-related rituals where other teeth, for example, lower permanent central incisors are removed in children also, and this can also be done to the same child.

Depending on the tribe, such cultural rituals, will signify a transition from one age group to the other, enhancement of beauty, a symbol of membership of the tribe or as a superstitious local remedy to ailments that may be real or perceived. The space created can also be used as an allowance for feeding in case of illnesses like Tetanus.
WHO AND HOW IS IOM PERFORMED?
The origin of IOM seems to date way back in the 20th century, the time when Joseph Hurlock, a European surgeon, promoted incising the gingiva over erupting teeth to relieve pain.

Though the practice lost popularity, it is possible that traditional healers adopted it from colonial practitioners working in Africa.
IOM is performed by mostly traditional healers, herbalists, priests and midwives.

They use hot nails, sharpened bicycle spokes, hooked iron bar, razor blades, penknives, nails, fingernails, rusty wire, knitting needles, scissors, broken glasses, lancing of the alveolus over the deciduous tooth
The practitioners remove mostly the primary canine tooth buds, attracted by the swellings in the area corresponding to unerupted canines - and relate this to the cause of the child’s illness.

Extracted tooth buds exhibit milky appearance and the healer shows the parents who see and feel the “tooth worms” supposedly causing the child’s illness.
After the procedure the practitioners apply healing concoctions like:

1. Charcoal powder
2. Ashes of herbs
3. Lizard faeces
4. Crushed antibiotic
5. Sulphur capsules
6. Mustard and garlic
7. Salt
8. sodium bicarbonate
9. Herbs
SOME CASES OF IOM
5 YEAR-OLD CHILDREN WITH IOM DONE
5 YEAR OLD FROM A CUSHITIC COMMUNITY. HX OF IOM AT 5 MONTHS DUE TO DIARRHEA
MORBIDITY & MORTALITY

The methods used to perform IOM are very primitive and unhygienic can result in:

1. immediate detrimental effects – hemorrhage and shock, and even death.

2. medium term results in the form of anaemia, septicaemia, tetanus
A study in Sudan on the effect of traditional practices reported noted:

‘an 8 month-old boy had his canines removed following diarrhoea and vomiting. The operation was performed by an old woman using an unsterile nail. The child developed tetanus after 7 days and died in hospital’.

Sadly, this is not a rare example and there are numerous other stories like these.
A study in Tanzania of 124 children reported to have had tooth germs removed by traditional healers, 10 resulted in death.

A study in Uganda of discharge records from a paediatric ward in a hospital in the north, found ‘156 out of 740 admissions due to the effects of treatment for ‘nylon teeth’ resulted in death’. This gives a fatality rate of 21.1%.
A study by Accorsi et al, in Uganda found that one-fourth of the children in Northern Uganda, hospitalized in 1999 died as a result of ebinyo. The most common complications for the hospitalization were septicemia and severe anemia.

In the same study, ebinyo ranked third behind meningitis and malnutrition (in disease-specific case fatality rate).

Other medium-term results of IOM are in the form of transmission of blood borne diseases, such as Hepatitis, HIV/AIDS,
long-term effects of IOM

missing primary lateral incisors, dilaceration of primary canines, distal eruption of permanent successors, displacement and impaction of permanent canine, failure of development of permanent canine, compound odontoma

Orthodontic complications – crowding etc
TRAUMATIC INJURIES/LOSS OF PERMANENT DENTITION AND OTHER ADJACENT TEETH
Orthodontic complications in the permanent dentition.
PREVALENCE
INFANT ORAL MUTILATION (IOM)

IOM is widespread in the East and Central Africa region, especially

1. Ethiopia
2. Uganda
3. Tanzania
4. Somalia
5. Sudan
6. Other countries in central Africa

where it is practiced frequently by indigenous communities
AFRICAN COUNTRIES WHERE IOM HAS BEEN REPORTED
**Uganda:** prevalence of 16.1% in a population of 322 children examined in a previous study. A more recent one in Western Uganda in 2018 had a prevalence of 8.1%

**Sudan:** 80 infants in children’s hospital admitted with diarrhoea had 70% had had their deciduous canine extracted as the remedy for their illness.

Another study on 398 children aged 4-8 years showed 22.4% had been subjected to ‘haifat’ (lancing of the alveolus over the deciduous tooth).
Ethiopia: A study on ‘killer canine removal’ in Addis Ababa found 15% had primary canines removed. 1991 – children emigrants of Ethiopian Jews to Israel, had a prevalence of 59%.

Tanzania: A report on 1989 children examined from 8 different areas, the highest prevalence was Morogoro (16.9%) and Singida (13.3%), lowest was Moshi (5.2%) and Mwanza (7.8%). Another study in Dodoma on 262 children, 37.4% had clinical evidence of IOM. A later study in same area found the prevalence had increased to 60.3%.
**Somalia:** A survey of 260 children aged 4 – 17 resident in Sheffield, UK found 31% exhibited features suggestive of a previous history of canine enucleation. 22% of these children were UK-born.

**Kenya:** 1988 study on Maasai children, showed 35% of 5-7 year olds had undergone IOM, & 1995 study of 3-7 year-old children reported 72% had undergone IOM. That showed that the belief of deciduous canines causing febrile illness in children was increasing in this population.

In 2012 – two areas in Ngong, Kajado had prevalence of 24.5%

In 2018 a study in a teenage group, showed that apart from some of them having had primary canines removed earlier, 61.1% had had removal of mandibular central incisors in the form of dental mutilation.
OUR ROLE AS DENTISTS
We all have focused on improving the oral health of children – dental caries and periodontal infections.

The idea of a one year-old child being taken to traditional healer to treat her/his vomiting and diarrhea by 'gouging out' a healthy primary tooth germ, has not rang a bell.

We know or now know the unhygienic conditions used by untrained personnel causes more harm to the child – can lead to transmission of blood-borne diseases - Hepatitis, HIV/ AIDS, septicaemia and death, besides the eradication and/or malformation of the child's permanent dentition.
We know or now know that some immigrants living in high income countries, like UK, Australia, USA, have shown signs of IOM, making it a global issue.

Consequently

It is time for us all to raise awareness among clinicians colleagues etc about the existence of IOM practice in the African and African immigrant groups. Clinicians in paediatric health should be encouraged to talk to the caregivers about the risks and consequences of IOM, as part of child safeguarding policy, and intervene appropriately.
It is time for all of us, as Paeditric dentists to re-look at the welfare of the child from these regions, and we need to lead with actions to stop this heinous practice and restore the SMILE of the child.

A need to Provide information on ‘nylon tooth’ myth to patients in outpatient department, and include ‘nylon tooth’ myth as an agenda in elective programme for dental trainees involved in community programmes in these areas. Educate nurses, paediatricians and other health workers & network with the MoH as an alliance.
In this region, at a meeting of Paediatric Dentists from East Africa Region in 2016, it was resolved to initiate a programme to end geared to ending IOM practice.

Given that to reach the various Communities, financial support, to train and disseminate messages geared to ending IOM practices is required.

Approach to GCDF to assist in fundraising for the region to begin public campaign, has started in earnest. A website is being put in place to help with the initiative. Dr. Miguel of White Clinic, UK, accepted to be the Global Ambassador for ENDIOM Initiative.
IMPORTANT: engagement with the community to prevent IOM
IT IS NOW NOT JUST A NATIONAL **BUT** INTERNATIONAL PROBLEM.

MIGRATION/RELOCATION OF PEOPLE FROM THESE REGIONS TO OTHER COUNTRIES, CROSS-BORDERER PRACTICES EXIST

HENCE YOU WILL FIND CHILDREN WITH IOM IN UK, CANADA, EUROPE, AUSTRALIA ETC
IF YOU HAD NOT HEARD, NOW YOU HAVE. WE SHOULD ACT FAST TO PUT A SMILE ON THESE AFRICAN CHILDREN - MAKE A DIFFERENCE FOR THEIR SAKE
2003 - Accorsi S et al in Uganda – the burden of traditional practices, ebino and tea, on child health in northern Uganda.

2015 - Noman AV et al., Canine gauging: a taboo resurfacing in migrant urban population

1997 - Hodes RR – cross cultural medicine and diverse health beliefs. Ethiopia abroad


1998 - Morris AGA – dental mutilation in Southern Africa history and prehistory with special reerence to the Cape Flat Smile

1999 - Kirunda WW – Ebino (false teeth): how the problem was tackled in Tororo

1992 - Rasmussen PP – Enamel defects in primary canines related to traditional treatment of teething problems in Sudan
- Davidovich E et al – The traditional practice of canine bud removal in the offspring of Ethiopian migrants
- 2015 - Kemoli AM – Raising the awareness of infant oral mutilation - myths and facts
- 2018 - Kemoli AM – Prevalence and impact of infant oral mutilation on dental occlusion and oral health-related quality of life among Kenyan adolescents from Maasai Mara
- 2000 - Rodd HDH – Ilko dacowo: canine enucleation and dental sequelae in Somali children
- 2005 - Bataringaya AA – The impact of ebinyo, a form of dental mutilation, on malocclusion status in Uganda,
2008 - Willis MS et al: On traditional dental extraction: case reports from Dinka and Nuer en route to restoration

2010 - Mutai J et al – Socio-cultural practices of deciduous canine tooth bud removal among Maasai children

2018 - Barzangi JIR et al: Knowledge, experiences and attitudes of dental and health care personnel in Sweden towards infant dental enucleation

Holder AJ. Ilko Dacowo: The practice of iatrogenic tooth enucleation.


Kipchumba P. Deciduous canine tooth bud extraction and nutritional

2012 - Status of children aged 2–5 years in Kajiado district, Kenya [partial fulfilment of thesis]. Nairobi, Kenya: Jomo Kenyatta University of agriculture and technology