Research Article

Infant oral mutilation at Bor State Referral Hospital, Bor, South Sudan

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ABSTRACT

Introduction: Infant Oral Mutilation (IOM) is a traditional practice involving the extraction of unerupted teeth in young infants. Tooth swellings are mistaken for the cause of diarrhoea and fever. The practice is performed across East Africa and is highly dangerous due to the risk of blood-borne diseases, blood loss, anaemia, septicaemia, and death. The objective of this survey was to describe the practice of IOM, locally known as Hooth, in the population in and around Bor town, South Sudan.

Method: The mothers of 150 children aged under six months admitted to the Paediatric or Maternity wards of Bor State Referral Hospital with a history of fever, poor feeding, and/or convulsions were administered a structured questionnaire to determine their attitudes towards and practices of Hooth. A focused group discussion was conducted in the community to find out the general opinion about Hooth.

Results: Most of the mothers were young with low literacy. The commonest symptom of the children on admission was fever, and the commonest diagnosis was malaria. 86% of the children had undergone Hooth seven days before admission. All, except one, of the mothers thought that Hooth was not harmful and was performed to treat the fever associated with teething. Teeth were extracted using unsterile instruments, mostly by traditional healers. The group discussion revealed that the practice is not indigenous to the Dinka tribe and likely originated from multiple sources.

Conclusion: IOM is common among children under 6 months of age admitted to the hospital with fever, feeding problems, or convulsions. The dangers of IOM are widely known, and health care workers should be advised to examine for Hooth in children aged under six months admitted with fever. It is recommended that IOM be banned and that mothers be taught how to manage fever and teething problems.

Key words: oral mutilation, infants, traditional healers, Bor, South Sudan

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Introduction

Infant Oral Mutilation (IOM) is a traditional practice involving the gouging out of an infant`s healthy primary tooth germs. This can lead to transmission of blood-borne diseases such as HIV/AIDS, septicaemia, and death; other complications include eradication and/or malformation of the child`s permanent dentition.[1]

The tooth swellings are mistaken for being the cause of diarrhoea and fever. In contrast to female genital mutilation (FGM), many governments and organizations are not aware of the consequences of IOM. It is practiced in many parts of Africa with reported prevalence rates of 22% in Sudan, 17.2% in Uganda, 37.4% in Tanzania and 30% in Ethiopia.[2] There are few published reports on this practice in South Sudan, although a 2018 article[3] implied that IOM was practiced in South Sudan and Uganda. Health care workers and communities report that IOM is found in South Sudan, and that the Dinka people near Bor, Jonglei State, call it 'Hooth'.

In 2018, key players agreed that the eradication of IOM in East Africa was urgent;[2] however, it is first essential to explore where and how IOM is practiced. So, the aim of this study was to investigate the practice of IOM in a town in South Sudan.

Method

The research was conducted in 2021 at Bor State Referral Hospital, in Bor town, the capital of Jonglei State, where the main tribe is the Dinka.

After the research proposal was approved by Jonglei Health Sciences Institute, the Research Ethics Board issued a letter of introduction which gave the researcher access to Bor State Hospital and the community for the group discussion. The methods used were quantitative (a descriptive observational cross-sectional study) and qualitative (focused group discussions).

The study population was the 150 children aged 0 days to 6 months who were admitted to the maternity or paediatric wards with complaints of fever, convulsions and/or feeding problems between 1st July and 30th December 2021.

The 150 infants with fever or convulsions and/or feeding problems were first screened. After explaining the study's purpose and obtaining the caregiver's consent, a structured questionnaire was administered in a one-on-one interview with the caretakers, and the case sheets/charts were reviewed. All responses were anonymised. A focused group discussion was conducted with five members of the community. The quantitative data were analysed using Microsoft Excel version 2013.

Results

All the caretakers were mothers, 83% were aged less than 30 years, and 61% were illiterate. All were from a Christian background and 99% belonged to the Dinka tribe. Of the 150 children in the study, 19 (13%) were aged 0-28 days and 131 (87%) were aged one to six months. There were 86 (57%) boys and 64 (43%) girls.

Most (144, 96%) were admitted with fever, four (3%) with convulsions, and two (1%) with feeding problems.

The preliminary diagnosis was made by clinicians in the emergency ward before admission to the maternity or paediatrics wards; 35% were diagnosed with malaria, 34% with pneumonia and 22% with sepsis. All 19 (13%) neonates were diagnosed with neonatal sepsis. Most of the children were discharged, but four died, giving a mortality rate of 2.7%. All died of pneumonia and had had IOM conducted.

The main treatments received by the children (according to the case files) were classified as antimalarial and antibiotic drugs. Some children received only analgesics as symptomatic treatment because of drug shortages.

Details of the IOM

IOM had been performed on 129 (86%) of the children.

Table 1 shows that 95 (73.6%) of the 129 children who underwent IOM had the procedure performed within seven days prior to admission. In the rest, it had been done more than seven days beforehand, with nine (7%) of these done more than 28 days prior to admission.

Most (94 or 73%) of Hooth had been performed by traditional healers, otherwise by the mother or a relative. It had been performed using nails (71%) or a bicycle spoke (29%) to remove all the canines.

Interview with the mothers

All the 129 mothers whose children had undergone IOM said they did the procedure after symptoms of fever appeared. One mother said she was forced to take her baby for Hooth; 99% said they practiced IOM willingly,

Table 1. Population demographic characteristics (N=70)

Time interval	n (%)
1-7 days	95 (73.6)
8-14 days	12 (9.3)
15-21 days	8 (6.2)
22-28 days	5 (3.9)
Beyond 28 days	9 (7.0)

because everyone in the community was using it to solve fever and teething problems. Most (95%) mothers believed that Hooth was not harmful, although 5% thought it was.

Results from the group discussion

Data were collected from three traditional healers, as well as two other women who practice what the Dinka Bor call "Ger" – which is gum cutting to cause minor bleeding in between the unerupted teeth.

A 50-year-old traditional healer and a mother of six, said she started the practice of Hooth and Ger 28 years ago after she came to live in Bor. She had learnt the practice from her mother, who had lost two children due to "Lech" or teething problems. She added that the practice of IOM has its roots from the Acholi tribe before the Lango tribe in Uganda adopted it and it finally came to the Dinka tribe. The other traditional healers said they borrowed the culture of IOM from the Shiluk tribe, which is part of the Upper Nile region under which Dinka Bor falls.

The practice of tooth extraction is reported to be done:

1. During infancy - as a treatment for fever related to teething.[1]
2. Around 13-14 years of age - as part of the initiation ritual of passage from childhood to adulthood, when mandibular canines and incisors are removed.[4]

Asked to give details of the procedure, one traditional healer said, "I burn the nail and then sharpen it with a grinding stone to make sure it does not transmit germs before conducting "Hooth" or "Ger". Some of the group said they earn an income from IOM; others said they practice it to prevent babies from dying from teething problems.

Discussion

The prevalence of IOM was 86% among babies of the 150 mothers interviewed in the hospital. This compares to 72%-87% among Kenyan Maasai in 1995.[5] The prevalence of missing or damaged primary canines among children of immigrant Ethiopians in Israel in 2013 was 60%.[6] These were community-based studies.

We used mothers' occupations as an indicator of socio-economic status - being a housewife with a high illiteracy level representing lower socio-economic status. Among the 129 mothers of children who underwent Hooth, the percentage of housewives was higher (96.2%) than among those in paid employment (3.8%). In Gulu District, Uganda, IOM is also associated with a lower level of education.[7] Rasmussen et al in 1992[8] reported that 22% of the 398 urban children studied in Sudan had undergone IOM and the prevalence was higher in the lower socio-economic group.

We believe that in some places male children are treated better than females, including parental health-seeking behaviour. This study found no significant difference in the sex of the 129 babies with IOM; 56.6% were males and 43.4% were females, similar to that found in Uganda.[7]

In our study, 94% of Hooths were performed by traditional healers. Similarly, in Uganda.[7] All the mothers said they took their babies for IOM due to fever, which is similar to results from Uganda, Kenya, Tanzania and Ethiopia.[9]

In our study, a nail (71%) or a bicycle spoke (29%) was used to perform Hooth. The traditional healers had incomplete knowledge about sterilizing as they sharpened the instruments with soil or stone after heating them on the flame. They do not know that normal flora in the mouth could become pathogenic from dead/necrotic tissue caused by Hooth. In Uganda, the practice is reported to be done by traditional herbalists using bicycle spokes, knives or fingernails.[7]

All the mothers of children who had undergone Hooth believe that IOM is beneficial because it relieves pain related to fever and 99% believe that it has no harmful effects.

In Uganda,[7] canine teeth are thought to cause fever, diarrhoea and vomiting in infants. In Tanzania, parents often consulted traditional healers after visits to a government health facility had not provided relief for their child.[10]

Most (96%) children were admitted with fever, but we were unable to find out if this was due to the primary disease or IOM. However, as 74% of the children who underwent Hooth had had it done within one week of admission, it may be the cause of the fever. This could mean that the normal flora present in the oral cavity is likely to be responsible for infection of the injured gum, therefore serving as an entry point for pathogens, leading to fever.

Malaria was the leading diagnosis (35%), followed by pneumonia (34%), sepsis (22%), and other diseases (9%). Of the 33 children diagnosed with septicaemia, 19 were neonates and 14 out of these had undergone IOM and are likely to have had septicaemia due to the procedure.

Comments from the discussion group suggest that the

culture of Hooth is not an original tradition of the Dinka tribe and is from more than one source.

Caretakers usually mistake malaria, pneumonia, and other fever-causing illnesses for teething problems. Most babies were brought to the hospital after Hooth failed to improve the condition. Although 73.6% brought within seven days of the onset of symptoms, 26.4% came after seven days which probably led to a worsening of the condition. Because Hooth had been performed caretakers thought children were receiving appropriate treatment and so delayed coming to hospital.

In the hospital the commonest diagnosis made was malaria. This could also cause a delay in giving appropriate treatment if the health care professional was not looking for Hooth.

Limitations: This was a hospital-based study, so it may not be representative of the situation in the community. The admission and death registers in the wards were incomplete, with no mention of the cause of death. Only some of the mothers allowed the researcher to view the IOM scars.

Conclusion

This hospital-based study indicates that the practice of Hooth is common among children aged under 6 months admitted with fever, feeding problems or convulsions; the practice is mainly carried out by traditional healers using unsterile instruments in order to prevent fever caused by teething problem (Lech).

It is recommended that:

- Further research is done at community level to find out the prevalence and the harmful effects of IOM in South Sudan.
- Health personnel teach mothers how to manage fever and teething problems.
- The Ministry of Health encourages communities to stop practicing IOM.
- IOM be banned through legislation.

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