Volume 13 Issue 16
Originally issued as K5

Global Journal of Medical research
Interdisciplinary
Volume 13 Issue 5 Version 1.0 Year 2013
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)

Tongue-Tie in Children; Mothers Perceptions, Attitudes and Practices in Port Harcourt, Nigeria

By Opara P.I. & Eke G.K
University of Port Harcourt Teaching Hospital, Nigeria

Abstract - The study was done among mothers of infants attending Children's Out Patient Clinics of University of Port Harcourt Teaching Hospital using a semi-structured questionnaire. Information obtained included biodata, knowledge of tongue tie, cultural beliefs, symptoms, treatment, and complications. Data were analysed using SPSS version 17.0.

There were 250 participants. 238 (95.2%) knew about tongue tie. Commonest symptom identified was inability to cry well. Cultural beliefs were that all babies should have routine clipping of the frenulum at birth (48.8%). 154 (61.6%) believed treatment should be between ages 0-1 month. Ninety two (36.8%) mothers had had babies treated for tongue tie, mostly by nurses either using scissors (40; 43.5%) or their finger nails (26; 28.2%). Complications included bleeding, fever and soft tissue injuries. Mothers are aware of tongue tie but need enlightenment on its mostly benign nature, and the need to seek professional advice when concerned about it.

Keywords : *tongue tie, ankyloglossia, children, mothers, perceptions, practices, treatment, complications of treatment.*

GJMR-K Classification : *NLMC Code: WS 200, WS 205*

Strictly as per the compliance and regulations of:

© 2013. Opara P.I. & Eke G.K. This is a research/review paper, distributed under the terms of the Creative Commons Attribution-Noncommercial 3.0 Unported License http://creativecommons.org/licenses/by-nc/3.0/), permitting all non-commercial use, distribution, and reproduction inany medium, provided the original work is properly cited.

Tongue-Tie in Children; Mothers Perceptions, Attitudes and Practices in Port Harcourt, Nigeria

Opara P.I. [α] & Eke G.K [σ]

Abstract : The study was done among mothers of infants attending Children's Out Patient Clinics of University of Port Harcourt Teaching Hospital using a semi-structured questionnaire. Information obtained included biodata, knowledge of tongue tie, cultural beliefs, symptoms, treatment, and complications. Data were analysed using SPSS version 17.0.

There were 250 participants. 238 (95.2%) knew about tongue tie. Commonest symptom identified was inability to cry well. Cultural beliefs were that all babies should have routine clipping of the frenulum at birth (48.8%). 154 (61.6%) believed treatment should be between ages 0-1 month. Ninety two (36.8%) mothers had had babies treated for tongue tie, mostly by nurses either using scissors (40; 43.5%) or their finger nails (26; 28.2%). Complications included bleeding, fever and soft tissue injuries. Mothers are aware of tongue tie but need enlightenment on its mostly benign nature, and the need to seek professional advice when concerned about it.

Keywords : *tongue tie, ankyloglossia, children, mothers, perceptions, practices, treatment, complications of treatment.*

I. Introduction

Tongue tie, the common name for ankyloglossia results from the frenulum, a membrane under the tongue extending further than usual towards the tip of the tongue.[1, 2] This limits upwards and forward movement of the tongue. It is a congenital condition which is often hereditary with a wide variation in incidence ranging from 1.7% to 10.9% in different localities. [3-6]

Restriction of tongue movement in an infant may prevent the infant from taking enough breast tissue into the mouth and hence result in breast feeding problems such as poor attachment with resulting bleeding painful nipples and poor milk supply for the mother, leading to frequent feeding, and poor weight gain for the baby despite frequent feeding.[4] Breast feeding difficulties have been reported as the earliest complications associated with tongue tie. [1, 3]

Other problems associated with tongue tie include difficulties with articulation of sounds, dental problems and inability to lick an ice cream or play wind instruments later in life. However, in many children it is asymptomatic and persistence beyond the first 2 to 3years of life is uncommon compared with the higher incidence present in neonates. This suggests a lessening of the degree of severity of the anatomical abnormality with growth and development. [4, 7]

For many years, the subject of ankyloglossia has been controversial with practitioners of many specialties having widely different views regarding its significance.[2] This has led to unwillingness of many clinicians to intervene surgically even where indicated.[1, 2] Some children do benefit from frenotomy which is the surgical treatment of tongue tie.

Although tongue tie is usually asymptomatic, it is surrounded by different myths and beliefs and may constitute a source of worry for parents who may seek help from professional and untrained personnel. [8] Release by non-medical or inadequately trained medical personnel, may result in life threatening complications.[8] The aim of this paper was to identify knowledge, attitudes and practices of mothers towards tongue tie.

II. Methodology

This study was a descriptive cross sectional survey carried out over a period of six months (November 2011- April 2012), amongst mothers in Port Harcourt. Port Harcourt City is cosmopolitan and host to major indigenous and multinational companies in the oil and gas, manufacturing, banking, telecommunications, construction and health sectors, employing staff from diverse ethnic nationalities.

Mothers who presented with infants to the Paediatric Outpatients Clinics of the University of Port Harcourt Teaching Hospital (UPTH) and gave consent participated in the study. The UPTH is a federal tertiary health institution serving Rivers State and the neighbouring states of Bayelsa, Abia, Imo, and Akwa–Ibom in the southern and eastern parts of Nigeria. The hospital serves as a general/referral centre for neonates and children in Port Harcourt and its environs. It also provides primary health care services as patients can and do walk in for consultation, treatment and other services such as immunisation and growth monitoring.

The Paediatric Outpatient clinics are run on week days and cater for children 0 – 17 years who do not have emergency/life threatening problems. These children are seen in the clinics and sent home or admitted into the Paediatric wards if indicated.

A closed-ended, anonymous and self-administered questionnaire was used to obtain information from the mothers and retrieved by the investigators immediately after they were filled. Data

Authors α σ : Department of Paediatrics, University of Port Harcourt Teaching Hospital, Alakahia, Port Harcourt, Nigeria.
E-mail : peaceibo@yahoo.com.au

© 2013 Global Journals Inc. (US)

collected included biodata, knowledge of tongue tie, cultural beliefs, symptoms, treatment, and complications. Respondents could tick more than one option per question, where applicable. Those who had difficulty reading and/or writing were assisted by one of the investigators.

Data were entered into a Microsoft Excel Spread Sheet and analyzed using SPSS version 17.0. Results are presented using tables and text.

III. Results

Two hundred and fifty mothers participated in the study. Of these 238 (95.2%) had heard about tongue tie. Mothers described tongue tie in various ways. (Table 1). Common descriptions were fleshy growth or mass under the tongue (28%) and something that prevents children from lifting up/moving the tongue (19.2%).

Table II shows sources of information on tongue tie. Most of the information on tongue tie had been handed down to the mothers by their own mothers (90; 36%) and other relatives. In the medical community, nurses (70; 28%) were the greatest source of information while doctors were the least (10; 4%).

One hundred and eighteen (47.2%) mothers reported speech difficulties as an adverse effect of tongue tie. Breast feeding difficulties were reported by only 6 (2.4%) mothers.(Table III).

Eighty six (34.4%) mothers had had frenotomies done for them in childhood. 96 (38.4%) had not had and the rest of them did not know whether or not they had frenotomies in childhood.

There was a strong cultural belief among mothers that all babies have tongue ties and should have them cut (Table IV).

Table V shows mothers perceptions of age for treatment of tongue ties and who should treat it. One hundred and fifty four (61.6%) mothers believed that tongue tie should be treated within the first month of life. Only 16 (6.4%) reported that tongue tie should not be treated.

About half of the mothers 124 (49.6%) reported that tongue ties should be treated by doctors.

Ninety two (36.8%) mothers admitted to having babies with tongue tie all of whom had treatment. Table VI shows who made the diagnosis of tongue tie on the baby and what problems were associated. In 38 (41.3%) of the babies the diagnosis was made by nurses while doctors made diagnosis in 6 (6.5%) of cases. 60 (65.2%) mothers reported inability to cry as the problem associated with tongue tie in their babies. A small number reported no associated problems.

Majority (72; 78.2%) of the babies were treated by nurses, 8 (11.1%) were treated by doctors while the others were treated by TBAs 10 (13.9%) and grandmothers 2 (2.8%).

Fifty eight (63.1%) of the babies were treated in health facilities while 20 (21.7%) were treated at home. In majority of cases 64 (69.6%), treatment was carried out using an instrument while in 26 (28.3%), tongue tie was slashed with the finger nail. (Table VII)

Instruments used in the treatment of tongue tie included scissors (40; 43.5%), razor blades (18; 19.6%) and knives (4; 4.3%). Twenty six (28.2%) had it slashed with finger nails. Eleven (11.9%) mothers knew that the instruments used were new, thirty four (37%) knew that the instruments were not new while 14 (15.2%) did not know the status of the instruments. 26 (28.3%) mothers admitted that the instruments were boiled or sterilized whilst 34 (37%) were not boiled or sterilized and the others didn't know.

Eighteen (19.6%) babies had problems after the procedure. These included bleeding (12; 66.7%), fever (4; 22.2%), re-occurrence which necessitated a repeat of the procedure (2; 11.1%) and soft tissue injury (2; 11.1%).

Positive effects reported after the procedure included improvement in crying (56; 60.9%), ability to raise the tongue (2; 2.2%), improved breast feeding (6; 6.5%). Six (6.5%) mothers did not see any change after release of the tongue tie.

IV. Discussion

Majority of the mothers in this study were aware of the subject of tongue tie. This is not surprising as this subject has been in existence for centuries in many parts of the world. [9] The highest source of information were grandmothers and nurses.

In Nigeria and many other African societies, grandmothers are seen as custodians of wisdom and are very often responsible for passing on information and tradition to their daughters. This also includes information on child care practices. [10, 11]Nurses are also usually the first point of care for patients and in most health care facilities in our region, are responsible for giving health talks to mothers on child care practices. Doctors are often too busy or probably not interested in giving health information to their patients. This has been reported in other authors. [12] Sadly, they often have to deal with complications that arise in patients due to wrong or poorly passed information. Mothers described tongue tie fairly well buttressing the fact that they did have good knowledge of the subject. This also may be a pointer to tongue-tie being a fairly common occurrence in our environment. The incidence of tongue tie has not been reported in Nigeria but studies show varying incidences in different parts of the world. [3-6]

The major adverse effects of tongue tie as perceived by mothers included speech difficulties, and inability to cry well. Some of these complications have been reported. [2,13] Breast feeding difficulties which have been reported [1, 3] as the earliest problems associated with tongue tie were noted by very few mothers. The reason for this could not be readily ascertained, it may be possible that even if breast feeding problems exist,

© 2013 Global Journals Inc. (US)

mothers do not link them with tongue ties or that since breast feeding is a key child care practice in our society, reporting difficulties may be a reflection of failure on the mothers' part. However it is a well known fact that most babies with ankyloglossia are asymptomatic.[1-3] Furthermore obvious disabilities like speech difficulties may be more readily identified by mothers. This may also be influenced by cultural beliefs as also noted in the study.

Almost half of the mothers reported that their cultures supported clipping of the frenulum in all newborns. Before the 19th century, midwives were reported to have kept sharp finger nails to slash the membrane under the tongue of all newborns. [9] So many years down the line cultural beliefs in our environment still support this practice. Routine clipping of the frenulum in newborns by traditional birth attendants was also reported in a case series by one of the authors.[8] This highlights the effects of culture on child health practices.

Majority of the mothers also believed that tongue tie should be treated in the neonatal period. Inasmuch as treatment is indicated in the newborn period when there are indications such as breast feeding problems, treatment by untrained or inadequately trained personnel would contribute to morbidity and mortality in the newborn.[8]

Amongst mothers who reported having a baby with tongue tie, majority had the diagnoses made by nurses or themselves. A previous Nigerian study,[14] showed that diagnostic accuracy by traditional and orthodox healthcare providers was very low, whilst parental curiosity and myth about tongue-tie were high. The diagnosis of tongue tie though still controversial should be done by adequately trained personnel in order to limit unnecessary interventions.[2, 8]

Again, even among mothers whose babies had tongue ties, breast feeding difficulties were mentioned by very few as an associated problem. Possible reasons for this have been highlighted.

Even though mothers perceived that tongue tie should be treated by doctors, among those whose babies had it, treatment was mainly done by nurses. The clipping of the frenulum without reason, which was common practice in earlier years, resulted in the surgical treatment of tongue-tie falling into disrepute amongst many in the medical community. [1, 2, 9] This unwillingness of many clinicians especially doctors to intervene surgically has led mothers in our environment to seek help from both medical and non-medical personnel who are not trained to treat it; thus contributing to the morbidity associated with treatment.

Most of the tongue ties were cut with instruments like razors, scissors and knives but the study shows that the art of using finger nails to clip the frenulum still exists in our society. Some mothers actually knew that the instruments used on their babies were not new and a few knew that the instruments were not boiled or sterilized. These methods are fraught with risks like bleeding and infection as previously reported. [8, 9] Some of these complications were reported by some of the mothers in this study. This shows that a relatively benign condition like tongue tie if not properly handled can contribute to morbidity and mortality in children especially newborns.

Although there was no way to ascertain that these babies actually had tongue ties, some of the positive effects reported after treatment included improvement in crying, ability to raise the tongue and improved breast feeding. Some of these effects have been reported in other studies following treatment of tongue tie. The fact that some reported recurrence or lack of improvement after treatment raises the question of whether these babies actually had tongue ties or received proper treatment.

V. Conclusion

Mothers are aware of tongue tie but need enlightenment on its mostly benign nature, and the need to seek professional advice when concerned about it. This will prevent unnecessary morbidity associated with improper treatment. Doctors should play an active part in this enlightenment campaign.

VI. Acknowledgement

The authors wish to acknowledge the assistance given by the nursing staff of the Paediatric Outpatient Clinics of University of Port Harcourt Teaching Hospital during the data collection process for this study.

VII. Disclosures

The authors declare that there are no potential conflicts of interest

VIII. Funding Acknowledgement

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

© 2013 Global Journals Inc. (US)

Table 1 : Mothers description of tongue tie

Description	Number	Percent
Growth/fleshy mass under the tongue	70	28.0
Rope under the tongue tying it down	20	8.0
Something that prevents children from talking	42	16.8
Something that prevents children from lifting up/moving the tongue	48	19.2
Something that prevents children from crying well	28	11.2
Non response	42	16.8
Total	250	100.0

Table 2 : Sources of knowledge on tongue tie

Source	Number	Percent
Child's grand mother	90	36.0
Other relatives	44	17.6
Nurse	70	28.0
Doctor	10	4.0
Other health workers	17	6.8
Others e.g. other mothers, friends etc.	19	7.6
Total	250	100.0

Table 3 : Adverse effects of tongue tie on babies as perceived by mothers

Adverse effect	Number	Percent
Speech difficulties	118	47.2
Inability to cry well	68	27.2
No effects	24	9.6
Difficulty breast feeding	6	2.4
Poor hearing	24	1.6
Don't know	42	16.8

Table 4 : Tradocultural beliefs/perceptions about tongue ties

Beliefs	Number	Percent
All babies have tongue tie and should have it cut	122	48.8
Tongue tie prevents normal speech development	96	38.4
Don't know	22	8.8
Others- causes deafness, stamm-ering, poor feeding	10	4.0
Total	250	100

Table 5 : Mothers perception of age for treatment and who should treat tongue tie

Age	Number	Percent
≤ 1 month	154	61.6
1-2 Months	16	6.4
>2 months - 1 year	20	8.0
> 1 year	10	4.0
Treatment not required	16	6.4
Don't know	34	13.6
Total	250	100
Who should treat tongue tie?		
Doctor	124	49.6
Nurse	80	32.0
Traditional birth attendant	16	6.4
Others e.g. grandmother, other health workers	10	4.0
Non response	20	8.0
Total	250	100

© 2013 Global Journals Inc. (US)

Table 6 : Personnel diagnosing tongue tie and associated problems

Diagnosis made by	Number	Percent
Nurse	38	41.3
Doctor	6	6.5
Other health workers	6	6.5
Grandmother	6	6.5
Other relatives	16	17.4
Self (mother)	20	21.7
Total	92	100
Associated problems		
Could not cry well	60	65.2
Difficulty sucking at breast	12	13.0
Inability to lift up the tongue	4	4.4
No problems	16	17.4
Total	**92**	**100**

Table 7 : Shows place and mode of treatment of tongue tie

Place of treatment	Number	Percent
Hospital	34	37.0
Health centre	24	26.1
Home	20	21.7
TBA	14	15.2
Total	92	100
Mode of treatment		
Cut with an instrument	64	69.6
Cut with fingernail	26	28.2
Cut by applying pressure using cotton wool	2	2.2
Total	**92**	**100**

References Références Referencias

1. Buryk M, Bloom D, Shope T: Efficacy of neonatal release of ankyloglossia: a randomized trial. *Pediatrics* 2011, **128**:280-288.
2. Lalakea ML, Messner AH: Ankyloglossia: does it matter? *Pediatr Clin North Am* 2003, **50**(2):381-397.
3. Messner AH, Lalakea ML, Aby J, Macmohan J, Bair E: Ankyloglossia: incidence and associated feeding difficulties. *Arch Otolaryngol Head Neck Surg* 2000, **126**(1): 36-39.
4. Edmund J, Miles SC, Fulbrook P. Breast feeding review 2011; 19 (1): 19 -26
5. Segal LM, Stephenson R, Dawes M, Feldman P: Prevalence, diagnosis and treatment of ankyloglossia: methodologic review. *Can Fam Physician* 2007, **53**(6):1027-1033.
6. Friend GW, Harris EF, Miner HH, Fong TL, Carnith KR: Oral anomalies in the neonate by race and gender in an urban setting. *Pediatr Dent* 1990, **12**:157-161.
7. Ruffoli R, Giambelluca MA, Scavuzzo MC, Bonfigli D, Cristofani R, Gabriele M, Giuca MR, Giannessi F: Ankyloglossia: a morphofunctional investigation in children. *Oral Dis* 2005, **11**(3):170-174.
8. Opara PI, Gabriel-Job N, Opara KO. Neonates presenting with severe complications of frenotomy- a case series. Journal of Medical Case Reports. 2012; **6**: 77.
9. Horton CE: Tongue tie. *Cleft Palate J* 1969, **6**:8-23.
10. Aubel J. Grandmothers: a learning institution. Creative Associates and USAID.
11. Van Zyl M.The Ekwendeni Agogo Approach: grandparents as agents of change for newborn survival. Healthy Newborn Network. http://www. Healthy new born network .org. accessed 18/10/2012.
12. Laurant M, Reeves D, Hermens R, Braspenning J, Grol R, Sibbald B. Substitution of doctors by nurses in primary health care. Cochraine database of systematic Reviews 2005: 2.
13. Johnson P. Tongue tie exploring the myths. Infant 2006 ; **2** : 96-97.
14. Osifo OD, Osaigbovo EO: Ankyloglossia in Benin City. Port Harcourt Medical Journal 2008; **3**: 49-54.

© 2013 Global Journals Inc. (US)