

Dental emergencies in children seen at University College Hospital (UCH), Ibadan, Nigeria – 5 year review

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Summary

A five year review of 106 children aged less than 17 years who presented at the accident and emergency unit of UCH, Ibadan for an after hour dental emergency services is presented. More than 50% of the children were males. The dominant age group was 0 – 4 years and the most common aetiology was road traffic accident. Jaw fractures and soft tissue lacerations were the commonest presentation and fractured limbs were the most common concomitant injuries. The need to abolish street trading among children is emphasised as this has been recognised to expose children to hazards of the road since most of the children were pedestrians.

Keywords: Emergencies, children, dental.

Résumé

Une revue étalée sur une période de 5 ans, concernant cent-six six enfants âgés de moins de 17 ans, qui se sont présentés à l'unité d'urgence et d'accident du centre hospitalier universitaire (UCH) d'Ibadan, pour des problèmes dentaires d'urgence est ici présenté. Plus de 50% des enfants étaient des garçons. Le groupe d'âge dominant était les accidents de la route. Les fractures de mâchoires, les lacerations des visceres. Les fractures des membres inférieurs étaient les lésions les plus communes. Le besoin d'abolir la vente à la sauvette par les enfants le long des routes est exacerbé, car cet activité a été identifiée comme celle exposant les enfants aux accidents de circulation.

Introduction

Surveys have been done on medical emergencies in dental practice [1,2] with very little information on dental emergencies, especially in children. Thus, there is still a paucity of knowledge on the dental emergency pattern in children particularly in Nigeria.

University College Hospital (UCH), Ibadan is a teaching hospital that provides medical services for all categories of people from all over the country, most especially the South West. Emergency services are provided to patients presenting to the hospital on a 24-hour a day basis, everyday of the year. The purpose of this study was to determine the dental emergency pattern in children presenting to the hospital during the evenings, weekends and holidays at the Accident and Emergency Unit of the hospital. It also provides baseline data as regards preventive programmes for Nigerian children.

Materials and Method

Data were collected retrospectively from record of all children less than 17 years requiring after hour dental emergency services at the Accident and Emergency Unit of UCH, Ibadan during the period January 1992 to

December 1997. After hour emergency patients are those presenting for dental care outside the normal clinic hour of Monday through Friday, 8.00 a.m. to 4.00 p.m. The patients were evaluated and managed by oral and maxillofacial surgeon teams on call in conjunction with other health management teams if necessary. Relevant information reviewed were age, sex causes of the emergency, diagnosis and emergency treatments.

All the data obtained were analysed using frequency distributions.

Results

Age and sex distribution

Of the 402 patients seen within the period of study, 106 were children less than 17 years, thereby giving a prevalence of 26.37%. In all 64.15% of these children were males while 35.85% were females with a male: female ratio of 1.8:1. The highest occurrence of dental emergency was in 0-4 year-old males while the lowest was in females aged 9 – 12 years (Table 1). Overall, 0 – 4 year old children recorded the highest occurrence of dental emergency.

Table 1: Age and sex distribution of children

Age (years)	Sex		Total
	M	F	
0 – 4	23	11	34
5 – 8	18	14	32
9 – 12	13	6	19
13 – 16	14	7	21
Total	68	38	106
	(64.15%)	(35.85%)	(100%)

Aetiology

Road traffic accident was the commonest cause of dental emergency in the population under study with most of the children involved being pedestrians. The other causes are indicated in Table 2.

Table 2: Aetiological factors

Aetiology		No of Patients	% of total
1	Road traffic accident		
	Pedestrians	43	40.57
	Bus Passengers	5	4.72
	Private car Passenger	2	1.89
2	Falls		
	From height	21	19.81
	During play	8	7.54
	Convulsive fits	2	1.89
	Unspecified	12	11.32
3	Fight	1	0.94
4	Others		
	Infections	7	6.60
	Haemorrhage	5	4.72
	Total	106	100.00

Diagnosis

From Table 3, jaw fractures were the most common diagnosis with the mandibular fractures occurring more frequently than the maxillary fractures. This was followed by soft tissue lacerations especially to the tongue and lips. Most of the cases with traumatized anterior teeth had avulsion. Other diagnosis are as shown in Table 3.

Table 3: Diagnosis of dental emergencies

Diagnosis	Number of Patients	Percentage
Lacerations:		
Lip and tongue	20	18.52
Facial skin	9	8.33
Gingiva	4	3.70
Traumatized anterior teeth:		
Avulsion	20	18.52
Intrusion	4	3.70
Displacement	1	0.93
Jaw Fractures:		
Lower jaw	22	20.37
Upper jaw	16	14.82
Infections:		
Pericoronitis	3	2.78
Cellulitis	2	1.85
Cancrum Oris	2	1.85
Haemorrhage:		
Post extraction	2	1.85
Burkitts tumour	2	1.85
Leukaemia	1	0.93
Total	*108	100.00

* 2 children had more than one injury.

Associated injuries

A total of 24 (22.64%) children had associated injuries in other parts of the body. Fractured limbs constituted the most common associated injury while chest and abdominal injuries accounted for the least. (Table 4).

Table 4: Associated injuries

Injuries	Number	Percentage
Fractured limbs:		
Upper limbs	4	16.67
Lower limbs	6	25
Periorbital oedema	6	25
Fractured base of the skull and brain damage	5	20.83
Chest and abdominal injuries	3	12.50
Total	24	100.00

Treatment

The simplest methods consistent with sound treatment procedures were employed in the management of cases. They were basically to save life and they included achievement of haemostasis, maintenance of airway, suturing of lacerations and control of infections. Drugs used were mostly analgesics, antibiotics and antitetanus. The patients with associated injuries were referred and managed by the appropriate units on call at the Casualty, although two of the children with fractured base of the skull and brain damage died during management.

Discussion

Emergency dental care has been defined by the Society of Oral Surgeons as the management or treatment of haemorrhage, upper airway impairment, trauma, infections or acute inflammation, involving the oral and maxillofacial structures (including teeth and dentoalveolar processes) which threatens the person's life or substantially impairs the functioning of such structures [3]. Not all dental patients presenting for emergency care can be categorized in accordance with the above definition as will be realized by health care providers. De Luke [3] emphasised that the overriding factor is what the patient himself or his family believes is an emergency and what the community expects and anticipates that the hospital located within it will provide.

Results of this study show that all cases seen are true emergencies as the primary aetiological factor in over 80% of the cases was trauma the remaining 11.32% of the children also had life-threatening conditions. No patient presented with caries or other aetiological factors that could have been prevented by routine dental care as it was comparatively seen in some previous studies [4,5]. Report of such cases may result in abuse or at least misuse of the availability of emergency dental services.

Like earlier reports on traumatic dental injuries [6-8], males were more affected than females. This has been attributed to aggression and other activities that require physical exertion in male children. The percentage of children involved in fall in this study is comparable with those of a previous report [9]. Majority of these accidents occurred in an around the homes and schools and have been reported in the younger age groups as inevitable consequences of childhood [4]. This might explain why the highest prevalence of dental emergency occurred in the 0-4 year olds.

Road traffic accident (RTA) was the highest aetiological factor in this study, with majority of the children as pedestrians. Many reason have been given for increased RTA in Nigeria. They include recklessness and negligence of the drivers, poor maintenance of vehicles, driving under the influence of alcohol or drugs and a complete disregard of traffic laws [9]. Others include existence of few foot bridges and where they exist, lack of use by pedestrians.

With these in mind, children may be knocked down by cars or motorcycles soon after school hours when they are walking home and also in the night. These days where child labour is on the increase in the country, a lot of children are involved in street trading, thereby exposing them to road hazards. Child labour is the result of poverty and it is a reflection of the socio-economic status of the populace.

Findings in the present study substantiate the view that a tremendous force was experienced by the children as reflected by percentage of children with jaw fractures, traumatized anterior teeth (avulsion in particular) and associated injuries from which two children died. To reduce mortality and morbidity from such accidents among children, the Government should enforce laws abolishing street trading among children.

In conclusion, this study shows that there was no abuse of the services provided as all the cases seen within the period of study were true emergencies, and the provision of emergency dental care for all patients is a unique and vital part of hospital dental care and of dentistry in general.

References

1. Edmondson HD, Frame JW Medical emergencies in dental practice. *Dental update* 1986; 11: 263 – 273.
2. Cawson RA Sudden loss of consciousness and other emergencies in dental practice. In: *Essential in dental surgery and pathology*. Edinburgh. Churchill Livingstone 5th ed. 1991. 483 – 490.
3. De Luke DJ. Emergency dental care for the community. What is the responsibility of the hospital? *J Hosp Dent Pract* 1976; 10: 43 – 45.
4. Toms BV. Emergency dental services in the Plymouth area. Report over 10-month period. *Brit Dent J* 1976; 140: 415 – 415.
5. Majewski RF, William Snyder C, Bernat JE. Dental emergencies presenting to a children's hospital. *J. Dent Child* 1988; 339 – 342.
6. Otuyemi OD. Anterior dental trauma as related to their cause and place. *Nig. J Med* 1990; 1: 22 – 27
7. Hensshaw NE, Adenubi JO, Traumatized anterior incisors in Nigerian children. *W Afric J Surg* 1980; 4: 50-55.
8. Tukutuku K, Ntumba MK. Features of anterior injured teeth in Zaire. *Odonto-Stomato Trop* 1988; 3: 107 – 111.
9. Ajagbe HA, Daramola JO, Oluwasanmi JO. Civilian type facial injuries – A retrospective study of cases seen the University College Hospital, Ibadan. *Nig. Medical J* 1977; 4: 432 – 436.