

# Pattern of presentation of oral health conditions by children at University of Nigeria Teaching Hospital, Enugu: A retrospective study

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## Abstract

**Aim:** The study aimed to determine the pattern of occurrence of oral conditions among children that attended the Child Dental Health clinic of the University of Nigeria Teaching Hospital (UNTH), Enugu over a 45 months period.

**Materials and Methods:** Clinical records of 305 patients, aged 3 days to 16 years, who attended the Child Dental Health Clinic of the UNTH from April 2008 to December 2011 were retrieved and analyzed.

**Results:** Out of a total of 305 children who visited the Child Dental Health Clinic within this period, there were 148 (48.5%) males and 157 (51.5%) females. The ages ranged from 3 days to 16 years with a mean age of 9.05 years, only 4.6% made asymptomatic visit while 95.4% made symptomatic visit. 68.2% had caries and its sequelae, with no significant difference across the gender ( $P = 1.472$ ). Nearly 91.1% had periodontal diseases, with a significant difference noted ( $P = 0.020$ ) 2% had tooth developmental anomalies, 10.5% had traumatic dental injuries, 12.1% had malocclusion and other esthetic problems, 15.1% had other oral pathologies, 14.4% had abnormalities of tooth eruption.

**Conclusion:** A significant 95.4% of the children made symptomatic visit. Periodontal disease was the most prevalent finding followed by dental caries. There is an urgent need to increase dental health awareness among children through school based continuing dental education program and also among other pediatric care givers such as parents, teachers, and pediatricians.

**Key words:** Asymptomatic visits, oral health conditions, pattern of presentation, symptomatic

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## Introduction

Oral health is the standard of the oral and related tissue, which enables an individual to eat, speak, and socialize without active discomfort and embarrassment and which contributes to general well-being of the individual.<sup>[1]</sup> Neglect of oral disease in children frequently lead to serious general health problems, significant pain and interference with eating, over use of emergency rooms and lost school time.<sup>[2]</sup> It has been estimated that 51 million school hours per year are lost because of dental related illness alone.<sup>[3]</sup>

American Academy of Pediatric Dentistry (AAPD) recommends that a child should visit the oral health center

with the appearance of the first tooth, typically at 6 months, but not later than 1 year of age.<sup>[4]</sup> During this visit, the developing occlusion should be monitored throughout eruption at regular clinical intervals.<sup>[5]</sup> It has been shown that pre-school children who visited the dental clinic early will more likely visit the dental clinic for preventive reasons as adults.<sup>[6]</sup>

Visit to the oral health centers is recommended for both preventive and curative reasons. In their study, Varenne *et al.*,<sup>[7]</sup> reported that many visit the oral health centers for symptomatic reasons.

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With the knowledge that dental caries is the most common chronic disease among children,<sup>[8]</sup> the need to visit the oral health centers for both preventive and curative services cannot be over emphasized.

The Department of Child Dental Health of the University of Nigeria Teaching Hospital (UNTH), Enugu though a Young Department considered it important to assess attending patients over a 45 months period; to identify the reasons for the visit and the pattern of presentation of oral conditions. The outcome of this study may be useful in planning oral health program in Enugu, Nigeria.

## Materials and Methods

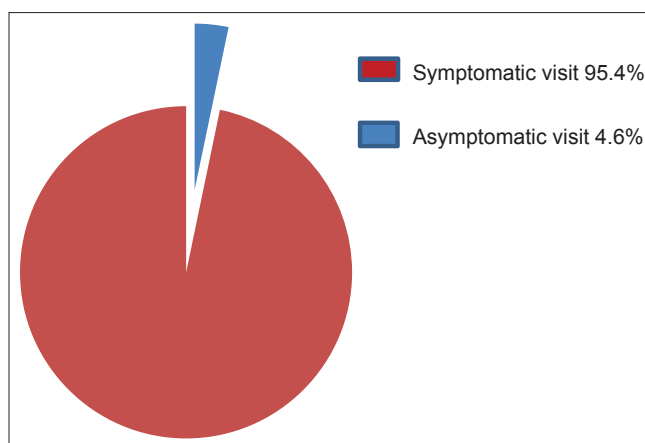
The clinical records of 305 patients who attended the pediatric dentistry clinic over a 45 months period (from April 2008 to December 2011) were retrieved and studied in retrospect, after obtaining approval from the ethical committee of the Hospital.

Data collected were age of patient as at last birthday in years, sex of patients, reason for the visit, and the diagnosis made. The diagnosis was divided into dental caries and its sequelae (reversible/irreversible pulpitis, acute/chronic apical periodontitis, retained roots, dentoalveolar abscess), periodontal problems (acute/chronic gingivitis, generalized/localized gingivitis, aggressive periodontitis), Traumatic dental injuries, anomalies of tooth development (form, number, structure), malocclusion, and other esthetic problems, oral pathology (acute ulcerative gingivitis, acute herpetic gingivo stomatitis, gingival cyst of the newborn, and dentigerous cyst).

All data generated were then analyzed using the SPSS Version 15.<sup>[9]</sup>

## Results

A total of 305 children aged 3 days to 16 years with a mean age of 9.05 years, comprising 148 males (48.5%) and 157 females (51.5%) were involved in the study. Of the total number, 14 (4.6%) visited for asymptomatic reason while 291 (95.4%) visited for symptomatic reasons [Figure 1]. Dental caries and its sequelae were found in 208 (68.2%) children, periodontal disease in 278 (91.1%) children, trauma to anterior teeth in 32 (10.5%) children, tooth developmental anomalies in 25 (8.2%) children, malocclusion, and other esthetic conditions in 37 (12.1%) children, other oral pathologies in 46 (15.1%) children and abnormalities of tooth exfoliation and eruption in 44 (14.4%) children. No significant difference was noted in the prevalence of dental caries between males and females  $P = 1.47$ . However, the prevalence of periodontal disease was significant across the gender ( $P = 0.020$ ) Table 1.



**Figure 1:** Pie chart showing symptomatic and asymptomatic visits

## Discussion

This study was necessitated to evaluate the pattern of presentation of oral conditions in children that visited the Child Dental Health Unit of the UNTH, Enugu, over a period of 45 months. It is worthy of note that with the Institution of the Faculty of Dentistry for training of both the undergraduate and graduate students in Dentistry in the past few years, the awareness about dental services at our center has been on a gradual increase. As the only tertiary health institution in the South Eastern part of Nigeria, with a Department of Child Dental Health, it became imperative to study the pattern of oral condition as seen from April 2008 to December 2011. The findings will then be a clinical basis for planning oral health programs in this region.

Out of the 305 children seen over the study period, there were more females (51.5%) than males (48.5%). This is similar to the patterns from studies by Denloye *et al.*,<sup>[10]</sup> and Eigbobo *et al.*,<sup>[11]</sup> the males were 48.1% and 48.3% respectively while the females were 51.89% and 51.7% respectively.

Asymptomatic visit was made by only 14 (4.6%) children as against 291 (95.4%) children who visited for symptomatic reason. This finding compares to the result of Eigbobo *et al.*<sup>[11]</sup> in Port Harcourt, Nigeria in which 4.1% of the children visited for asymptomatic reason. Denloye *et al.*,<sup>[10]</sup> in Ibadan, Nigeria observed that 88.8% of the children had symptomatic visit while 11.2% had asymptomatic visit. Osuji<sup>[12]</sup> also in Ibadan, Nigeria observed that the children presented late for treatment in the dental hospital. In another study in Ouagadougou, the findings support the assumption that in developing countries, visit to the dental care services are primarily carried out because of pain.<sup>[7]</sup> This can be attributed to the poor attitude towards oral health-care and low oral health awareness. Asymptomatic hospital visit is recommended by the AAPD; hence, a child should have a first visit to the dentist 6 months after the

**Table 1: Gender distribution of oral conditions**

Oral conditions	Male (%)	Female (%)	Total	P value
Caries and the sequelae	96 (46.1)	112 (53.9)	208	1.472
Periodontal disease	135 (48.6)	143 (51.4)	278	0.020
Trauma to anterior teeth	22 (68.8)	10 (31.2)	32	6.073
Developmental anomalies	13 (52)	12 (48)	25	0.145
Malocclusion and other esthetic issues	21 (56.8)	16 (43.2)	37	1.195
Oral pathological conditions	28 (60.1)	18 (29.9)	46	3.138
Abnormal tooth eruption and exfoliation	24 (54.5)	20 (45.5)	44	0.793

P=Level of significance, P is significant if it is  $P>0.05$

eruption of the first tooth or not later than 1 year of age. Several studies have also shown that early access to dental services is important in prevention and early detection of dental diseases in infants.<sup>[13,14]</sup>

Dental caries is an infectious disease in which bacteria dissolve the enamel surface of a tooth if untreated, the bacteria may penetrate the underlying tooth structure and progress into the soft pulp tissue.<sup>[15]</sup> Untreated dental caries has clinical consequences and also impact on the quality of life, productivity, development, and educational performance of the child.<sup>[16,17]</sup> In this study, dental caries and the sequelae were seen in 208 (68.2%) of the children. A female predilection was noted in the prevalence  $P = 1.47$ . In a similar Nigerian study, dental caries and its sequelae was found to be the most common oral condition. It was seen in 46.2% of the children who visited the dental clinic and it occurred more in females.<sup>[11]</sup> Mileva and Kondeva<sup>[18]</sup> also observed that the most common reason for making the first visit to the dentist among children was dental caries and its complications and 59.8% of the children made this visit. However, in this study dental caries and its sequelae was not the most common oral finding. Periodontal disease, which is the inflammation of periodontal tissue (gingival, periodontal ligament, cementum, and alveolar bone) was the most common finding and it occurred in 91.1% of the children. This suggests poor oral health awareness, low utilization of oral health services for professional oral prophylaxis by children and poor oral hygiene practices at home. Supervising or assisting the children in brushing twice a day for effective tooth brushing and regular visit to the dentist for professional oral prophylaxis is important to reduce the prevalence of periodontal disease particularly chronic gingivitis. This finding is similar to the findings of Odia *et al.*,<sup>[19]</sup> who found that the prevalence of gingivitis was 99.2% among primary and post primary school children at a health facility in Uselu, Benin city, Nigeria.

Traumatic dental injuries occurred in 32 (10.5%) children made up of 22 males and 10 females. The greater occurrence in male may be as a result of the active nature of the males. 17% of children had dental trauma in a study by Osuji<sup>[12]</sup> while Eigbobo *et al.*,<sup>[11]</sup> reported 9.1% cases of traumatic dental injuries.

Malocclusion and other esthetic problems were found in 37 (12.1%) of children out of these 37 children, 5 had cleft lip and palate. This is similar to the finding by Osuji<sup>[12]</sup> in which 10% of the children had malocclusion. 25 (8.2%) of the children had tooth developmental anomalies (11 had hypoplasia, 9 supernumerary and 5 peg shaped lateral incisors). Other oral pathologies seen in 46 (15.1%) children included (18 acute herpetic gingivo stomatitis and 7 gingival cysts of the new born, 5 traumatic ulcers, 1 dentigerous cyst, 3 gingival hyperplasia, 1 bleeding disorder and 7 fibro-osseous lesions). Furthermore, abnormalities of tooth eruption were seen in 44 (14.4%) children. A total of 30 children had retained anterior teeth, 6 had retained posterior tooth while 4 had submerged teeth). Mileva and Kondeva<sup>[18]</sup> found that 0.69% of children who visited the dental clinic had supernumerary teeth, 7.61% had aphthous stomatitis, physiologic replacement of teeth and complications during teeth eruption.

## Conclusion

A significant 95.4% of the children made symptomatic visit. Periodontal disease (chronic gingivitis) was the most prevalent finding followed by dental caries. This study shows that there is a poor awareness about dental education as evidenced by the high rate symptomatic visits (95.4%). There is therefore an urgent need to increase dental health awareness among children through school based continuing dental education program and amongst other pediatric care givers such as parents, teachers, and pediatricians. Mothers could also be targeted at antenatal and children out-patient clinics.

Finally, routine referral from the pediatrician for every child who visits the pediatric clinic is highly advocated for early check-up and prevention of symptomatic visits.

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